BEFORE THE MORROW COUNTY COURT
OF MORROW COUNTY

AN ORDINANCE ADOPTING THE 2005 MORROW COUNTY TRANSPORTATION SYSTEM PLAN AND AMENDING THE MORROW COUNTY COMPREHENSIVE PLAN, ZONING ORDINANCE AND SUBDIVISION ORDINANCE TO IMPLEMENT THE 2005 UPDATE OF THE MORROW COUNTY TRANSPORTATION SYSTEM PLAN AND TO CO-ADOPT THE TRANSPORTATION SYSTEM PLANS FOR THE CITIES OF BOARDMAN, HEPPNER, IONE AND IRRIGON AND THE TOWN OF LEXINGTON FOR APPLICATION WITHIN THE RESPECTIVE URBAN GROWTH BOUNDARIES

ORDINANCE NUMBER MC-02-05

THE COUNTY OF MORROW DOES ORDAIN AS FOLLOWS:

WHEREAS, Morrow County is identified by Oregon Revised Statute 195.025 to act as the Regional Coordinating Authority relative to transportation planning in the County, and

WHEREAS, Morrow County has Joint Management Agreements with the Cities of Boardman, Heppner, Ione and Irrigon and the Town of Lexington that gives the County authority for decision making with city cooperation within the respective Urban Growth Boundary, and

WHEREAS, the Morrow County Planning Department obtained a grant from the State of Oregon Transportation and Growth Management Program to update the Morrow County Transportation System Plan, implementing ordinances and to co-adopt the Transportation System Plans of the Cities of Boardman, Heppner, Ione and Irrigon and the Town of Lexington; and

WHEREAS, a Technical Advisory Committee, representing varied transportation interests in the county, was convened to work with staff and a consultant to update the County's Transportation System Plan, and

WHEREAS, the Technical Advisory Committee held three meetings on August 31, 2004, in Heppner and Boardman, Oregon; November, 30, 2004, in Boardman, Oregon; and February 8, 2005, in Boardman, Oregon, and

WHEREAS, two Open Houses where held to obtain input from the general public on December 7, 2004, in Irrigon, Oregon, and February 8, 2005, in Boardman, Oregon, and

WHEREAS, three Joint Work Sessions where held for the Planning Commission and the County Court, two to review the proposed changes and one dedicated to co-

adoption of City TSPs, on March 15, 2005, in Irrigon, Oregon; April 6, 2005, in Boardman, Oregon; and May 4, 2005, in Lexington, Oregon, and

WHEREAS, the Planning Commission held two Public Hearings to consider the proposed changes on May 11, 2005, in Lexington, Oregon, and May 25, 2005, in Irrigon, Oregon, and

WHEREAS, the County Court held two Public Hearings on June 8, 2005, in Irrigon, Oregon and June 22, 2005, in Heppner, Oregon,

NOW THEREFORE, THE COUNTY COURT OF MORROW COUNTY ORDAINS AS FOLLOWS:

1. TITLE OF ORDINANCE: This Ordinance shall be known and may be cited as the "2005 Morrow County Transportation System Plan Update".

2. DOCUMENTS AFFECTED: The Update includes adoption of a new Transportation System Plan to be known as the 2005 Transportation System Plan; adoption of changes to Article 4 Supplementary Provisions of the Morrow County Zoning Ordinance; adoption of changes to Article 8 Design Standards of the Morrow County Subdivision Ordinance; and co-adoption of the Transportation System Plans for the Cities of Boardman, Heppner, Ione and Irrigon and the Town of Lexington.

3. AFFECTED TEXT: The affected text includes the 2005 Transportation System Plan, Article 4 Supplementary Provisions of the Zoning Ordinance, and Article 8 Design Standards of the Subdivision Ordinance. Also affected and attached are the Transportation System Plans for the Cities of Boardman, Heppner, Ione, Irrigon and the Town of Lexington.

   The 1998 Transportation System Plan, adopted as Ordinance MC-C-8-98, is repealed and replaced. The new document, attached with appendices, shall be known as the 2005 Transportation System Plan and dated July 23, 2005.

   Article 4 Supplementary Provisions of the Zoning Ordinance, adopted as part of Ordinance MC-C-3-01 (attachment A) and amended as part of Ordinance MC-C-1-02 (Site Development Review), is repealed and replaced. Additionally Article 10 General Provisions Section 10.080 Enactment shall be amended to reflect this action. Article 4 and Article 10 are both attached.

   Article 8 Design Standards of the Subdivision Ordinance, adopted as part of Ordinance MC-C-3-01 (attachment B), is repealed and replaced. This action will affect page numbering for Sections 9, 10, 11 and 12 and shall also be amended. Additionally Section 12.040 (adoption language) shall be amended to reflect this action. The entire Subdivision Ordinance is attached.

4. EFFECTIVE DATE: To facilitate the timely enactment of this ordinance an emergency is declared and the effective date shall be 10 days after its adoption by the Morrow County Court, or July 23, 2005.

DATE OF FIRST READING: July 6, 2005

DATE OF SECOND READING: July 13, 2005

DONE AND ADOPTED BY THE MORROW COUNTY COURT THIS 13TH DAY OF JULY, 2005.

Terry K. Tallman, Judge

County Clerk

John Wenholz, Commissioner

APPROVED AS TO FORM:

County Counsel

Ray Grace, Commissioner

CERTIFIED TO BE A TRUE AND
~~CORRECT COPY OF THIS~~ ORIGINAL
MORROW COUNTY, OREGON RECORD
Dated July 13, 2005
Bobbi A. Childers, County Clerk
By Bobbi A Childers

Morrow County

2005 Transportation System Plan

July 23, 2005

MORROW COUNTY
2005 TRANSPORTATION SYSTEM PLAN

Prepared for:
Morrow County Planning Department
P.O. Box 706
Irrigon, Oregon 97844

Updated by:
CTS Engineers
20085 NW Tanasbourne Drive, Suite
Hillsboro, OR 97124
(503) 690-8080

and

The Mitchell Nelson Group
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Morrow County 2005 Transportation System Plan
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ACKNOWLEDGMENT

This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by federal Transportation Equity Act for the 21st Century (TEA-21), local government, and the State of Oregon funds. The contents of this document do not necessarily reflect views or policies of the State of Oregon.

CHAPTER 1
INTRODUCTION

The County of Morrow prepared its original Transportation System Plan (TSP) in 1997 as part of their overall Comprehensive Plan as required by Oregon Revised Statute 197.712 and the Transportation Planning Rule (TPR) OAR 660 Division 12 developed by the Department of Land Conservation and Development (DLCD). The TPR and its provisions are designed to encourage the development of a planning process that allows development of future transportation facilities, protect the operation of existing and future transportation facilities, coordinate the review of land use decisions, and promote safe and convenient pedestrian and bicycle circulation. Oregon counties and cities over a certain size are required to develop TSPs and supporting implementation ordinances to carry out the TPR goals at the local level. Local jurisdictions are required to update their TSPs every 5-7 years. This TSP update (the 2005 TSP) is intended to guide transportation system development for the next 20 years. The plan will continue to be periodically updated to ensure it remains current and continues to meet the needs of the County.

This section of the TSP includes the following topics:

- Plan organization
- Regulatory setting
- Physical setting
- Public involvement summary

TRANSPORTATION SYSTEM PLAN ORGANIZATION

The County was assisted with the preparation of the plan by CTS Engineers, a transportation planning and engineering consulting firm, with assistance from the Mitchell Nelson Group, which led the land use planning and public involvement tasks. The original TSP was prepared by KCM, Incorporated. The organization of the TSP follows the process used to develop the study. ***Chapter*** *2* is an introduction of the plan's goals and policies. These transportation-related goals and policies, developed with input by the Technical Advisory Committee (TAC), provide a guide to the process and give direction to the development of future system improvements. The goals and policies not only ensure that the plan meets the intent of the TPR but that it strives to meet the interests of the County.

Chapter *3* is an assessment of existing conditions, which provides a better understanding of the characteristics of the existing transportation system and identifies the issues that currently face the County. Included in this chapter is the discussion of transportation issues and opportunities, current land use and population, and existing transportation facilities.

In Chapter 4, the future conditions are discussed, including the projected areas of future population growth and transportation demand, as well as the future needs for greater connectivity. These future conditions represent the setting under which transportation alternatives can be compared.

In Chapter 5, alternatives are developed that reflect the County's goals and policies, and addresses the identified existing and future transportation issues and needs.

Two alternatives were considered. The first, the "unconstrained" alternative, identifies the complete range of transportation system improvements needed to serve needs of all of the County's transportation system users. The second alternative, a "constrained" alternative, is a scaled-back alternative that addresses only portions of the anticipated future needs in consideration of potential resources expected to be available for the County's transportation network over the next 20 years. The constrained alternative generally follows the County's actual maintenance and improvement program of the past 10 years. The preferred alternative, based on input from the technical advisory committee, stakeholders and members of the public, is that which best meets the goals, objectives, and needs of the community.

In Chapter 6, the specific actions necessary to implement the plan's preferred alternative are presented. Recommended actions are also presented regarding future opportunities, land use requirements including development, right-of-way, and access management, and recommendations for transportation facilities and operations, including road standards and connectivity.

Chapter 7 is an evaluation of funding sources for transportation improvements. Funding options and a financial plan for meeting the recommended improvements identified in the TSP are presented.

In Chapters 8 and 9, the plan is discussed in relation to the Transportation Planning Rule in effect as of March, 2005. Chapter 8 focuses on ordinances that need to be adopted by the County to meet the rule, while Chapter 9 reflects how the TSP addresses each of the required elements of the TPR.

REGULATORY SETTING

The TSP is required by the State of Oregon Transportation Planning Rule, OAR 660 Division 12 developed by the DLCD and the Oregon Department of Transportation (ODOT). The TPR requires all jurisdictions to develop a transportation plan that includes the following elements:

- Roadways
- Transit
- Bicycle and pedestrian facilities

- Air, rail, water, and pipelines
- System alternatives
- Financing
- Policies and ordinances for implementation

In addition, the TPR requires local jurisdictions to adopt land use code amendments to protect transportation facilities, coordinate their plans with other jurisdictions, and encourage the development of bicycle and pedestrian facilities.

PHYSICAL SETTING

Morrow County is located in northern Oregon approximately 150 miles east of Portland and 30 miles west of the City of Pendleton. The County is bordered by the Columbia River to the north, the Umatilla National Forest to the south, and Gilliam and Umatilla Counties to the east and west, respectively. Grant and Wheeler Counties share the southern border of Morrow County.

The topography within this 2,065-square-mile area varies from lowlands along the Columbia River to the Peak of Black Mountain, nearly 6,000 feet above sea level. Most of the county is largely rural in nature. There are five incorporated cities: Boardman, Heppner, Irrigon, Ione and Lexington. There are also six unincorporated rural centers: Cecil, Morgan, McNab, Ruggs, Hardman, and Lena. None of the County's rural centers are designated as rural communities under Oregon State law. Boardman is the largest city in the County, followed by Irrigon and Heppner. This TSP focuses on the unincorporated areas of the County, up to the urban growth boundaries of the incorporated cities.

The northern part of the County, where Boardman and Irrigon are located, is moderately urban, especially along the I-84 corridor just south of the Columbia River. The southern part of the County is very rural. Industry in the County is primarily natural-resource based, with agriculture, lumber, hydroelectric power generation and food processing as the principal industries.

PUBLIC INVOLVEMENT

Public involvement is a key element to an effective planning process. The TSP process was guided by members of the TAC. This committee was instrumental in the development of goals and policies, population projections, and roadway design standards, as well as the prioritization of roadway projects. Participating members of the TAC are listed below:

- Barry Beyeler, City of Boardman Community Development Director
- Jerry Breazeale, City of Heppner City Manager
- Roger Britt, Heppner resident
- Cheryl Jarvis-Smith, TGM Grant Manager, ODOT
- Ron McKinnis, Port of Morrow
- Carla McLane, Morrow County Planning Director
- Bob Nairns, Morrow County Assistant Public Works Director
- Burke O'Brien, Morrow County Public Works Director
- Terry Tallman, Morrow County Judge

Meetings of the TAC were facilitated by Joyce Jackson of MNG.

Other key elements of public involvement process included a project steering committee composed of key stakeholders, and an open house conducted in September, 2004. Information provided by stakeholders and attendees at the open houses were instrumental in identifying planning issues and needs for the county. An additional open house was held to present the draft TSP on February 8, 2005.

The plan approval process, which takes place in 2005, will include meetings with the county planning commission and the county court, and will culminate in the adoption of the plan and associated modifications to the Zoning Ordinance and Subdivision Ordinance.

CHAPTER 2
GOALS AND POLICIES

INTRODUCTION

Morrow County recognizes the importance of its transportation system to the long-term health and vitality of the County. Well-designed roadways contribute to the ability of an area to accommodate additional growth and development. Deficiencies in the system affect user safety and perception of community character and livability. As part of this Transportation System Plan (TSP), a series of goals and policies were designed to guide the development of the transportation system over the next 20 years.

The goals and policies included in this plan were developed by the Technical Advisory Committee (TAC), working under the requirements of the 1991 Oregon Transportation Planning Rule (TPR). The goals and policies developed for this process reflect both the required elements of the TPR and the interests of the County.

Goals are general in nature. Each goal focuses on a particular aspect of the transportation system or the relationship between transportation and the viability of the County. The nine goals of this TSP are coordination/process, land use, economic development, quality of life, various transportation modes available in the County, and finance.

Due to the general nature of goals, they are difficult to implement and therefore make gauging plan success difficult. To assist in plan implementation, a series of policies have been developed for each goal. Policies are specific steps to be taken in plan implementation to ensure that the goals are met. Policies are directive in nature and often outline plan requirements.

The following section presents the goals and policies of the Morrow County TSP, which are consistent with the County's original TSP. These goals and policies will assist in prioritizing individual transportation projects to assure that limited transportation funding is expended efficiently so as to promote the development of a healthy transportation system.

GOALS AND POLICIES

Goal 1 Coordination/Process

Ensure that the Morrow County TSP is coordinated with other transportation providers, meets applicable regulations, and considers the needs of all transportation system users.

Policy 1.1. Coordinate the preparation of the TSP with transportation providers in Morrow County, including the cities of Boardman, Irrigon, Ione, Heppner, Lexington, and the Oregon Department of Transportation (ODOT).

Policy 1.2. Coordinate design standards with the cities within the County.

Policy 1.3. Coordinate transportation planning with the Port of Morrow.

Policy 1.4. Coordinate with ODOT for improvements on State facilities that could affect County facilities, through a ministerial or similar staff level review process to allow County Public Works the opportunity to review improvement plans prior to final design.

Policy 1.5. Coordinate transportation planning with adjacent counties.

Policy 1.6. Fulfill the transportation planning requirements of ODOT and the Department of Land Conservation and Development (DLCD).

Policy 1.7. Participate actively in the North East Area Commission on Transportation (NEACT) to promote inclusion of transportation improvement projects in Morrow County in the Statewide Transportation Improvement Program (STIP).

Policy 1.8. Use a 20-year time horizon for all transportation planning.

Policy 1.9. Review and update the capital improvement program annually and the plan elements periodically, in conjunction with the periodic update of the county Comprehensive Plan or every five years.

Policy 1.10. Evaluate the needs of all of the County's population groups, including transportation disadvantaged groups such as older adults, young, physically challenged, and low-income county residents.

Policy 1.11. Evaluate the needs of commercial users, including manufacturing, timber, agricultural, and recreational users.

Policy 1.12. Include consideration of urban issues and rural issues in the TSP.

Policy 1.13. Provide extensive opportunities for public input throughout the transportation planning process.

Goal 2 Land Use

Support land use planning with appropriate transportation improvements.

Policy 2.1. Design all new roadways to meet county and state adopted road design standards, as a minimum.

Policy 2.2. Identify and reserve future road corridors.

Policy 2.3. Require new development proposals, plan amendments, and zone changes to conform to the TSP, as required by Section 660-12-045 (2) (g) of the TPR.

Policy 2.4. Require new development to provide appropriate access to the transportation system.

Policy 2.5. Require new development to identify transportation impacts and provide appropriate mitigation.

Policy 2.6. Require new development to dedicate right-of-way for transportation system improvements where appropriate. Establish procedures for the dedication of right-of-way necessary for the transportation system.

Policy 2.7. Utilize current state statute and rule for the acquisition of right-of-way necessary for the transportation system.

Policy 2.8. Utilize current state statute and rule for the abandonment of right-of-way no longer needed for the transportation system.

Policy 2.9. Utilize adopted ODOT access management standards for State facilities and proposed access management standards in this TSP for County facilities.

Policy 2.10. For the construction of roads, highways, and other transportation facilities and improvements not otherwise allowed outright in resource lands (EFU and FU zones), request an exception to any statewide goal prior to construction.

Goal 3 Economic Development

Enhance economic development through transportation improvements.

Policy 3.1. Support transportation system improvements that contribute to economic development opportunities.

Policy 3.2. Pursue opportunities to improve access to business and employment centers for all modes of travel.

Policy 3.3. Pursue opportunities to improve access to tourist and recreation sites, such as the Columbia River Heritage Trail and the County OHV Park, for all modes of travel.

Goal 4 Quality of Life

Promote a high quality of life in Morrow County by providing a well-developed transportation system that is appropriate to its surroundings.

Policy 4.1. Consider community character when providing transportation system improvements in the urban growth areas.

Policy 4.2. Maintain the rural character of the County in the areas outside the designated urban areas.

Policy 4.3. Preserve and maintain the scenic byway corridor along Willow Creek.

Goal 5 Roadway System

Provide and maintain a safe, efficient roadway system to provide mobility throughout the County.

Policy 5.1. Design and construct all new roadways to the County's adopted road design standards, as a minimum.

Policy 5.2. Preserve the transportation system through regular maintenance.

Policy 5.3. Use the County's established procedure to set speed limits.

Policy 5.4. Provide roadway channelization (striping, turn lanes) where needed, using American Association of State Highway Officials standards.

Policy 5.5. Use the Manual on Uniform Traffic Control Devices for traffic signal and signing standards.

Policy 5.6. Establish criteria for the design of surface water detention for transportation facilities.

Policy 5.7. Improve connectivity within the County by identifying and working to improve additional road corridors.

Policy 5.8. Improve access for emergency vehicles to the transportation system.

Policy 5.9. Emphasize work zone safety for all workers.

Policy 5.10. Identify emergency routes for priority in snowplowing or other circumstances where access is restricted.

Policy 5.11. Use the County Road Committee to identify and prioritize modernization, preservation and construction projects.

Goal 6 Bicycle, Pedestrian, Equestrian, and Transit Modes

Support the use of other modes of transportation (bicycles, pedestrians, equestrians, and transit) through effective transportation improvements.

Policy 6.1. Include design features such as widened shoulder areas to accommodate bicycles, pedestrians, and equestrians in the county roadway design standards.

Policy 6.2. Include design features such as pullout areas and turnarounds to accommodate school bus use in the county roadway design standards, in coordination with school bus providers.

Policy 6.3. Continue the development of the Columbia River Heritage Trail, and other similar facilities, for recreational uses.

Policy 6.4. Support the efforts of private transit systems within the County, such as older adult transporters.

Policy 6.5. Encourage the development of additional transit opportunities for transportation-disadvantaged groups within the County.

Policy 6.6. Coordinate with ODOT and the cities to construct bicycle and pedestrian improvements in unincorporated areas within the urban growth boundary.

Goal 7 Air Transportation

Support the local and regional air transportation needs of Morrow County.

Policy 7.1. Provide and maintain airport facilities to serve general aviation needs.

Policy 7.2. Expand airport facilities as necessary to support future service needs.

Policy 7.3. Coordinate with the Aeronautics Section of ODOT when preparing airport planning documents and reviewing proposed land use development in the vicinity of the airport.

Policy 7.4. Encourage the establishment of passenger and freight air service in the future.

Policy 7.5. Maintain minimum operating standards for the County's airports as required by the Federal Aviation Authority.

Policy 7.6. Establish appropriate land uses adjacent near airports that are compatible with airport noise levels and provide support to airport operations.

Goal 8 Freight and Goods Movement

Promote efficient movement of freight and goods throughout the County.

Policy 8.1. Develop a freight and goods mobility strategy in conjunction with the Port of Morrow and others interested in freight and goods movement.

Policy 8.2. Evaluate roads with weight restrictions and develop an improvement strategy for those that adversely affect freight and goods mobility.

Policy 8.3. Encourage improvements to rail freight facilities by encouraging improvement to intermodal connections.

Policy 8.4. Establish rail crossing standards for county roads.

Policy 8.5. Support the development of passenger rail service if it is proposed in the future.

Goal 9 Finance

Use a fiscally sound approach to financing transportation system improvements.

Policy 9.1. Develop a financial strategy for funding transportation system improvements.

Policy 9.2. Explore introducing innovative funding methods, such as system development charges, to finance transportation system improvements.

Policy 9.3. Coordinate with other transportation users and providers to seek joint funding opportunities for transportation system improvements.

Policy 9.4. Actively seek available funding sources for transportation system improvements.

CHAPTER 3
EXISTING CONDITIONS AND INVENTORY

INTRODUCTION

This chapter provides an inventory of the existing transportation system, and other information relevant to the operation of the system.

The following topics are discussed in this chapter:

- Issues identification
    - Transportation issues brought forth from the Technical Advisory Committee (TAC), staff, stakeholders and the public.
- Existing land use and population
    - Current population of the County.
    - Overview of land uses within the County.
- Transportation facilities
    - Description of existing roadways within the County, including discussion of road standards, travel demand, and roadway connectivity.
    - Descriptions of existing pedestrian, bicycle, and equestrian facilities.
    - Description of existing facilities for transit, air, rail, and other modes.

Inventory Data

Data for this report were collected from several sources. Morrow County maintains a roadway database that includes information about each road's width, surface material, average daily traffic (ADT), and appurtenances such as culverts and approaches. Significant data regarding state highways were obtained from the Oregon Department of Transportation (ODOT) and are included in the inventory. Discussions with county and state officials and observations from multiple driving tours were also major sources of data. Adopted TSPs from the cities of Boardman, Heppner, Ione, Irrigon, and Lexington provided useful information.

Data was also obtained from private transportation operators in the County, including the Port of Morrow and the Boardman Airport.

The final source of data was county residents, including the TAC, others identified as having a significant interest in transportation, and those who attended the two open houses held in late 2004 and early 2005.

ISSUES IDENTIFICATION

A key role of public participation was to help identify the primary transportation issues that Morrow County faces today. Comments from two public meetings, an initial open house, responses to a community survey and input from advisory committee members and key stakeholders were used to identify key transportation issues facing the County. Issues raised at these sessions are listed below, ranging from general themes to specific suggestions. Detailed minutes and survey responses are included in the Appendix.

Open House and Community Stakeholder Survey Comments

- Truck traffic in the County is increasing and will continue to grow with future industrial development. An issue was raised concerning the adequacy of corner radii on the existing streets through Boardman to the Port of Morrow industrial areas (Main Street, I-84 Interchange #164 accesses in Boardman). A suggestion was made to direct Port traffic to I-84 Interchange #165 with better signage.
- A new connection is needed to provide access to several thousand acres of Port of Morrow industrial lands located north of the I-84/US 730 interchange and west of US 730.
- A number of existing roads were identified as needing functional classification changes, including McNab Lane, Sand Hollow Road, Baseline Lane/Myers Road, Paterson Ferry Road, Tower Road, Sunflower Road, Bombing Range Road, Dry Fork Road, Ridge Road.
- Additional measures to promote tourism and travel to the area were suggested, including providing blue information signs along the highway for attractions such as the Columbia River Heritage Trail (Heritage Trail), the Morrow County OHV Park, Oregon Trail, Willow Creek Lake, and other local parks and marinas.
- Provide a dock on the Columbia River for recreational and tourist opportunities, such as the Sternwheeler.
- Continued development of the Heritage Trail with additional local trail connections is also needed to promote tourism. Heritage Trail development should be combined with a joint State/County program to provide additional emergency vehicle connections to the trail, and install directional signage along I-84 and locally to guide visitors to the trail.
- A policy needs to be adopted for the strategic prioritization of resources by consolidating mobilization costs for roadway and utility improvements, rather than using a traditional "worst first" approach to prioritizing improvements and maintenance work. (The Public Works Department already employs this type of strategic prioritization in practice.)
- The County Public Works Department uses a number of policies and standards that need to be adopted into the County's implementation ordinances. They address design requirements for "tee" intersections (promoting consolidation of split "tee" intersections into a standard three-legged configuration), paved/gravel road intersections (promoting

pavement extension at least a few feet into the gravel road to minimize the amount of gravel tracked onto the pavement and reduce shoulder wear), cattle guards and gates, gravel road depth and cross-section, local improvement district consent agreements, drainage structures, connectivity requirements, and standards for low-volume roads.

- Railroad crossing enhancements (i.e., rubberized crossings) are needed to better accommodate pedestrians and bicyclists, particularly on Old Columbia Highway NE.
- Additional equestrian facilities for horse riders were suggested.
- Olson Road overpass across I-84 is needed to serve existing and future industrial development and employee access at the Port of Morrow, provide additional circulation in the Boardman area, and reduce the use of the Main Street overpass.
- Safety and potential correction of the sharp curve on Highway 207 at Cutsforth Corner was identified.
- Activity at the County's new off-highway vehicle park (OHV Park) should be monitored to identify needs for access improvements.
- Major improvements to Rhea Creek Road are needed as a long-term project.
- County ownership of Bombing Range Road should be pursued, as it is the only north/south connection in the County.
- In addition to Bombing Range Road, the County roadway system needs an additional north/south connection between Boardman and Ione for general connectivity and emergency access needs. This second route has historically been referred to as Ione-Boardman Road. The existing impediments to transfer of Bombing Range Road to the County magnify the importance of Ione-Boardman Road as a second north/south connection. However, there are also impediments to constructing Ione-Boardman Road. The County has acquired a dedicated right-of-way that would allow construction of a road (Tower Road Extension) connecting the southern end of Tower Road to Highway 74 near Cecil. This indirect alignment, while beneficial for circulation and emergency access, would not fully meet the need for a second north/south connection.
- The Oregon National Guard is planning on locating a major training facility at the Boardman Bombing Range. Planning to accommodate additional vehicle and heavy truck traffic generated by the training facility will need to continue beyond this TSP update, as it is yet to be determined how military vehicles will be transported (i.e., by barge, rail or highway). Military assistance should be pursued for road improvements necessary to serve the facility. Once the National Guard's plans for the area become more detailed, the County may pursue a Transportation Refinement Plan (TRP) or other appropriate means, to identify potential impacts of the military training facility and facilitate transportation improvements needed to serve the facility.
- A high pressure gas line is planned to be extended from Ione to Heppner.

- Guidelines are needed for conversion of paved roads to gravel, and gravel road standards need to be adopted in the TSP.
- A secondary east-west connection between Boardman and Irrigon is needed in the event US 730 is blocked by an event at the Umatilla Army Depot.
- An all-season route is needed in southeast Morrow County to and from Umatilla County, i.e., Western Route.
- The speedway project near Boardman should remain a long-term economic development strategy.

EXISTING LAND USE AND POPULATION

Land use and population play a key role in determining the demand on the transportation system. Land use has an impact on what kinds of roads are needed as well as where roads can be located. Changes in population and employment are used together with historical trends in traffic volumes to predict changes in vehicle trips that will use the future system.

Existing Land Use

The topography of the County plays a large part in the types of existing land use. The Columbia River borders the northern edge of the County. South of the river, lowlands gently rise to the Umatilla forest, which occupies the southern part of the County. The road system generally follows drainage corridors in the lower County, and is straight and rolling in the upper County.

The major population center, commercial operations, and transportation facilities are in the northern part of the County, close to the river. Port facilities, including docks and loading facilities, are situated near the riverfront. I-84, the major east-west route across the County, also parallels the river, as does the Union Pacific rail line. The lowlands south of the river are well suited to agricultural use. This area is characterized by large tracts of land, including some used for farming as well as the bombing range and Army depot. Logging, recreation, and grazing are the major activities in the forested area.

Because land uses in the County are largely agricultural related, the population is sparse. Most of the County's population is concentrated in the Irrigon-Boardman area, which also provides most of the land available for development in urban areas. Smaller population centers are Heppner (the county seat), Lexington, and Ione. Of these, Heppner has the most area available for future development. Heppner recently completed an industrial land study that evaluated the need to expand the City's Urban Growth Boundary (UGB).

Existing Population

Between the 1990 census and the 2000 census, the population of Morrow County increased by about 44 percent, or 3,370 residents (***Table 3-1***). Countywide growth from 2000 to 2003 averaged about 1.9 percent per year, compared to about 3.7 percent per year from 1990 to 2000. Almost all

the recent growth has occurred in the northern part of the County; the southern part of the County has remained very stable. Cou nty population growth reflects the changes in employment that have been experienced, which have also been concentrated in the northern part of the County and in adjacent areas of Umatilla County. T hese employment changes include an expanded cheese factory, and other tenants on properties in the Port of Morrow's Boardman Industrial Park.

TABLE 3-1
2004 POPULATION ESTIMATES AND RECENT CENSUS DATA

City/County Area	2004 PSU Estimate	2000 Census Count	1990 Census Count	1990-2000 Growth
Boardman	3,120	2,855	1,387	106%
Heppner	1,420	1,395	1,412	-1%
Ione	340	321	255	26%
Irrigon	1,790	1,702	737	130%
Lexington	260	263	286	-8%
Unincorporated Area	4,820	4,459	3,548	26%
Total	**11,750**	**10,995**	**7,625**	**44%**

Potential Growth/Traffic Impact

Growth

The Office of Economic Analysis (OEA) publishes population data prepared by Portland State University (PSU) for all counties in Oregon. The latest OEA estimates, based on the 2000 census, show an estimated population of 11,750 for the County in 2003, increasing by 54 percent to 18,100 by 2025, an average annual increase of about 2.5 percent. OEA publishes population estimates by County out to the year 2040. In percentage terms, Morrow County ranks in the top three counties in the state for projected population growth over five of the eight 5-year periods from 2000 to 2040, and no lower than the top five over the entire 40-year period.

In evaluating existing land uses and population as well as its distribution, the issue of potential growth and resulting traffic impact should be considered. Two types of growth are anticipated. One is the growth in residential housing development. This will likely take the form of new subdivisions on currently vacant land within the UGB. These vacant parcels are distributed largely south and west of Irrigon and south and west of Boardman. Additional residential development outside the UGBs will be limited, because in 2000 the County enacted a two-acre minimum for residential development in rural residential zones.

The other opportunity for growth is through economic development led by expansion of Port of Morrow industrial facilities throughout the County. The Port, through its 30-year history, has developed a significant inventory of developable land at its three industrial park sites: the Boardman Industrial Park, located east of Boardman and north of US 730; the Airport Industrial Park, located west of Tower Road; and the South Morrow Industrial Park, located at the Kinzua sawmill complex just outside the City of Heppner. The City of Heppner is currently evaluating the need for an expansion of its urban growth boundary to accommodate more industrial lands along the Highway 74 corridor.

Traffic Impact

The traffic impacts of these growth opportunities differ. The impact of residential development will require transportation planning and smart growth techniques to ensure adequate connectivity between new development and existing highway and road corridors. Creating block length and cross-circulation standards for new residential and commercial development will be an important element of the County's access management strategy.

Development of Port facilities will generate the need to upgrade transportation facilities including highway, rail, and barge facilities. In addition to the continued orderly movement of goods through the Port of Morrow, it will be important that the work force have adequate access to the Port's industrial facilities. A portion of this work force may use bike or pedestrian facilities to gain access, but major emphasis will continue to be focused on an interconnected system of roadways.

Another of the impacts to be expected by the growth within the Port of Morrow is the need for improved access to its east industrial site. This site is a portion of the Boardman Industrial Park. It is located north of I-84 and west of US 730. A new access to this industrial area should be developed near the I-84/US 730 interchange, as discussed in the roadway element of the plan.

Depending on the needs of the Port of Morrow, an access from US 730 south of the Union Pacific main line may be appropriate. If this is developed, an additional access north of the Union Pacific main line should also be created. This access may be constructed west from Paterson Ferry Road, connecting to the old Columbia River Highway.

Roadway Existing Needs

Morrow County maintains jurisdiction for design, construction, and maintenance of county roadways within its boundaries. The County also maintains jurisdiction for non-state facilities located outside of city limits but inside the urban growth boundary area. Towns and cities located within the County are responsible for their facilities. ODOT is responsible for design and construction of state facilities.

Ordinances and design standards for county roadways are described in the County's subdivision ordinance and requirements. Design standards for bicycle and pedestrian facilities

in the County are limited and are included in county roadway design standards developed in subsequent sections of this TSP. Existing functional classifications for County roads are shown in ***Figure 3-1***.

Overlying the County's roadway jurisdiction and that of the City of Boardman are the Port of Morrow facilities. The Port is a participating agency along with Boardman and Morrow County in developing improvements needed to meet the requirements of industrial development. The Port of Morrow's facilities include the Boardman Industrial Park, the Airport Industrial Park, and the south Morrow Industrial Park. Standards necessary to meet the load rating requirements of port industrial users should be coordinated between Morrow County, the City of Boardman, the Port of Morrow, and ODOT.

While the 2005 Morrow County TSP was being prepared, the Oregon National Guard announced plans to create a major military training facility at the Boardman Bombing Range in north County. At the time this plan was prepared, the Oregon National Guard was evaluating several options for delivering heavy vehicles such as tanks to the bombing range, including rail, barge and truck. Any of these options could require improvements to the roadways serving the Bombing Range to meet necessary load requirements. Analysis of roadway improvements to serve movement of both tanks and personnel for a tank training facility on the Bombing Range has not yet begun, as plans for the training facility are in the very early stages. Planning for improvements needed to accommodate this facility will need to continue beyond this TSP, and may require future TSP amendments, preparation of a Transportation Refinement Plan (TRP) for the area, or other appropriate means.

County Roadways

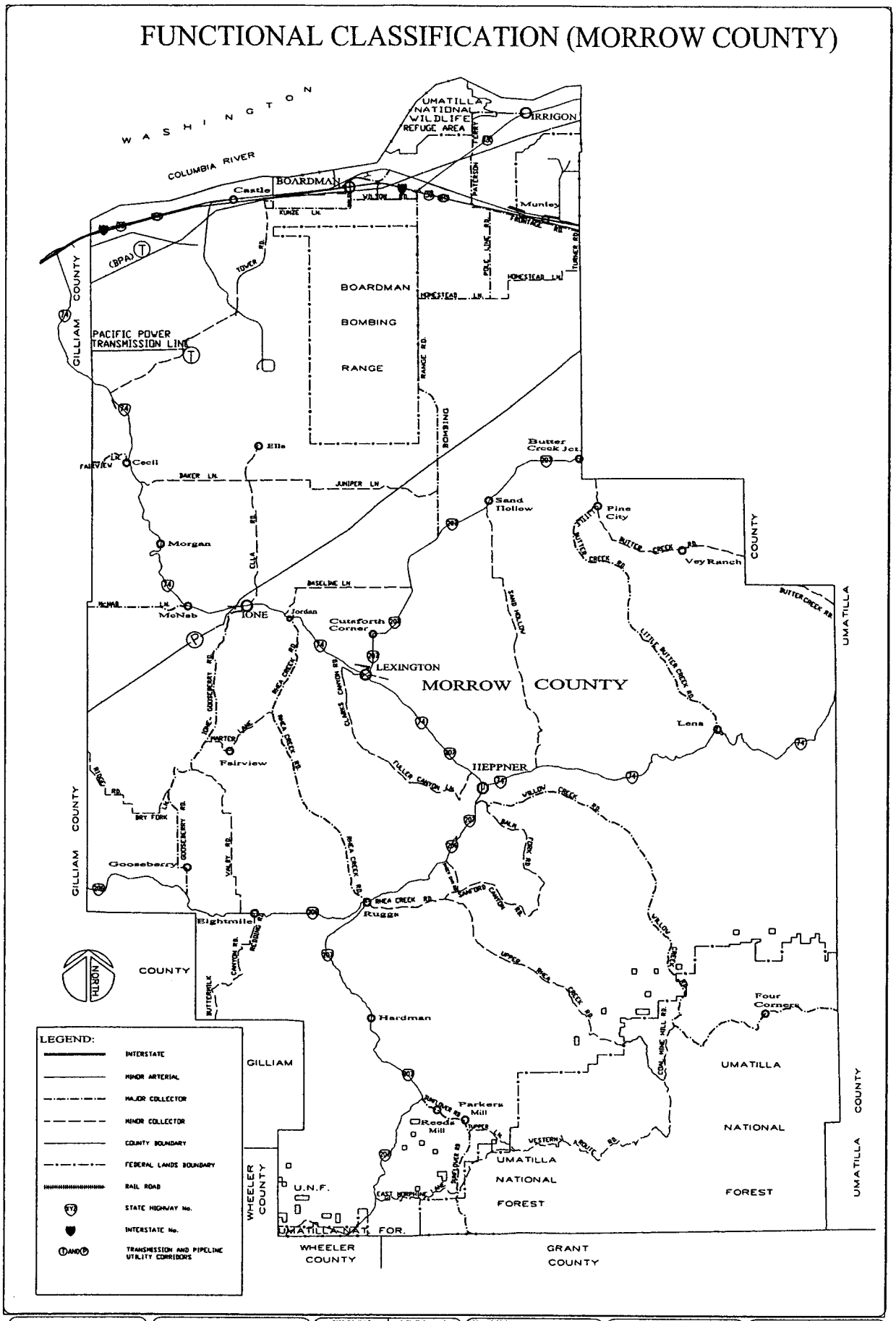
Evaluation of need relating to the County's roadway network falls in the following categories:

- Maintenance of existing roadways
- Safety
- Capacity
- Economic development

Maintenance

By far the most overwhelming need of the Morrow County road system is for maintenance. The County currently has 340 miles of pavement or hard surface roads and 600 miles of gravel roadways. The County annually budgets approximately $2.8 million for the maintenance of this roadway network to maintain the existing level of service and, where possible, to provide an improved level. In Chapter 5, road improvement projects for screening are presented in a series of tables. Also listed in the proposed projects are modifications to the County's adopted road standards, including addition of gravel road standards. Including gravel road standards in the adopted TSP increases the potential funding sources for their construction and maintenance.

FUNCTIONAL CLASSIFICATION (MORROW COUNTY)



CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING
CTS Engineers

DRAWN BY: NAME	CHECKED BY: NAME
REVISIONS	DESCRIPTION
NO.	DATE

DRAWING TITLE: Figure No. 3-1 FUNCTIONAL CLASSIFICATION

PROJECT: MORROW COUNTY TSP UPDATE

PREPARED FOR: ODOT/ MORROW COUNTY

Safety

From available information about the safety record of county roadways, it is known that improvements should be scheduled to address existing needs. Safety improvements identified by County staff and other stakeholders are included in the recommendations in Chapter 6. Safety is also known to be an issue with respect to farm-to-market roadways in the County. During the harvest season, the intermixing of slow-moving truck traffic and other forms of transportation can be an issue.

US 730 in Morrow County and Umatilla County has been posted as a safety corridor, due to high rates of crashes involving truck traffic and turning movements. Designation as a safety corridor provides eligibility for additional law enforcement and data collection aid. In addition, to increase law enforcement, ODOT recently began a multi-year, $2.325 million corridor safety improvement project for US 730. The two-lane corridor not only serves as an important freight connection to Washington State, it also has many school bus stops, and bicycle and pedestrian traffic use the shoulders. There are many driveways and turning movements, resulting in frequent rear-end collisions. The project is divided into multiple phases. Work will include access management improvements, construction of turn lanes, and ultimately construction of frontage roads to serve local traffic and non-motorized travel needs.

The Morrow County portion of the corridor will be the last segment completed, as it involves complex access negotiations with multiple property owners. Recommendations for the Morrow County segment of US 730 are unlikely to be funded prior to the 2008-2011 Statewide Transportation Improvement Program (STIP). Planning for the 2008-2011 STIP will begin in about two years. Potential improvements for US 730 resulting from the safety study include access management/consolidation, construction of frontage roads, intersection traffic control changes, geometric improvements, etc.

Two other safety issues were also identified. The first was the need for an alternative to US 730 for circulation between Irrigon and Boardman in the event of an emergency at the Umatilla Army Depot or the Port of Morrow. The second was the need for an additional north/south connection between Boardman and Ione in addition to Bombing Range Road. A second north/south route addresses overall County circulation and safety and emergency vehicle access needs. It would provide both an alternate route for emergency vehicles and a fire break in an area of the County with extensive grasslands and predominately easterly winds. Finally, a north/south connection would ensure that the County would have one north/south roadway under its authority. The northern section of Bombing Range Road is presently controlled by the US Navy. With the possibility of a military training facility being constructed on the Boardman Bombing Range, as was revealed to the County while the 2005 TSP was being prepared, concerns were raised over the potential for Bombing Range Road to be closed. While the military has expressed no desire to close Bombing Range Road, it remains a possibility.

The second north/south route has historically been referred to as Ione-Boardman Road. The County has acquired a dedicated right-of-way that would allow construction of a road (Tower

Road Extension) connecting the southern end of Tower Road to Highway 74 near Cecil, which would be useful for the western mid-County area. However, this indirect alignment would not fully meet the need for a second north/south connection.

The existing impediments to transfer of Bombing Range Road to the County magnify the importance of Ione-Boardman Road as a second north/south connection. However, there are also impediments to constructing Ione-Boardman Road. Throughout the 1980's and 1990's the County participated in negotiations with the State of Oregon and major property owners, including the Boeing Agri-Industrial Company and Threemile Canyon Farms, to secure right-of-way for an Ione-Boardman Road by extending Ella Road north to Boardman. This effort was hampered by a 2001 Multi-Species Candidate Conservation Agreement with Assurances (MSCCAA) for the Washington ground squirrel, ferruginous hawk, loggerhead shrike, and sage sparrow, in the event any or all of the these species are listed in the future as endangered or threatened.

The 2001 MSCCAA was researched in the May 11, 2005 Federal Register as part of the 2005 TSP. The Federal Register states in part (emphasis added):

"The majority of existing colonies (in Oregon and throughout the species' current range) [i.e., colonies of the Washington ground squirrel] are located on the Boardman Bombing Range and the Boeing tract, which contain the largest contiguous suitable Washington ground squirrel habitat. Although Boardman Bombing Range activities ***are not certain, they are not expected to change significantly in the foreseeable future.***"

The major military training facility now in the initial stages of planning by the Oregon National Guard would be certain to significantly change activities on the Boardman Bombing Range in the foreseeable future. This information is not addressed by the May 2005 Federal Register or the 2001 MSCCAA. The Oregon National Guard's plans for a military training facility on the Boardman Bombing Range create both an opportunity and an obligation to revisit the 2001 MSCCAA and revisit the ability to construct an Ione-Boardman connection. Action steps to assist the County in pursuing this issue further are included in the 2005 TSP implementation program.

Capacity

An evaluation of the capacity of the Morrow County roadway system is included later in this chapter. Indications are that capacity-related issues on the County's roadway system are very low in number. The one exception to capacity issues are roadways developed within the Port of Morrow's industrial parks, which will be required to serve increasing industrial development.

Economic Development

The most significant transportation system needs beyond maintenance are economic development requirements created in the Port of Morrow industrial parks. As continued

industrial development occurs in the Port, existing roadways require expansion to accommodate increased vehicle capacity, turning movements, and increased weight load requirements. A list of projects created by anticipated economic development requirements is generated in Chapter 4 and screened in Chapter 5.

Buildable Lands

Significant tracts of buildable lands exist in Morrow County both within and just beyond the UGBs of Boardman and Irrigon. The areas outside the UGBs are zoned RR1, a zoning designation intended to recognize the existence of smaller lots outside of UGBs and allow continuation of single family dwellings in areas where this development has been established. However, when the County increased the minimum lot area for residential development outside the UGB from one acre to two acres in 2000 to reflect official state policy discouraging development of smaller lots in rural areas, the potential development on these parcels was substantially reduced.

Other buildable lands are located south of Irrigon in the Division Street/4th Road area and west of Irrigon/north of US 730. These lands are also designated RR1 with the revised minimum lot size of two acres.

Buildable lands exist south of Boardman city limits, between Tower Road and Bombing Range Road. A portion of these lands are zoned Farm Residential, allowing two-acre minimum lots to be developed. The balance is zoned Small Farm 40.

Each of these areas is representative of the need to develop minimum requirements for the creation of new county roads as this property develops. These new roadways should be provided at a spacing that meets Morrow County standards for block length. Requirements of this TSP suggest not more than 600 feet of roadway be developed in this area without interconnecting roadways. With two-acre minimum parcel size for residential development, density will be very low. Local road standards are expected to be adequate for new internal roadways in these buildable lands. Actual roadway locations will be refined through the site development process.

In addition, issues of access management are critical, especially along US 730, where standards are established for minimum spacing and new connections. The US 730 safety corridor study will update access management standards and identify improvements for the Morrow County segment of the highway. Standards presented in Chapter 6 recommend minimum distance between connections for roads and highways elsewhere in the County.

TRANSPORTATION FACILITIES

This section describes the components of the transportation system within the County. These include roadways, pedestrian, bicycle, equestrian, transit, rail, air, and other transportation facilities.

Roadway System

As an agricultural area, Morrow County is especially dependent on its roadway system. The system is in good condition overall and currently functions generally well. As discussed later in this chapter, existing traffic volumes are relatively low, and existing delay is typically low. Outside of urban areas, the system is geared toward moving small numbers of vehicles over long distances. Five state highways serve the County, including I-84. Hundreds of miles of county roads provide access between the state highways ranging from paved two-lane roads to narrow gravel roads. This report describes and evaluates only roads currently classified or recommended to be classified as arterials or collectors.

Roadways in the County fall under the jurisdiction of Morrow County, ODOT, and the cities of Morrow County. There are also numerous private roads, with significant facilities falling under the administration of the Port of Morrow and the U.S. Navy.

State Highways

State highways provide the backbone of the roadway system in Morrow County. They are used for virtually all of the through traffic in the County, and connect each of the cities and other population centers. State highway facilities in and near Morrow County are summarized in ***Table** 3-2*.

Morrow County is connected to the federal interstate highway system via I-84, which parallels the Columbia River in the north end of the County. I-84 links the County to I-5 to the west through Portland, and to I-80 and I-15 to the south and east through the Boise and Salt Lake City areas. Using the ODOT name and number classification, I-84 west of the junction with US 730 is called Columbia River Highway No. 2, and east of the US 730 junction, Old Oregon Trail No. 6. Nearby I-82 links Morrow County to the Tri-Cities across the Columbia River via the Umatilla Bridge.

Other state highways within the County, from highest to lowest traffic volumes, include US 730 (Columbia River Highway No. 2), which serves Irrigon and the Port of Morrow, and provides a link between I-84 and I-82 at Umatilla; OR 74 (Heppner Highway No. 52), which crosses the middle of the County from east to west, serving Ione, Lexington, and Heppner; OR 207, which crosses the County from north to south and is called the Lexington-Echo Highway No. 320 north of Lexington and the Heppner Spray Highway No. 300 south of Ruggs; and OR 206 (Wasco-Heppner Highway No. 300), an east-west route terminating in Heppner.

TABLE 3-2
STATE HIGHWAYS SERVING MORROW COUNTY

State Highway Designation	Location Served	Highway Category
I-84 (Columbia River Highway State Highway No. 2)	West of US 730 through Boardman to Gilliam County, to I-5 and Portland.	Interstate Highway
I-84 (Old Oregon Trail State Highway No. 6)	East of US 730 to Umatilla County, to I-80 and I-15, Boise and Salt Lake City.	Interstate Highway
US 730 (Columbia River Highway State Highway No. 2)	From I-84, east through Irrigon to Umatilla County.	Regional Highway
OR 74 (Heppner Highway State Highway No. 52)	From I-84, southeast through Cecil, Morgan, Ione, Lexington, Heppner, and Lena and Umatilla County.	District Highway
OR 207 (Lexington-Echo Highway State Highway No. 320)	From Lexington northeast to Umatilla County.	Regional Highway
OR 207 (Heppner-Spray Highway State Highway No. 321)	From Ruggs, south through Hardman to Wheeler County.	Regional Highway
OR 206 (Wasco-Heppner Highway State Highway No. 300)	East from Gilliam County through Ruggs to Heppner.	District Highway

REFERENCE: ODOT (2004)

As of December, 2003, ODOT designated pavement conditions on the majority of state highways within the County as good or very good. The only segments with poor pavement condition are the eastern 10 miles of OR 207 and about five miles of OR 206 west of OR 207. Fair pavement conditions were assigned to US 730 between I-84 and Irrigon, and to OR 74 north of Ione and from Lexington to Heppner.

ODOT has assigned the following total length restrictions (truck plus trailer) on OR 74, due to the constrained geometry through horseshoe curve:

- Truck-tractor and semitrailer with maximum trailer length of 48 feet: No Limit on total length.
- Truck-tractor and semitrailer with maximum trailer length of 53 feet: 65 feet total length.
- Pickup truck and trailer with maximum trailer length of 53 feet: 65 feet total length.
- Doubles with no single trailer to exceed 40-foot maximum, trailer combo not to exceed maximum length of 68 feet): No Limit on total length.

The maximum length allowed without District approval is 105 feet. The District may allow a longer load under special circumstances with specified traffic control.

A portion of OR 74 (northwest of Heppner) is also designated as the Blue Mountain Scenic Byway. The route provides recreational, historic, and scenic opportunities within Morrow and the adjacent Gilliam and Umatilla counties. Within Morrow County, the byway starts at I-84 and travels south along OR 74 to Heppner, continuing on Willow Creek Road through Cutsforth Park and into the Umatilla National Forest. Three scenic stops have been developed to promote the byway, with a pull-off area, an informational kiosk, and rest room facilities. Stops are located on I-84 near the intersection with OR 74, on OR 74 near Ione, and on OR 74 near Lexington.

County Roads

Morrow County has 1,063 miles of roads under its jurisdiction, including about 120 miles of unimproved (unpaved) roads. They connect the state highways and provide access to individual properties. The County has assigned a name, a road number, and a functional classification (see discussion below) to each road.

The County's 1997 TSP summarized information from a database of road information using a state-provided format called the Intrastate Road Information System (IRIS). The database provides a variety of detailed information about each roadway within the County, including:

- Roadway jurisdiction
- Identifying roadway number
- Road name
- Mileposts, starting and ending
- Federal classification
- Roadway surface
- Roadway condition (no data)
- Actual width (no data)
- Right of way width
- Average daily traffic (ADT)
- Parking (no data)
- Sidewalk (no data)
- Bicycle facilities (no data)

Although the IRIS database lacked data on roadway conditions, the County maintains detailed records of roadway conditions by surface type. A majority of the paved County roads are classified as "good" or better, compared to half of the unpaved roads. For gravel roads, "very good" roads are passable under all weather conditions, "good" and "fair" roads are open year around, and "poor" roads are seasonal roads that are inoperable during the winter months.

***Table** 3-3* summarizes surface quality by type for County paved roads of all types and gravel farm-to-market roads.

TABLE 3-3
SURFACE CONDITION OF MORROW COUNTY PAVED AND GRAVEL ROADWAYS

SURFACE TYPE	CLASSIFICATION	# MILES	PERCENT OF TOTAL SURFACE TYPE
Paved	Excellent	46.72	14%
	Very Good	22.01	6%
	Good	119.61	35%
	Fair	151.55	45%
Paved Roads Total:		***339.89***	***100%***
Gravel (farm to market roads)	Very Good	29.36	5%
	Good	270.76	45%
	Fair	196.81	33%
	Poor	103.58	17%
Gravel Roads Total:		***600.51***	***100%***

REFERENCE: Morrow County Public Works

Construction projects in the latest STIP are shown in ***Table 3-4***. These projects represent the County's major roadway and bridge construction projects over the next three years, and together represent an investment of about $30 million to be provided by a combination of public and private funding sources. ***Table 3-4*** includes projects listed in the 2004-2007 approved STIP, the 2006-2009 proposed STIP, and the OTIA III bridge delivery program. The Olson Road overpass is also listed, which appears in the approved City of Boardman TSP. The overpass would provide access between the Port of Morrow and the City of Boardman.

Functional Classifications

The County's roadways are classified according to the function of each within the system. Functional classifications are shown in ***Figure 3-1***. The County uses the following classifications based on the amount of traffic using a road or street and the origin and destination of the traffic:

- Rural Arterial I
- Rural Arterial II
- Rural Collector I
- Rural Collector II
- Rural Collector III
- Rural Access I
- Rural Access II
- Rural Gravel (proposed classification for gravel surface with a range of aggregate base requirements based on roadbed soil quality and existing traffic level)

TABLE 3-4
PROGRAMMED IMPROVEMENTS IN MORROW COUNTY

Project Key	Program Year	Program	Project Description	Action	Amount (x1,000)
13985	2005*	2004-2007 STIP	Port of Morrow Rail Access Loop	New rail access; widen Columbia Blvd.	$6,350
13610	2008	2006-2009 Draft STIP (OTIA III)	Kunze Road (Boardman)	Reconstruct roadway from Main to Tower	$2,700
14104	2007	2006-2009 Draft STIP	Cutsforth Park	Add restroom facilities	$35
n/a	n/a	OTIA III	I-84 Irrigon Junction	Repair eastbound, westbound bridges	$9,800
n/a	n/a	City of Boardman TSP	Olson Road overpass	Construct overpass over I-84	$8-10,000

REFERENCE: ODOT Approved 2004-2007 Statewide Transportation Improvement Program (STIP); ODOT Draft 2006-2009 STIP; City of Boardman Transportation System Plan; ODOT OTIA III Bridge Delivery Program

* Construction began during the 2005 TSP.

Arterials carry the highest volumes of traffic within the roadway system, provide facilities for through traffic, provide connections within the system for traffic using other classifications of roadways, and link high-volume destinations and land uses such as major employers or larger commercial centers. Arterials are divided into categories based on ADT values.

Collectors connect traffic from access roads to arterials. They can be used for through trips, or they may serve as the origin or destination of trips. Collectors are divided into three categories, also based on ADT volumes.

Rural access roads are low volume, usually less than 200 vehicles per day. They are typically not used for through trips, and usually serve as the origin or destination of vehicle trips. They can also be used as access within residential developments. The Rural Access III classification in the original TSP is proposed to be eliminated with the 2005 TSP for areas within urban growth boundaries, as with Morrow County's co-adoption of the cities' TSPs, the street standards in the city TSP would be applicable to areas within urban growth boundaries.

A Rural Gravel classification is proposed to include a more versatile functional classification in the TSP for gravel roads in the County. The original TSP included a Rural Access II gravel

surface standard for local roads. However, in rural areas gravel roads can and do serve as local, collector or arterial facilities.

ODOT also classifies highways based upon their function and use. Interstates provide a corridor between major cities for both auto and truck travel. I-84 is classified as an interstate highway. It originates in Portland, Oregon and traverses the state east into Idaho. US 730 and OR 207 are classified by ODOT as regional highways, acting as a link between adjacent counties and higher classification facilities. OR 74 and OR 206 are district facilities, primarily providing circulation within Morrow County.

Road Standards

Road standards provide design guidelines for the physical characteristics of roads, including size and materials used. Each road classification has a specific standard associated with it. Some of the items included in standards are listed below.

- Roadway width, including lane width, shoulder width, and parking accommodations.
- Pedestrian, bicycle, and equestrian accommodations.
- Drainage features such as ditches or curbs and gutters.
- Surface and base materials, including both material type and thickness.
- Right-of-way requirements.

There are many variables that must be taken into account when determining appropriate road standards. Some of these variables reflect engineering considerations necessary to ensure adequate strength and longevity, and others reflect function and use. Some of the information that is used to determine standards includes the following items.

- Types of users, including passenger vehicles, trucks, non-motorized users, farm vehicles, and parked vehicles.
- Amount of traffic for each type of user.
- Site issues, including soil conditions, topography, and average annual rainfall.
- Community values regarding issues such as desire for sidewalks and parking, costs of improvements versus affordability, and aesthetics.

Morrow County's road standards for the 2005 TSP are based on the 1997 TSP road standards, which were developed with assistance of the TAC and adopted as interim standards by the county court. Again with the assistance of the TAC through the 2005 TSP process, the interim road standards were reviewed, and proposed gravel road standards were added. These standards are discussed in Chapter 6. Roadway cross-sections are contained in Appendix C.

Because most County roads were constructed prior to adoption of the 1997 TSP, most roads do not meet the County road standards. Many are deficient in lane width and shoulder width. The pavement thickness and base material are also inadequate in many cases when compared to the new standards. The County employs a roadway inventory and maintenance program designed to maximize the effective use of available resources and move gradually toward adopted roadway standards.

Bridges

Bridges in Morrow County are inventoried biennially. The last inventory was completed in 2004. The inventory rates bridges on a sufficiency rating scale that ranges from 0 to 100, with lower scores meaning worse conditions and higher scores indicating adequate conditions. Sufficiency scores for bridges in the National Bridge Inventory database (NBI) are translated to a qualitative ranking of Not Deficient, Structurally Deficient or Functionally Obsolete. There are 116 bridges in the County, including 44 County bridges, 11 city bridges, 60 ODOT bridges and 1 railroad bridge. ***Table 3-5*** lists the four bridges in the County rated as structurally deficient or functionally obsolete, including one state facility and three County bridges.

The Brenner Canyon Bridge in Morrow County was replaced with a project funded by OTIA I. Morrow County will benefit from OTIA III, the state's multi-billion dollar transportation improvement program focusing on bridge replacement and repair along the state's primary and secondary freight routes. Repair of the I-84 Irrigon Junction interchange bridge is included in the tentative OTIA III project list as part of a multi-year, multi-million dollar "bundled" bridge improvement package along I-84 from the Irrigon Junction in Morrow County to Union County.

TABLE 3-5
EXISTING BRIDGE DEFICIENCIES

Bridge Number	Owner	Description	Sufficiency Rating	Status Code
08885	ODOT	US 730/USRS Canal	17.7	Structurally Deficient
49C05	County	Spring Hollow Rd/Rhea Creek	49.8	Functionally Obsolete
49C12	County	Road Canyon Rd/Rhea Creek	54.1	Structurally Deficient
49C21	County	Clarks Canyon Rd/Padberg	50.8	Structurally Deficient

REFERENCE: ODOT (2004)

Access Management

Access management is a set of strategies used to minimize the impact of turning movements caused by vehicles entering and exiting driveways and side streets. Control of these movements increases the speed and capacity of the major roadway and lowers the number of potential conflict points where accidents can occur.

ODOT has an extensive access management program, which is regulated by Oregon Administrative Rules Section 734-051. Through the adopted standards in OAR 734-051, ODOT controls access based on the type of facility, level of importance (state, regional, or district), and whether the facility is in an urban or rural area. This program, directed toward the management of state facilities, has been used to protect access along state facilities and at interchanges.

The state access management standards apply to the development of all ODOT highway construction, reconstruction or modernization projects, approach road and private road crossing permits, as well as all planning processes involving state highways, including corridor studies, refinement plans, state and local transportation system plans and local comprehensive plans.

The standards do not retroactively apply to legal approach roads or private road crossings in effect prior to adoption of this Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these legal approach roads or private road crossings occurs. At that time the goal is to meet the appropriate spacing standards, if possible, but at the very least to improve current conditions by moving in the direction of the spacing standards.

When in-fill development occurs, the goal is to meet the appropriate spacing standards. In some cases this may not be possible, and at the very least the goal is to improve the current conditions by moving in the direction of the spacing standards. Thus, in-fill development should not worsen current approach road spacing. This may involve such options as joint access.

In some cases access will be allowed to a property at less than the designated spacing standards, but only where a right of access exists, that property does not have reasonable access, and the designated spacing cannot be accomplished. If possible, other options should be considered such as joint access.

If a property becomes landlocked (no reasonable access exists) because an approach road cannot be safely constructed and operated, and all other alternatives have been explored and rejected, ODOT might be required to purchase the property. (Note: If a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT does not have responsibility for purchasing the property.)

Access within the influence area of existing or proposed interchanges is also regulated by the State of Oregon (OAR 734-051). ***Appendix F*** includes current guidelines and illustrative figures for freeway and non-freeway interchanges with two-lane or multi-lane crossroads.

Morrow County relies on ODOT's adopted access management policies to control access on state highways. Access onto County facilities is controlled using access management standards applied through the development review process and proposed access spacing standards described in this plan (see Chapter 6).

Crash History

Crash data was collected for state facilities within Morrow County from ODOT's published Highway Crash Tables. ***Table 3-6*** summarizes crash data both by location and crash rates calculated using existing volumes and known travel distances. ***Figure 3-2*** illustrates the state highway crash data shown in ***Table 3-6***.

Crash rates were highest on US 730 and OR 74, where average rates approached or exceeded 1.0 crash per million vehicle miles traveled for at least one of the three years on both highways. On US 730 there are many intersections and driveways, which increase the number of potential conflicts. As mentioned earlier, ODOT is initiating a major safety study for US 730, which will result in a number of safety improvements that should reduce crash rates. OR 74 is a low-volume highway, and as a result the crash rate is very sensitive to the number of crashes. The data shows no clear trends in crash rates on any of the state facilities. I-84 recorded very low accident rates over the three year period.

In addition to the published crash rates for state highways, crash data was collected for all non-state highway facilities in the County for the 2001-2003 period. ***Table 3-7*** summarizes the crashes reported by type and severity. There were a total of 46 crashes reported over the three-year on County roads, including 3 fatalities and 18 accidents resulting in injuries to vehicle occupants. As seen in the table, the most common types of accidents are non-collision and collision with fixed objects. These two categories make up more than 1/2 of the total accidents during the three-year period, and account for all the fatal crashes and 15 of 18 injury crashes. In general, these types of crashes are related to driver behavior more than roadway conditions.

TABLE 3-6
HISTORIC CRASH RATES BY ROADWAY SEGMENT
(CRASHES PER MILLION VEHICLE MILES TRAVELED)

Segment	2000	2001	2002
I-84 west of US 730 (Mile Post 150.00 to 167.58)	0.20	0.15	0.14
I-84 east of US 730 (Mile Post 167.58 to 177.00)	0.16	0.11	0.14
US 730 north of I-84 (Mile Post 167.58 to 178.70	1.05	0.50	0.66
OR 74 (Mile Post 9.00 to 67.20)	0.59	0.90	0.96
Highway 207 north of Lexington (Mile Post 1.00 to 19.38)	0.75	0.52	0.13
Highway 207 south of Ruggs (Mile Post 9.00 to 21.00)	0.00	0.76	0.76
OR 206 (Mile Post 57.99 to 83.30)	0.36	0.18	0.56

REFERENCE: ODOT (2004)

Other data not reported in ***Table 3-6*** and ***Table 3-7*** includes:

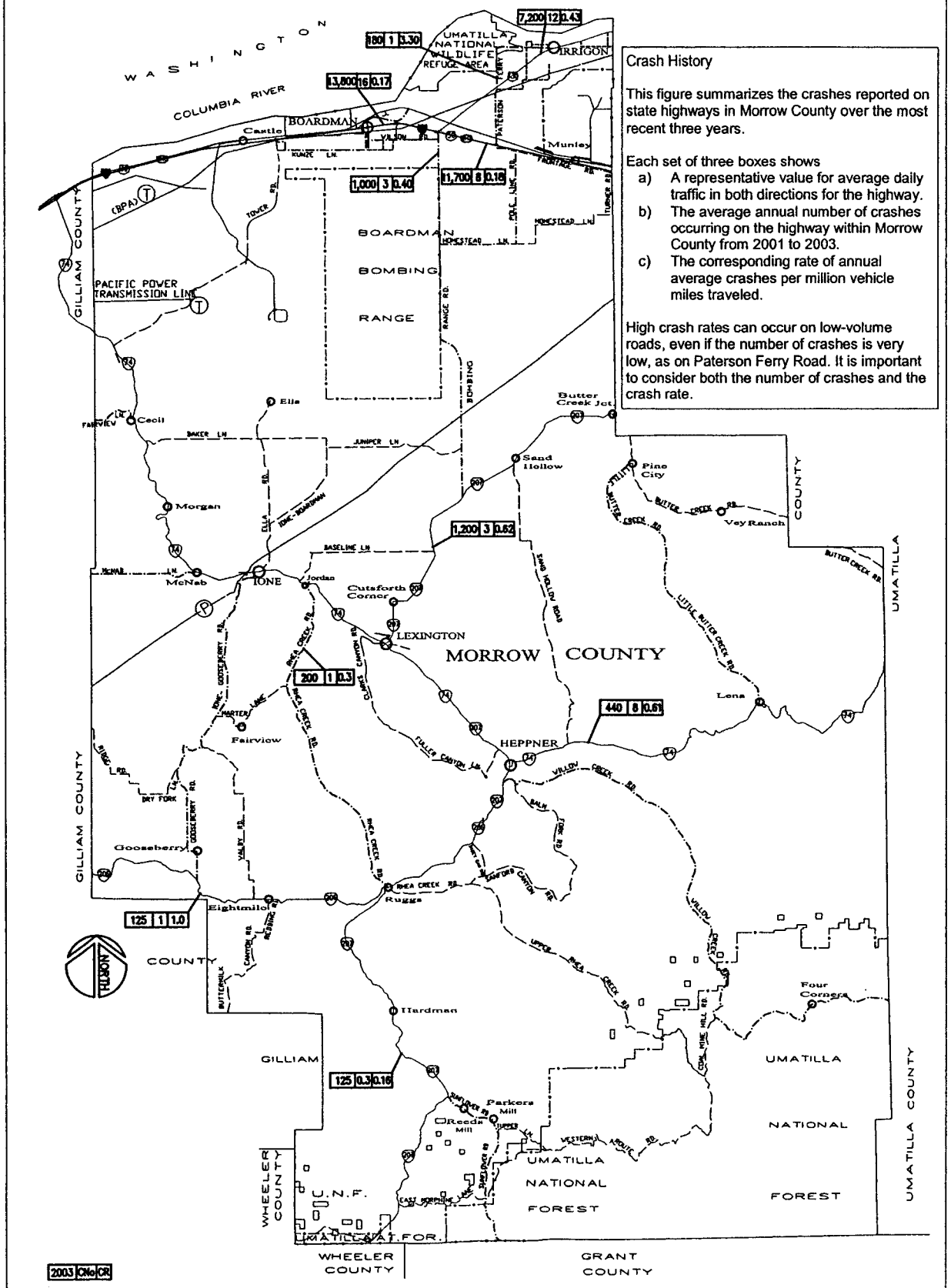
- Bombing Range Road experienced eight crashes, the most of any County road. All eight were property damage only. Paterson Ferry Road (two crashes) and Court Street in Heppner (four crashes) were the only other roadways experiencing more than two crashes over three years.

- Two of the three fatalities occurred on Forest Service roadways. The third occurred in Heppner (Court Street). Two of the fatalities were motorcycle crashes.

- Trucks were involved in four of the 46 crashes.

None of the reported crashes involved pedestrians, bicyclists or equestrians.

CRASH HISTORY (2001-2003)



Crash History

This figure summarizes the crashes reported on state highways in Morrow County over the most recent three years.

Each set of three boxes shows

a) A representative value for average daily traffic in both directions for the highway.
b) The average annual number of crashes occurring on the highway within Morrow County from 2001 to 2003.
c) The corresponding rate of annual average crashes per million vehicle miles traveled.

High crash rates can occur on low-volume roads, even if the number of crashes is very low, as on Paterson Ferry Road. It is important to consider both the number of crashes and the crash rate.

CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING

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REVISIONS	
NO. DATE	DESCRIPTION

DRAWING TITLE: Figure No. 3-2 TRAFFIC CRASH HISTORY (2001-2003)

PROJECT: MORROW COUNTY TSP UPDATE

PREPARED FOR: ODOT/ MORROW COUNTY

TABLE 3-7
CRASH SUMMARY FOR ALL NON-STATE ROADWAYS IN MORROW COUNTY
(JANUARY 1, 2001 TO DECEMBER 31, 2003)

	Fatality	Injury	Property Damage Only	Total
Head-on	0	3	1	4
Rear-end	0	0	2	2
Turning	0	0	7	7
Non-collision	1	10	4	15
Fixed Object	2	5	6	13
Other	0	0	5	5
Total	3	18	25	46

REFERENCE: ODOT (2004)

Existing Traffic Conditions

Morrow County's low population and large size result in low travel demand on most roadways. The 2003 ADTs for the state highways within the County are shown in ***Figure 3-3*** and ***Figure 3-4***, which is just the Boardman-Irrigon area of north County. Morrow County provided daily traffic counts on selected County roadways, which are also shown in ***Figure 3-3*** and ***Figure 3-4***. Existing daily volumes on the state facilities range from 13,800 ADT on I-84 west of US 730, to less than 1,500 ADT on the rest of the highways within the County, most of which carry less than 500 ADT. The highest daily volumes on County facilities were counted on Tower Road (2,600 vehicles south of Kunze Lane, and 3,280 vehicles between Kunze and I-84); Paterson Ferry road (1,350 vehicles); Bombing Range Road (1,250 vehicles); and Wilson Road (1,060 vehicles). Existing volume-to-capacity ratios (V/C ratios) estimated for these roadways are low, with a maximum of 0.24 on Kunze Lane. Although limited traffic counts are available for county roads, it is reasonable to assume that with such low V/C ratios on the County roads known to carry the highest traffic volumes, existing capacity deficiencies on any County roadways are unlikely.

The performance of the transportation infrastructure (roadway and highway segments, intersections, freeways, freeway ramps, etc.) is typically analyzed for conditions representing the peak demand on the particular component of the transportation network. Generally, the weekday peak hour is analyzed. However, for state facilities, the peak period to be analyzed is required to be the peak 15 minutes of the 30th highest hour of the year (referred to as the 30th design hour volumes, or 30th DHV). Generally, if capacity (the maximum number of vehicles that can use a roadway in a given period) exceeds demand (the number of users actually using the roadway during that period), then the road is said to be operating adequately. When demand approaches capacity, traffic congestion is experienced.

Traffic volumes are measured in several ways, but the most common for a rural area is *average daily traffic (ADT)*. This is a measure of the average number of vehicles using a roadway in a 24-

hour period. ADTs are usually measured by taking traffic counts over one or more weekdays, then averaging the totals. For the 2005 TSP, Morrow County Public Works provided 24-hour counts conducted on the primary roadways throughout the County. For state facilities, ODOT publishes an annual summary of average daily traffic volumes on every state highway, called the ***Traffic Volume Tables***. Data from the 2004 ***Traffic Volume Tables*** was used to estimate 30th DHV for analysis.

To estimate the 30th DHV for analysis of state facilities, hourly volumes are first adjusted to account for variations in flow over the hour, truck traffic, roadway conditions, and other factors. The resulting peak 15-minute passenger-car equivalent flow rate is compared to the facility capacity to determine the volume-to-capacity ratio, or v/c ratio, which can be compared to the state's v/c ratio thresholds, which are shown in ***Table 3-8***.

TABLE 3-8
VOLUME-TO-CAPACITY (V/C) STANDARDS
FOR STATE HIGHWAYS IN UNINCORPORATED MORROW COUNTY

		Maximum Peak Hour V/C Ratio	
Highway	Category	Inside UGB	Outside UGB
Interstate 84	Interstate	0.70	0.70
US 730	Regional Highway	0.75	0.70
OR 207	Regional Highway	0.75	0.70
OR 74	District Highway	0.80	0.75
OR 206	District Highway	0.80	0.75

REFERENCE: 1999 Oregon Highway Plan

ODOT operates one automatic traffic recorder (ATR) in Morrow County on OR 74 near Lexington, which is representative of traffic conditions across most of the county, and one on I-84 at Arlington just west of the county border. Published data from the Lexington ATR indicates that the ADT grew from 1994 to 1998, but has decreased since then such that ADT for 2003 remains about the same as it was in 1994. Seasonal variation at the Lexington ATR is minimal, with all but January ADT volumes within 10 percent of the annual average. In addition to historical and seasonal traffic data, ATRs provided factors used to analyze v/c ratios, including 30th DHV, directional split and percent truck traffic.

For I-84 and US 730, values from the Arlington ATR were used for truck traffic (40%) and the 30th DHV factor (15%). For the other highways, data from the Lexington ATR was used for truck traffic (12%) and 30th DHV factor (11%). Conservative values were assumed for the other primary analysis variable, the peak hour factor (PHF), which reflects the variation in flow rates over the course of the hour. For analysis of existing conditions the PHF was assumed to be 0.80. For future conditions, when future travel demand growth is expected to smooth out the variation in demand over the course of the peak hour, a PHF of 0.85 was assumed for two-lane highways, and a PHF of 0.95 assumed for I-84. ***Table 3-9*** summarizes existing v/c ratios on state highways in Morrow County, based on the values described here. Based on estimated existing 30th DHV, the highways in Morrow County are operating well below maximum v/c thresholds.

TABLE 3-9
EXISTING 30TH HIGHEST HOUR VOLUME-TO-CAPACITY (V/C) RATIOS FOR STATE HIGHWAYS IN UNINCORPORATED MORROW COUNTY

Highway/Location	2003 ADT	2005 30th DHV	2005 30th DHV V/C Ratio
I-84 Morrow-Gilliam County line	10,600	1,650	0.30
I-84 west of Tower Rd.	10,900	1,700	0.31
I-84 west of Port of Morrow interchange	13,800	2,150	0.40
I-84 east of US 730	11,700	1,850	0.34
I-84 east of Paterson Ferry Rd.	12,400	2,060	0.38
US 730west of Division Street	6,500	990	0.40
OR 74 north of Morgan Rd.	150	20	0.01
OR 74 Ione west city limits	240	30	0.02
OR 74 east of Ione	740	90	0.02
OR 74 east of Rhea Creek Rd.	600	80	0.02
OR 207/74 at Lexington ATR	1,500	180	0.05
OR 207/74 east of Little Butter Creek Rd	180	20	0.01
OR 206 at Morrow-Gilliam County Line	70	10	0.01
OR 206 at south Heppner city limits	1,300	120	0.05
OR 207 north of Tall Rock Rd.	310	30	0.02
OR 207 south of Blue Mtn. Ranch Rd.	210	30	0.02

Another way that traffic is measured is called ***level of service (LOS)***. LOS is a measure of the operational performance of a roadway or intersection that is expressed as a report-card style letter grade that ranges from LOS A (free flowing, minimal delay), to LOS F (long queues and delays and, for signalized or all-way stop-controlled intersections, extreme congestion). The methodology for measuring LOS is documented in the Highway Capacity Manual (Transportation Research Board, 3rd edition, 2000). The HCM is the industry standard for analyzing the operations of most types of transportation facilities. The HCM uses different methods for determining LOS based on the type of facility such as intersections, two-lane roadways, and limited access freeways. For urban areas, the minimum acceptable LOS is usually set at LOS E. For rural areas such as Morrow County where less congestion is expected, minimum acceptable performance of LOS D is more appropriate. Roadway segments or intersections operating at LOS E or LOS F would be considered candidates for capacity and/or operational improvements. At three-legged or four-legged unsignalized intersections, the LOS applies only to traffic turning from the major street, or to traffic entering the major street from the side street. At these intersections the through movement on the major street operates without delay any delay, so a poor LOS is not always indicative of a need for improvement.

Current intersection LOS reported in the adopted TSPs of Boardman and Heppner are all in the acceptable LOS A or B range. As it is expected that existing intersection volumes are higher in the cities of Morrow County than the rural areas, it is reasonable to assume that intersection operations in the rural areas are also acceptable.

EXISTING TRAFFIC VOLUMES

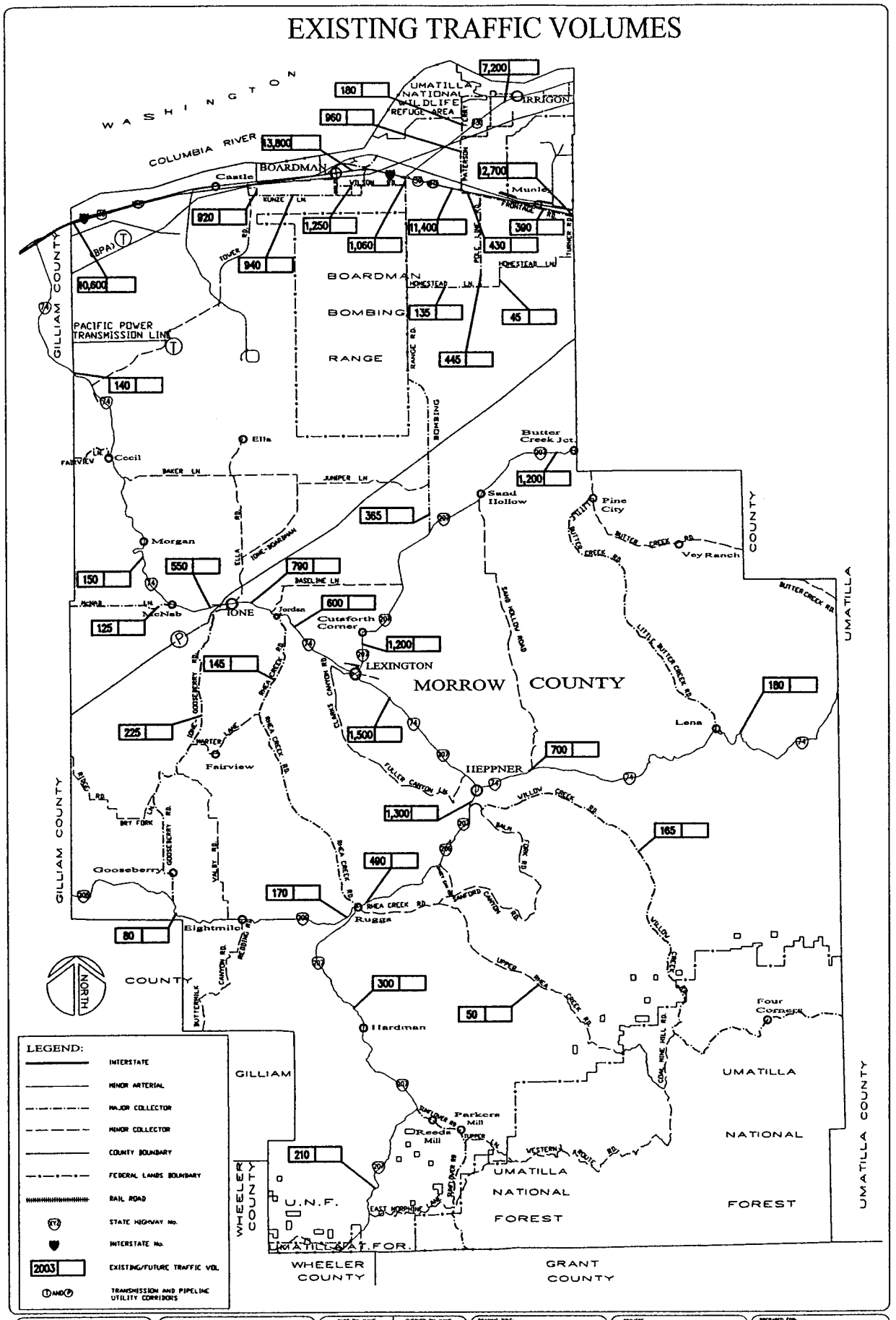

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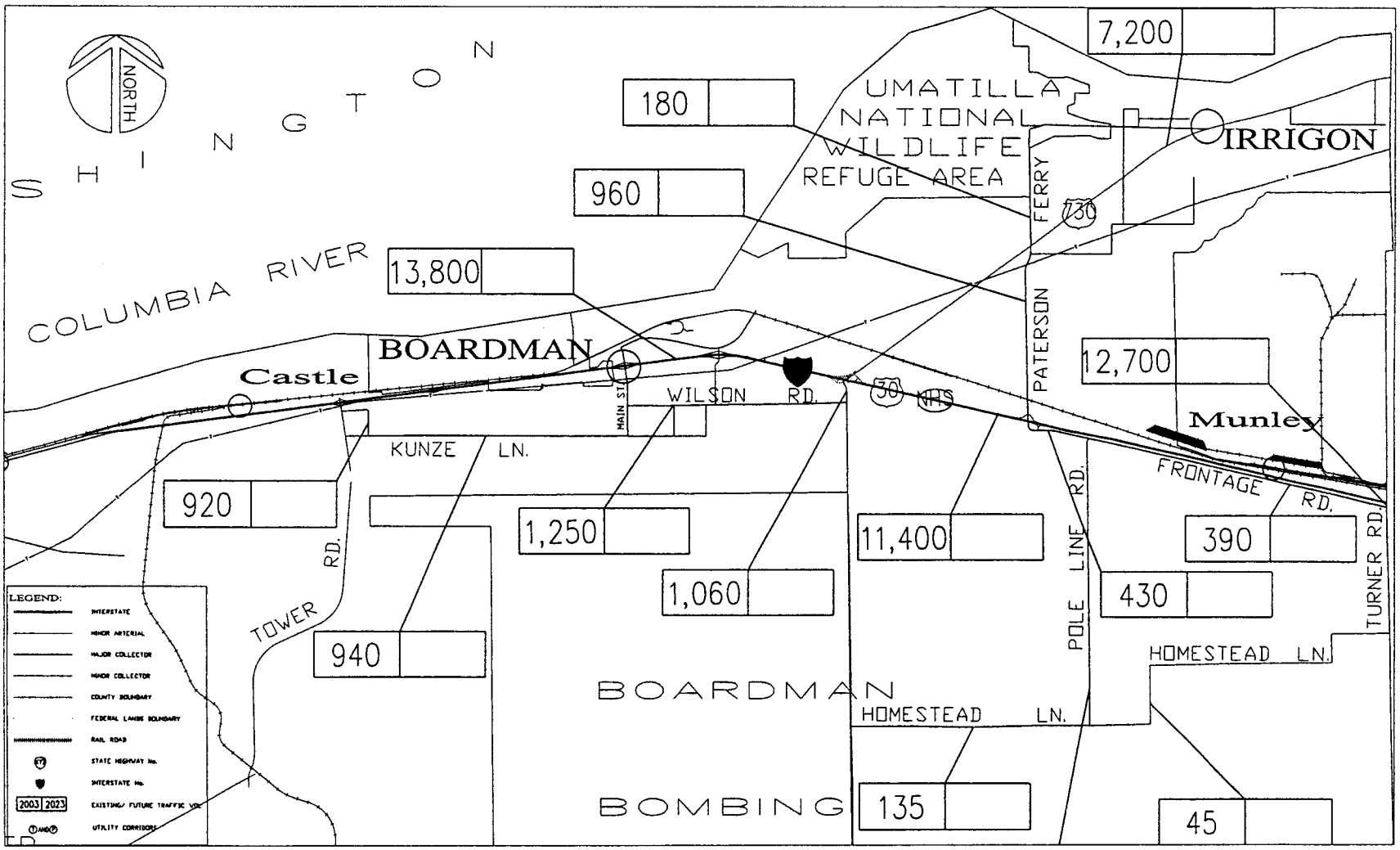
Figure No. 3-3
EXISTING TRAFFIC VOLUMES (2004)

MORROW COUNTY TSP UPDATE

ODOT/ MORROW COUNTY

BOARDMAN-PORT OF MORROW (EXISTING TRAFFIC VOLUMES)



PREPARED FOR: ODOT/ MORROW COUNTY

PROJECT: MORROW COUNTY TSP UPDATE

DRAWING TITLE: Figure No. 3-4 BOARDMAN-PORT OF MORROW EXISTING TRAFFIC VOLUMES(2004)

CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING

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Connectivity

Connectivity is defined as the extent by which cars, bicyclists, or pedestrians can travel in a direct path towards their destination. Connectivity can be looked at both regionally or locally. Regionally, connectivity refers to the ability to travel between adjacent population centers. Morrow County generally has good connectivity of its major population centers, with one major exception. The basic roadway system connects the population centers and provides adequate access to all parts of the County. Much of the land area of the County is divided into large tracts because it is farmed, forested, or in two defense facilities. This decreases the need for extensive cross-circulation or connectivity beyond the basic system. The exception to this is a lack of a direct, County-controlled connection between Boardman and Ione, which is also discussed earlier in this chapter in the section addressing County Roadway safety.

Prior to World War II, a County-controlled connection existed. When the bombing range was established during the war, the road was appropriated as part of the range. Although activity at the bombing range has significantly decreased, it has not been cleared of potentially live munitions and thus it has not been possible to re-establish the road along the former alignment as a County facility, although the County does maintain Bombing Range Road. As noted above, the Oregon National Guard is planning a major training facility for the Boardman Bombing Range, which could require improvements to the access roads including Bombing Range Road. However, the US Navy controls and could also decide to close Bombing Range Road as a public facility, which would eliminate the only north-south connection between Boardman and Ione within the County. While the Navy has expressed no desire to close Bombing Range Road, it is a possibility. The County will continue to work with the Navy toward improving the terms of the easement for use of Bombing Range Road, with the ultimate goal of establishing public right-of-way

A potential second north/south route has historically been referred to as Ione-Boardman Road. The existing impediments to transfer of Bombing Range Road to the County magnify the importance of Ione-Boardman Road as a second north/south connection. However, there are also impediments to constructing Ione-Boardman Road. The County has acquired a dedicated right-of-way that would allow construction of a road (Tower Road Extension) through property owned by Threemile Canyon Farms that would connect the southern end of Tower Road to Highway 74 near Cecil, which would be useful for the western mid-County area. However, this indirect alignment would not fully meet the need for a second north/south connection...

Street spacing requirements can help to develop connectivity on a local level in denser areas near urban centers. Ideally, streets in developed urban areas should not be spaced more than 1/4-mile apart, allowing for easy movement between origins and destinations. For example, areas with short blocks and through roads have high connectivity, and areas with many cul-de-sacs and few connections between roadways have poor connectivity. Safety is also a key benefit of good connectivity, allowing multiple routes of access for emergency service providers.

Connectivity within the unincorporated portions of the urban growth boundaries generally follows a 1/4-mile block length. In most cases, county roadways exist along these block boundaries, providing good system connectivity. Some areas, such as the unincorporated land south of Irrigon, lack roads along the land division boundaries, suggesting the need for additional connections within this area.

Connectivity in the open area of developable land is problematic. Large parcels exist south of US 730, with only limited service from this major ODOT corridor. This service is provided by 15th, 18th, 19th, 21st, and 23rd Streets. Each of these roadway rights-of-way moves north-south, connecting with US 730. Currently, 15th and 23rd are the only improved rights-of-ways. Access management improvements for US 730 such as creation of a frontage type road and closure of selected existing intersections with US 730 will be evaluated in ODOT's US 730 safety study beginning this year.

A large tract of land also exists with limited development potential west of Division Street and south of Irrigon. This block of property is bounded by Division Street on the east, Depot Lane on the south, and West 8th Road on the west. A small subdivision has previously been undertaken, which is serviced by Wagon Loop Road. Intervening land in this tract could be serviced by extension of 4th, 3rd, 2nd, and 1st Streets, which are parallel to Division Street. Connectivity through extension of these streets is complicated due to the northeast-southeast right-of-way of the Bonneville Power Administration for power lines. This right-of-way is 400-feet wide north-south, creating a non-buildable area within this block of property. In addition, an irrigation canal crosses this tract from the northeast to the southwest near the intersection of Nevada Avenue and 1st Street. The County TSP makes recommendations for connectivity in this area.

Another parcel of land that is developable into two-acre tracts is located north of US 730, east of 8th Street West and south of Idaho Avenue extended. Connectivity within this large parcel of land is at issue, as is an interconnection with South Main Avenue and US 730.

Developable land exists in the FR2 zone west of Boardman. Issues of connectivity exist in accessing these parcels from Kunze and Wilson Roads, which run in an east-west direction through the area. The ultimate connection of this area to Tower Road is also at issue. Access from these parcels and throughout this unincorporated area west of Boardman can be addressed as improvements continue to occur at the Port of Morrow's airport (west of Tower Road) and through potential extension of Tower Road to Ione.

Block Lengths

The Transportation Planning Rule (TPR) requires establishment of a block length in this TSP. The concept of block length is to limit the distance a roadway can extend without creation of interconnecting roadways. The purpose for a reasonable block length is to provide needed access as currently vacant land develops.

Where vacant land exists in large tracts and where surface features or other infrastructure also occur such as irrigation canals, freeways or railroads, it is difficult to establish a block length and interconnecting of streets. The other primary reason for establishing block length is to allow pedestrian and bicycle access in blocks that have a reasonable perimeter, approximately 1,500 feet, and for safety purposes (e.g., emergency vehicle access).

For the County TSP, block lengths are relevant generally only for areas within the UGBs. Block length standards are not appropriate for rural unincorporated areas. Undeveloped lands in the Irrigon and Boardman area in particular will benefit as development occurs if a block length standard is instituted as residential densities increase.

Port of Morrow System

The Port of Morrow is one of a number of Oregon ports established under Oregon Administrative Rules (OAR). It owns, operates, finances, and develops facilities primarily of an industrial nature within the City of Boardman and areas of Morrow County. To provide the proper climate and resources for its numerous industrial customers, the Port is necessarily active in the development of the following:

- Industrial sites
- Transportation systems
- Utilities
- Financial services
- Community support

Industrial Sites

The Port of Morrow offers industrial building sites varying in size. These sites are an economical alternative and strategic to metropolitan area locations. These three industrial parks owned and operated by the Port are major generators of transportation activity with respect to access to I-84, rail access to Union Pacific's east-west Columbia Gorge route, and barge transportation via the Columbia River. Because of their existing impact and potential growth, they will be discussed briefly in the following paragraphs.

Boardman Industrial Park

The Boardman Industrial Park is home to Lamb-Weston's french fry plant, Oregon Potato's potato flake plant, and Boardman Foods' onion processing facility, and Columbia River Processing's cheese plant. A number of additional plant sites up to several hundred acres in size are ready for additional facilities. In addition to these processing facilities, tens of thousands of tons of potato and onion storage facilities are also in place.

A fiber and seed processing cluster is also located at the Boardman site. Facilities include Oregon Hay Company, which processes alfalfa and other forage crops for export, and Cargill's grain terminal ships transporting Inland Empire wheat and Barenbrug U.S.A. grass seed worldwide. Other East Beach sites are particularly suited to future transportation-dependent industries serviced by barge from the Columbia River.

Transportation facilities such as Longview Fibre's chip reload facility and Tidewater Terminal's public container and chip reload docks are evident along the Columbia River in the Port's Boardman Industrial Park. An additional 2,500 acres of industrially zoned land are available and ready for occupancy.

Airport Industrial Park

The Port owns a 2,700-acre Airport Industrial Park, which centers on a 100-foot wide, 4,200-feet long, Category 5 general aviation landing strip located near the intersection of I-84 and Tower Road. This general aviation strip is currently used by Portland General Electric and Lamb-Weston, among others. The Port is actively marketing the movement of goods and services via air from this airport facility. The Port resurfaced the asphalt runway in 2004.

South Morrow Industrial Park

In the southern region of Morrow County is the south Morrow Industrial Park, site of the now closed Kinzua sawmill facility. The site, now home to a power facility and Miller Manufacturing on the west side of the highway and offices on the east side, is zoned for industrial development. Highway 74/207, which bisects this facility, was improved to include turning lanes and is posted with a 45 mile per hour speed limit, both actions designed to preserve this portion of the highway transportation system.

Port Transportation Systems

The Port of Morrow is in the heart of the Pacific Northwest inland empire. It maintains critical transportation connections with the Columbia River barge lines, Union Pacific's main line, I-84 with east-west access, and US 730 with access north into Washington and beyond. With the accesses indicated, the Port of Morrow offers crucial transportation links to the Pacific Ocean and the continental United States. Beyond the current use of the Port's barge, rail, and highway system is the development of the port-owned general aviation facility for use in transportation of goods and services.

Columbia River Barges

Transportation via Columbia River barge is the most economical form provided by the Port. Cargo picked up by the Port of Morrow can be on oceangoing freighters at the Port of Portland within 24 hours. Tidewater Terminal at the Boardman Industrial Park within the Port of Morrow is the largest container terminal upriver from the Port of Portland. Additional dockage

facilities handle wood chips, aggregate, solid waste transferred from Clark County, and grain for transportation by Columbia River barge.

The Port of Morrow maintains about four miles of frontage on the Columbia River. Facilities include six docks, two berths 12 to 17 feet deep, and two overhead cranes with an approximate 200-ton capacity. Tidewater Barge Lines serves the Port of Morrow, with approximately 2,130 containers handled at the container dock each month. Approximately 50 percent of the goods shipped are for foreign markets, which are first shipped to Portland before leaving the country.

Rail Service

Union Pacific's transcontinental rail line passes through the Port of Morrow's Boardman Industrial Park. In addition, the Port is only 20 miles west from the Hinkle Classification Yard, which is the largest hump yard west of St. Louis, connecting lines north to Canada and south to California. Through the Hinkle facility, Port of Morrow goods and services can be shipped by rail in all directions.

The Port of Morrow received grant funding for final design and construction of a spur track connecting to the Union Pacific mainline. Construction of the spur track began during the 2005 TSP process, and is expected to be completed within the year. In addition to providing additional capacity for railcars on Port property, by providing a complete circular turnaround, the spur track will substantially increase the efficiency of the Port's intermodal transfer facilities.

Interstate Highway Systems

All of the Port of Morrow industrial park facilities enjoy easy access to I-84. This is the main east-west interstate serving both Oregon and Washington along the Columbia River. National common carriers and local contract truck lines serve industrial park industries via I-84. In addition, east of the Port of Morrow approximately 12 miles is I-84's connection with I-82, which provides northbound service to Spokane, Seattle, and Canada.

Access to the Port's facilities after leaving I-84 is from Columbia Avenue, a two-lane road that provides adequate service to current customers. At the time this Plan was prepared, the Port had secured funding to improve existing overpasses in the East Beach area to accommodate and facilitate the Port's continued growth. One or more new connections are needed to provide access to Port of Morrow industrial lands to the east.

Port Aviation

A central feature of the Port of Morrow is the Airport Industrial Park. It offers the services of a 4,200-foot long runway that was repaved with a new 100-foot wide asphalt runway in 2004. Corporate jets and light general aviation aircraft use the airport's facility on a regular basis. As industrial clientele express increasing interest in the Airport Industrial Park, the Port will move

to upgrade these facilities, extending both the types of aircraft that can be served by this airport and the facilities that can locate within its boundaries.

Utilities

A significant attraction of the Port of Morrow's industrial park facilities are the types of utilities provided. These utilities have an indirect impact on transportation facilities serving the Port due to the potential for siting of clients with transportation impacts who will take advantage of these utilities. Two of these utilities that are clearly attractive to significant industrial clients include Process Steam and Electricity.

Process Steam

Siting of a natural gas fired co-generation plant in the middle of the food processing park at the Port of Morrow allows for provision and early delivery of process steam at a cost far below that developed by in-house process facilities. Availability of steam alone can attract significant future facilities that will impact port transportation systems.

Electricity

The Boardman and Airport Industrial Parks are served by Umatilla Electric Cooperative Association. The south Morrow County industrial park is served by the Columbia Basin Electric Cooperative. These two entities provide the most economical form of electric power in the Pacific Northwest. Supply of inexpensive electric power for industry is another predictor of growth at the Port and suggests maximum flexibility in the maintenance of transportation systems.

Financial Services

The Port of Morrow supports developments within its boundaries with a variety of financing services. The development of industrial facilities necessarily requires the maintenance and continuing upgrade of barge, rail, and highway transportation systems. The Port offers financing of these and other improvements through the following sources:

- Industrial development revenue bonds.
- Port revolving loan fund.
- Partnership and participation program.

Community Support

The Port's position on community support is to offer a proactive response to industrial development. Through its more than 30 years of active development, the Port has created a comprehensive land use planning base. This base has established more than 5,700 acres of available land in three industrial parks that are planned and zoned for most current industrial uses. The Port maintains well-established, long-term comprehensive plans supporting

industrial use within its boundaries. It is the Port's commitment to land use planning as well as the provision of a strong labor force, favorable political climate, and an open arms approach that ensures continued steady growth within its facilities.

It is important within this TSP to maintain flexibility for rapid expansion of transportation systems serving the Port's three industrial sites.

US Forest Service Roads

In the southern portion of Morrow County, where the rural nature of the County is especially exemplified, a significant amount of US Forest Service (USFS) property exists. In this area of the County there are three designated federal forest highways:

- Forest Highway #32: Heppner-Spray Highway (a State Highway) from the intersection with OR 207 east of Spray to the intersection with Sunflower Flat Road about six miles southeast of Hardman. It is maintained by ODOT.

- Forest Highway #109: Willow Creek Road (County Road #678) from the intersection with Highway 206/207 southeast of Heppner to the north boundary of the Umatilla National Forest and from there southeasterly 18 miles to the intersection with County Road #603 Cole Mine Hill/Ditch Creek Road. This forest highway is part of the Blue Mountain Scenic Byway.

- Forest Highway #110: Starting from one mile west of Monument, it runs to the northwest for 20 miles along Top Road to Sunflower Flat Road at the Morrow-Grant County line, then northwest for 10 miles along Sunflower Flat Road to the intersection with OR 207 southeast of Hardman. Forest Highway 110 is entirely County-owned and maintained from the junction with OR 207 to the Morrow-Grant County line.

These facilities are important to the movement of goods and services in the area of south Morrow County.

Pedestrian, Bicycle, Equestrian Facilities

In addition to the motor vehicles that use the transportation system, there are also non-motorized users, namely pedestrians, bicyclists, and equestrians. These users have different needs than motor vehicles due to differences in the speed and distances that they travel and the amount of protection they have and need. In rural areas like Morrow County, non-motorized users are sometimes provided with facilities designed specifically for their use, but are most often required to share the roadway with all users.

Non-motorized travelers use the transportation system for two main reasons: transportation, or getting from place to place, and recreation, which can include sight-seeing and exercise. Transportation users usually use non-motorized transportation, such as walking, biking, or riding, *instead of driving*. These trips tend to be shorter and are usually geared to a particular

destination, such as a school, park, or commercial center, and tend to be in more densely populated areas. Recreation users usually choose to walk, bike, or ride *for the experience.* These trips can be short or long, ranging from a child riding a horse for exercise to a days-long bike trek. They may or may not involve a particular destination. They are often concentrated near other recreation sites, such as parks, or scenic vistas.

The Columbia River Heritage Trail (the Heritage Trail), extending from Umatilla County through Irrigon into Boardman and on to the Gilliam County line when complete, serves as both a transportation and a recreation facility. It links two of the major cities in the County and its major employer, as well as providing access to the Columbia River shoreline and Umatilla Wildlife Refuge. The Heritage Trail alignment includes Columbia Lane in Irrigon and Columbia Boulevard in Boardman, and also old Highway 2, which is owned and operated by the County and limited to bicyclists and pedestrians. The Heritage Trail design standards call for 2-foot shoulders on each side of the road for the segments of the trail on paved roadways; 8-foot dedicated trails (subject to right-of-way availability) in "urban" areas (City of Boardman/Tower Road to City of Irrigon/Twelfth Street), and 8-foot dedicated off-street trails in the rural segments (west Morrow County line to Tower Road; USFW Umatilla Wildlife Refuge where not already paved; and through the ODFW Wildlife Area). The Heritage Trail is a unique asset for Morrow County's non-motorized transportation system, and this Plan promotes its continued development and additional local connections to the existing trail.

Other bicycle and pedestrian facilities in the County include a recently completed off-street bikeway in Heppner, connecting to the city's swim center, and paved shoulders beyond the fog lane on OR 74 and Second Road East south of US Highway 730 in Irrigon.

Pedestrian Facilities

Designated pedestrian facilities can be provided in several ways. In urban areas, these are usually sidewalks, but they can also be separated paths. Widened shoulders are often used by both pedestrians and bicyclists in rural areas. Morrow County's new road standards include a provision for widened shoulders to be used by pedestrians and bicycles. The width of shoulder varies, with higher volume roads of higher classifications providing wider shoulders to offer more protection.

The bike/pedestrian facility is incorporated into the road standards and is based on density and cost effectiveness. A commonly accepted criterion is that pedestrian facilities should be provided throughout urban areas. If this criterion is used, sidewalks would be required within the urban growth boundaries surrounding Boardman and Irrigon, when consistent with the TSPs for the two cities.

Bicycle Facilities

Designated bicycle facilities can be provided in a variety of ways as well and are often available for use by other non-motorized users in addition to bicyclists. The most common types in urban

areas are striped lanes on roadways, signed roadways (with the bicycles sharing the lane with motor vehicles), and separated paths. Rural facilities are usually paved shoulders, which are sometimes signed or marked. Morrow County's new road standards include a provision for widened shoulders to be used by bicycles and pedestrians. The width of shoulder varies, with higher volume roads of higher classifications providing wider shoulders to offer more protection.

Many of the relatively low-volume state highways and roadways in south Morrow County attract recreational bicyclists who share the roadway with motorists. Morrow County has an annual bicycle race every May, and will host the kickoff of Cycle Oregon 2005. A bike path was recently constructed in Heppner along OR 74 to connect to the new community swimming pool.

Equestrian Facilities

Designated equestrian facilities are usually provided as unpaved, separated paths, although they can also be provided as multi-use paths that are shared by bicyclists and/or pedestrians. These are not usually located in very dense urban areas, as horses are not stabled there. Equestrians may also share roadways with motor vehicles in some circumstances. Equestrian facilities are available at Cutsforth Park, the Morrow County Fairgrounds, and part of the Heritage Trail.

Transit and Para-Transit

There are three types of transit to consider in the TSP: public transit, which is supported by public funds for use by the general public; private transit, which is not funded by public funds; and para-transit, which provides services for the transportation-disadvantaged population, including older adults, the physically challenged, and low-income users.

Public Transit

There is no public transit service in Morrow County. The population and density of the County are currently too low to support a transit system. Given the lack of impacted travel corridors within the County, there is little demand for a public transit system at this time.

Private Transit

Greyhound operates private transit bus lines throughout the United States. Greyhound has a daily route that travels through Morrow County, but does not have a scheduled stop in the County. For the bus to stop in Boardman, current operations require the passenger to flag the approaching bus and to pay the driver for the fare. The nearest scheduled Greyhound stop is in Stanfield, 12 miles south of Hermiston on US 395, in Umatilla County. Until fairly recently, Greyhound had scheduled stops east of Morrow County in Hermiston and Pendleton. The Stanfield stop replaced these two stops. Service is provided to various cities along routes to Portland, Seattle, and Boise, where connections can be made to other destinations.

A second private transit line is operated by Linea Express, serving primarily agricultural workers that are moving up and down the west coast.

Morrow County residents feel strongly that Greyhound should schedule additional stops in Boardman and a new stop in Irrigon to provide service to this portion of the County.

Para-Transit

Transportation services to older adults and physically challenged residents of Morrow County are provided by Morrow County Special Transportation, a para-transit provider. Services provided include dial-a-ride services, client transportation, and medical transportation, all provided by volunteer drivers. The operation includes two buses in Heppner serving mid-county, and one bus in Boardman and Irrigon. Three cars are also available in the communities of Heppner, Irrigon and Boardman for the eligible population to make longer trips. In mid-county, one of the buses is reserved for transportation to and from medical appointments, with the other bus is used mostly for entertainment and shopping. As available, the STF buses also serve populations outside the target groups. Operations are funded through a grant from the Public Transit Division of ODOT. Volunteer drivers are trained and administrative records maintained by the CAPECO in Pendleton. Local services are coordinated by local volunteers in the communities of Heppner, Boardman and Irrigon.

Rail Facilities

Rail services within Morrow County include both freight and passenger services. Rail transportation has historically been, and continues to be, an important avenue for moving goods within the region.

Rail Freight Facilities

Rail freight services are provided to businesses in Morrow County by the Union Pacific Railroad. Their main line parallels I-84. Two spurs extend from this line: one serving the coal-fired gas plant and the other serving the Umatilla Ordinance Depot. A third spur serving the Port of Morrow facilities has been funded for construction. Most of the rail freight service supports the agricultural activities in the north County.

In fact, the Union Pacific main line running east-west through the Columbia River Gorge runs through the Boardman Industrial Park, owned by the Port of Morrow. Through this connection, the Port is able to transport its goods either to the Port of Portland or east into the continental United States. In addition, the Hinkle Classification Yard, located 20 miles east of the Port of Morrow (near Hermiston, Oregon), is the largest hump yard west of St. Louis. Through use of this facility, the Port is able to access rail lines leading north into Canada and south into California. The Port is effectively able to use rail service because of the Hinkle hump yard to send its products in many different directions. The Port is currently developing a loop track

connecting from the Union Pacific main line to the Port of Morrow industrial area, which will enhance freight mobility to and from the Port.

Passenger Rail Facilities

There has been no passenger rail service in Morrow County since the mid-1990s, when the Amtrak Pioneer line between Salt Lake City, Utah and Portland, Oregon stopped operating. Loss of this line not only removed service from Morrow County, but also from a regional perspective, deleted service east to Salt Lake City. Amtrak does provide service between Portland and Spokane on its Empire Builder line. Morrow County residents must go to the Tri-Cities, the closest stop, to use this service.

Airport Facilities

General

Two public airports exist in Morrow County. They include the Lexington-Morrow County airport and the Port of Morrow airport west of Boardman. At the date of this report, airport facilities in Morrow County are limited to private aircraft. The closest public air service is located in Pendleton, Oregon. Depending on the growth of Morrow County, opportunities exist to expand the Port of Morrow's airport facility to provide public air transportation service.

Lexington-Morrow County Airport

Morrow County owns and operates the Lexington-Morrow County airport facility. This airport is located one mile northwest of Lexington and is currently the largest airstrip in the County. It serves as the base for approximately 14 aircraft. Combined local and transient activity is about 85 operations weekly. The airport offers a single paved runway which was recently upgraded to 4,150 feet in length, with a parallel taxiway. Fueling capability is available on site at the airport. An Automated Weather Observation System (AWOS) was recently installed.

Based on the state's most recent pavement maintenance report for the Lexington-Morrow County airport (2003), about 2/3 of the airport runway pavement is rated as good or very good, with 1/3 rated as poor, very poor, or failed. This same report outlines a five-year maintenance plan for the 2004-2009 period with about $617,000 of inspection and maintenance work that is needed to avoid more costly repair work.

The Airport Layout Plan for the Lexington-Morrow County Airport, acknowledged by DLCD in 2002, defines how the airport is planned to be used over the next two decades. The Air Industrial Zone identified in the Airport Layout Plan has been applied as an overlay zone in the Morrow County Zoning Ordinance. Copies of the Airport Layout Plan are available at the County Public Works Department.

Port of Morrow Airport Facility

The Port of Morrow has recently purchased what was previously known as the Boardman airport. This facility offers a 4,200-foot long paved runway. This runway was designed to offer takeoff and landing capability for heavy bombers and commercial passenger/cargo jets.

At the date of this TSP, corporate jets and light general aviation aircraft use the airport on a regular basis.

After acquiring the airport, the Port of Morrow developed an Airport Industrial Park centering on the 100-foot wide, 4,200-foot long landing strip. Industrial sites are available for facilities that would benefit from the capabilities of this airport as well as the general services provided by the Port of Morrow. Sufficient land exists at the Port's Airport Industrial Park to extend the runway and to offer a full range of aviation services depending on the need of future industrial, commercial, or public clientele.

In Chapters 5 and 6, Port of Morrow improvements to the Airport Industrial Park are indicated, focusing on improved access for ground transportation services.

Utilities

Morrow County has several utility corridors, including the Old Columbia River Highway, which runs through the Umatilla Wildlife Refuge; various natural gas pipelines; a BPA power line that runs through the County generally parallel and south of I-84 and US 730; a Pacific Power transmission line extending from the northwest corner of the County into Gilliam County; and a fiber optic line is located along several County roads and State highways, serving all five communities in Morrow County. A pipeline transporting natural gas runs across Morrow County. The PGT Pipeline enters Morrow County near the southeast corner of the County, travels near Ione, and continues to the northeast to the Morrow-Umatilla county line. Along Highway 74 fromI-84 to Heppner, there is an abandoned railroad line. When the railroad abandoned the rail line they retained a perpetual easement for utilities. Installation of a pipeline connection to Heppner has been discussed. No other future expansion or major modifications are expected within Morrow County.

The US Navy's control of Bombing Range Road creates a deficiency for utility placement due to a lack of County control over the right-of-way.

Other Transportation

Other transportation facilities are available in the County, mostly for quasi-public or private use, including trucking lines and school bus service.

Trucking Lines

There are numerous independent trucking lines serving the County's main industries: agriculture, logging, and various light industries. Several trucking firms also operate in Morrow County to haul refuse from the Port to area landfills. The County's Draft Solid Waste Management Plan proposes truck routes for carriers of solid waste. The growing dairy industry in Morrow County has generated additional truck activity for the transport of raw milk and cheese. Much of the grain collected throughout the County is transported by trucks to the Morrow County Grain Growers' Association facility in Irrigon (via Paterson Ferry Road) and to the Port of Morrow.

Many of the access roads to these facilities warrant upgrading. The 2005 TSP includes a recommended policy to incorporate the County Department of Public Works' standard for a paved apron where an unpaved access road intersects a paved roadway. Under this standard, the first 20 feet of the access road would be paved, which would reduce degradation of the paved roadway shoulder and reduce the potential for gravel to be spread onto the roadway.

School Bus Service

The Mid-Columbia Bus Service provides school bus service to all county public schools on a contract basis. There are over 25 buses serving the schools. These buses are in operation from-6:30 to 8:30 AM and from 2:00 to 5:00 PM, with some mid-day service There are two major sources of potential problems for the bus service and these are split by geographic area: the condition of rural roads in the southern part of the County and the increasing volumes of traffic in the northern end of the County. The current condition of the roads in the County is good and does not inhibit bus operations. Stopping sight distance, bus pull-outs, and turnarounds are all adequate. The bus service reports a good working relationship with both the county and state road departments. When problems are detected, the County and state are quick to remedy the problem, and the County has helped in the widening of bus turnarounds and improved signage.

In the north end of the County, a grade school and high school are located on opposite sides of US 730 in Irrigon. The heavy traffic on this highway hinders the provision of bus service in several ways, and has required development of a supplemental plan for bus service within the area near the schools normally not served by buses. Because there is not a safe location for school children to cross the highway, more children must use the buses instead of walking or riding bikes to school, which increases heavy vehicle traffic in the area. Also, the efficiency of routes is affected since buses typically are routed so that children are not required to cross the highway. Buses are also required to cross the highway several times during their normal routes and often incur long delays waiting for sufficient gaps in traffic, as there are no stoplights along the highway. Kunze Road outside of Boardman also was identified as a facility in need of shoulder improvements to accommodate students walking to school.

CHAPTER 4
FUTURE CONDITIONS

INTRODUCTION

This chapter forecasts the changes that are expected to occur to the transportation system in the future over the 20-year planning horizon. Future conditions expressed in this section represent the expected growth in population and travel demand based on the planned roadway system, and identify where the opportunities exist to improve that system.

The following topics are discussed in this chapter:

- Future opportunities
- Future land use and population
- Future transportation demand
- Future transportation needs

FUTURE OPPORTUNITIES

Future growth and development in Morrow County and in nearby areas will present opportunities for the County's transportation system. Projected growth in north Morrow County and north Umatilla County areas will increase employment activities significantly over the next five years. Increased employment will in turn increase the demand for housing in the region and the demand for transportation facilities. The mitigation of these impacts to the transportation system will create an opportunity for the County to upgrade the existing system. The following is a list of some of the expected opportunities.

Port of Morrow

The Port of Morrow has been developing industrial facilities in Morrow County for over 30 years and continues to be the most significant entity bringing jobs to Morrow County. Today, the Port has three established industrial parks with over 5,200 acres of available land: the Boardman Industrial Park, the Airport Industrial Park, and the south Morrow Industrial Park.

The Port of Morrow is also interested in or owns other sites in Morrow County and is actively seeking opportunities to increase industrial development. Many hundreds of jobs will likely be developed within the County over the 20-year time frame this study covers. Morrow County and the Port of Morrow have worked closely to identify opportunities to mitigate the impact of this development on the transportation system. To this end, the Port of Morrow has actively participated in the preparation of the original transportation system plan (TSP) and the 2005 TSP, and is an active partner with the County toward development of a freight and goods mobility strategy. This strategy is the key to identifying future system needs based on increased industrial development.

A review of existing Port of Morrow development provides insight into future opportunities for growth in the region. For example, the Boardman Industrial Park has a thriving food processing park that features Lamb-Weston's french fry plant, Oregon Potato's potato flake plant, and Boardman Foods' onion processing facility. Many additional plant sites up to several hundred acres are able to accommodate future developments. In addition, the Boardman Industrial Park includes the largest barge terminal on the Columbia River east of Portland. This facility currently ships alfalfa, grain, grass seed, aggregate, and wood chips. Through the Port's continuing efforts to upgrade this facility, it should be anticipated that other goods would add to the list transported from this shipping terminal.

It should also be noted that the Port of Morrow airport has a jet-class runway that was recently extended to 4,200 feet. Together with industrial land surrounding the airfield, the potential for development at this site is also excellent.

Most importantly, from the standpoint of future opportunities, the Port has developed a "can-do" attitude reinforced by facilities that are quickly able to be developed to meet a wide variety of demands. Within Morrow County, port facilities offer the greatest opportunity for sustained growth and job creation.

Morrow County

Within Morrow County, but outside of Port of Morrow lands, is the 20,000-acre Umatilla Army Depot. This depot spans the border between Morrow County and Umatilla County in the north County area between I-84 and US 730. For nearly 40 years the US Army stored nerve gas at this site, but in 1999 the EPA initiated cleanup activities using innovative technologies to speed up the project. The Depot represents a substantial development opportunity once cleanup activities are completed.

Another sizable opportunity exists at the Boardman Bombing Range. The Oregon National Guard initiated planning for a potential major tank training site at the Bombing Range during the time this TSP was being updated. Should the concept go forward, it would involve concentrated activity on weekends and summer weekdays, with National Guard troops traveling to the Range from Hermiston and Pendleton. Substantial planning and engineering work will be necessary to remove unexploded munitions that remain on the site, and provide an adequate roadway system to accommodate heavy vehicle and personnel movement. Planning and engineering effort for the reuse of the Bombing Range will continue well beyond the completion of the 2005 TSP, and may require future TSP amendments, preparation of a Transportation Refinement Plan (TRP), or other means appropriate to identify needed improvements and an implementation strategy.

FUTURE LAND USE AND POPULATION

Future Population

County population forecasts prepared by the Office of Economic Analysis (OEA) were reviewed to evaluate future population for Morrow County. For the 1997 TSP, OEA forecasts were found to underestimate long-term growth in Morrow County and were adjusted upward to be more realistic. For this 2005 update to the original Morrow County TSP, OEA forecasts show that the County is expected to increase by an average annual rate of 2.5 percent between 2000 and 2025. OEA also certifies interim population estimates for Oregon's counties and incorporated cities for non-census years.

Table 4-1 shows the County's future population projections for the entire study period. Year 2024 population projections shown in ***Table 4-1*** were estimated by applying the 2.5% annual growth rate determined by OEA for the 2000-2025 period to the 2004 OEA certified population estimates for the County and its cities. OEA projected population growth based on detailed models that began with 2000 census information and considered recent and historical trends as well as future growth potential. Based on these growth rates, Morrow County population will increase by almost 5,900 residents during the next 20 years. Most of the growth is forecast to occur in the northern cities and in the unincorporated areas of the County. This will result in 4 out of every 10 people in the County living in either Boardman or Irrigon. Projected increases correspond to an additional 1,560 residents in Boardman, and 895 in Irrigon, which compare favorably with the population increases assumed in the TSPs for the two cities.

TABLE 4-1
FUTURE POPULATION DATA SUMMARY

Area of County	2000 Census Count	2004 OEA Estimate	2024 Total	Change 2004-2024
Boardman	2,855	3,120	4,680	1,560
Irrigon	1,702	1,790	2,685	895
Heppner	1,395	1,420	2,130	735
Ione	321	340	510	170
Lexington	263	260	390	130
Unincorporated Area	4,459	4,820	7,230	2,410
Total	10,995	11,750	17,625	6,630

FUTURE TRAVEL DEMAND

Future travel demand will increase as population grows and development occurs. Therefore, the future transportation demand is closely related to the forecasted increase in population in each region of the County. Adjustments to the population-based rates of growth in transportation demand were made to reflect the greater proportion of employment, medical and commercial services available in north County. In all, three different annual growth rates were developed in consultation with the TAC to estimate 2024 daily traffic volumes. A 3.0 percent/year rate was assigned to the north County, 2.0 percent in mid-County from approximately Baker Lane to Willow Creek Road, and 1.0 percent per year in south County. These growth rates are similar but slightly higher than those used for the 1997 TSP, reflecting the State of Oregon's recent efforts to promote employment growth in rural counties. They are generally consistent with the adopted TSPs in the cities. ODOT prepares 20-year forecasts of average daily traffic (ADT) on all state highways, which are also used for projecting future travel demand. The projected 20-year growth rates were compared to the rates applied in this TSP:

* On I-84, projected average annual growth rates ranged from 1.9% near Boardman to 2.5% near the Port of Morrow interchange. These are generally consistent with the annual rate of 3.0% used in this TSP.

* On US 730, projected annual growth rates ranged from 0.7% northeast of I-84 to 0.5% at the County line. These rates are much lower than the 3% annual rate used in this TSP, and underestimate potential growth in this area stemming from industrial development over the next two decades on Port of Morrow lands.

* On OR 207 from Lexington toward Umatilla County, projected growth rates ranged from 1.7% per year near Lexington to 3.8% at the County line. These are generally consistent with the 2% annual rate used in the TSP. With projected 2023 daily volumes less than 2,000 vehicles, a slight difference in the growth rate would have little effect on future traffic operations.

* On OR 206 south of Heppner, the projected growth rate of 0.9% per year is consistent with the 1% per year rate used in the TSP.

Figure 4-1 compares existing 2004 and projected 2024 daily traffic volumes throughout the County. As seen in the figure, the highest traffic growth is along the I-84 corridor near Boardman and at the Umatilla County border, where traffic volumes are expected to exceed 20,000 average daily trips (ADTs). Not surprisingly, the rural areas of the County are expected to see only modest growth over the next 20 years. Growth in travel demand is also expected to increase on county roads near urban areas such as 4th Street, Division Road, Columbia Avenue, and Bombing Range Road.

FUTURE TRANSPORTATION NEEDS

Volume-to-Capacity Ratio Performance

Roadway performance was evaluated using the volume to capacity (V/C) criteria described earlier. Future V/C ratios were calculated for existing and projected 2024 traffic volumes. Selected existing and projected future V/C ratios and daily volumes for the higher volume roadway segments in the County are shown in ***Table 4-2***.

As seen in the table, most state highways are expected to operate with V/C ratios less than 0.50 through 2024. South County roadways are projected to gain only moderate traffic levels and will have minimal increases in their V/C ratios, projected to remain under 0.20 on state facilities. The highest volume corridors, which are along I-84, operate at acceptable conditions under both existing and future conditions. The only segment that approaches its v/c threshold is I-84 east of the Paterson Ferry interchange, where the estimated existing V/C ratio of 0.48 is projected to increase to 0.66.

TABLE 4-2
PROJECTED 2024 V/C RATIOS ON STATE HIGHWAYS

Highway/Location	2004 30th DHV	2004 30th DHV V/C Ratio	2024 30th DHV	2024 30th DHV V/C Ratio
I-84 Morrow-Gilliam County line	1,650	0.30	2,300	0.36
I-84 west of Tower Rd.	1,700	0.31	2,370	0.37
I-84 west of Port of Morrow interchange	2,150	0.40	3,010	0.47
I-84 east of US 730	1,850	0.34	2,860	0.44
I-84 east of Paterson Ferry Rd.	2,060	0.38	4,280	0.66
US 730west of Division Street	990	0.40	1,160	0.47
OR 74 north of Morgan Rd.	20	0.01	30	0.02
OR 74 Ione west city limits	30	0.02	30	0.02
OR 74 east of Ione	90	0.02	120	0.03
OR 74 east of Rhea Creek Rd.	80	0.02	120	0.03
OR 207/74 at Lexington ATR	180	0.05	230	0.07
OR 207/74 east of Little Butter Creek Rd	20	0.01	20	0.01
OR 206 Morrow-Gillian County line	10	0.01	10	0.01
OR 206 south of Heppner city limits	160	0.05	180	0.06
OR 207 north of Tall Rock Rd.	40	0.01	50	0.02
OR 207 south of Blue Mtn. Rd.	30	0.01	30	0.01

EXISTING/ FUTURE TRAFFIC VOLUMES

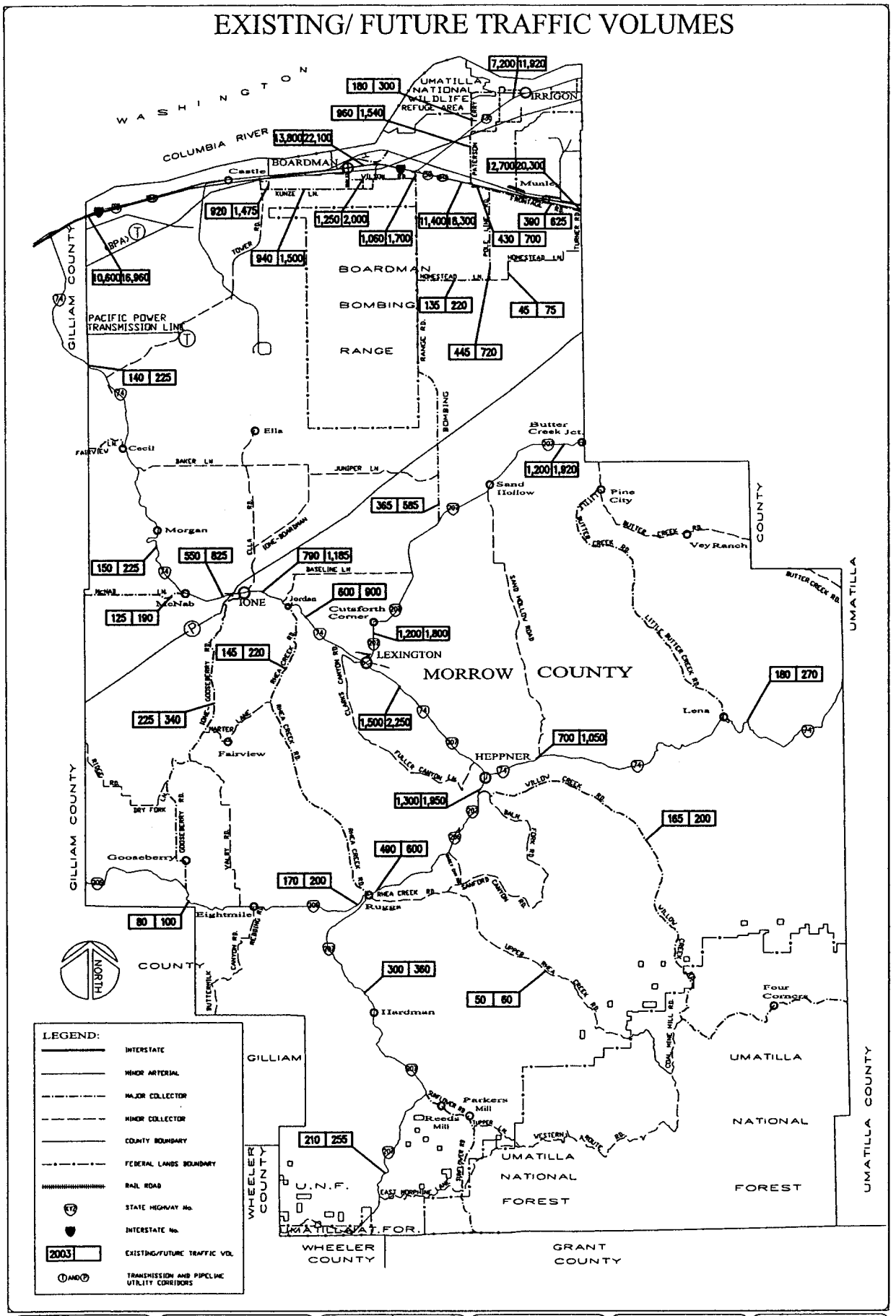

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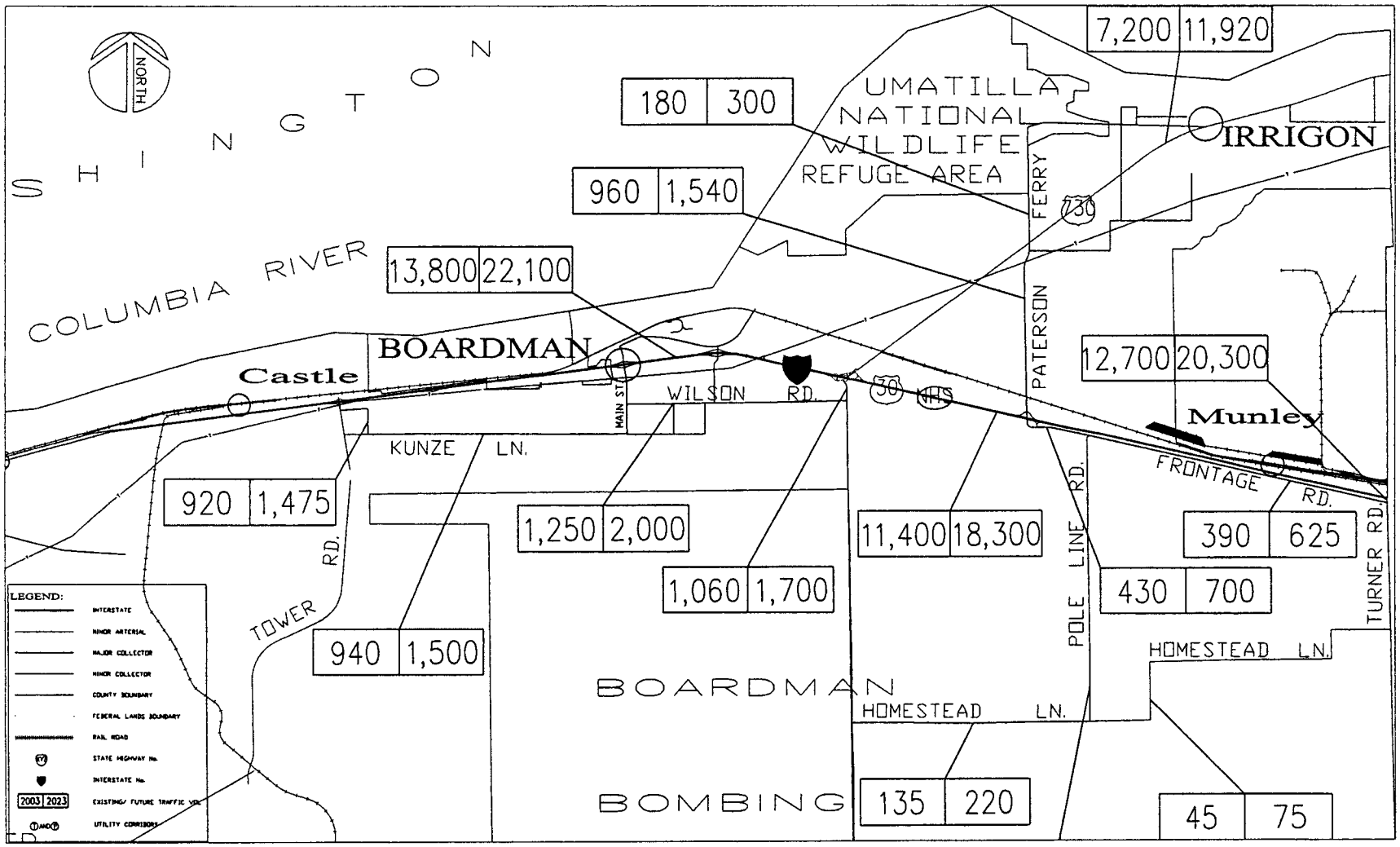
Figure No. 4-1
EXISTING/ FUTURE TRAFFIC VOLUMES (2004/2024)

MORROW COUNTY TSP UPDATE

ODOT/ MORROW COUNTY

BOARDMAN-PORT OF MORROW (FUTURE TRAFFIC VOLUMES)



PREPARED FOR: ODOT/ MORROW COUNTY

PROJECT: MORROW COUNTY TSP UPDATE

Figure No. 4-2
BOARDMAN-PORT OF MORROW
FUTURE TRAFFIC VOLUMES(2024)

CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING
CTS Engineers

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CASE_FILE

Morrow County's modest population and large size result in low travel demand on most County roadways. Estimated 2024 V/C ratios are at or above 0.10 include the following:

- Tower Road (2024 V/C of 0.38 between Kunze Lane and I-84);
- Paterson Ferry Road (2024 V/C of 0.16 north of I-84);
- Kunze Lane (2024 V/C of 0.10 at the west end);
- Bombing Range Road (2024 V/C of 0.11 near I-84); and
- Paterson Ferry Road (2024 V/C of 0.10 south of I-84).

All other measured ADTs indicate very low V/C ratios (LOS A), ranging between 0.01 and 0.09. The LOS standard for Morrow County is LOS D or better. LOS, which is based on peak hour volume, was not measured directly, but with estimated v/c ratios on County roads of 0.38 or less it is unlikely that levels of service exceed LOS D at any of the locations evaluated.

Future Connectivity

As growth and development continue in the northern part of the County, the lack of connectivity between north County and south County will limit opportunities for growth in population and employment in the southern part of the County. The development of an additional north/south connection between Boardman and Ione would open up opportunities for employment and population growth by decreasing travel time between north County and south County. Improved travel time will help to attract future population growth by offering an advantage to people employed in the north and residing in the south. It will also help to attract employment growth by reducing costs associated with hauling products.

This second route has historically been referred to as Ione-Boardman Road. The existing impediments to transfer of Bombing Range Road to the County magnify the importance of Ione-Boardman Road as a second north/south connection. However, there are also impediments to constructing Ione-Boardman Road. The County has acquired a dedicated right-of-way that would allow construction of a road (Tower Road Extension) connecting the southern end of Tower Road to Highway 74 near Cecil. This indirect alignment, while beneficial for circulation and emergency access, would not fully meet the need for a second north/south connection.

Implementation of a second route is unlikely to take place until after the Oregon National Guard's plans for future operations on the Bombing Range have been further developed. More intense use of the Bombing Range could result in greater traffic and population in the mid-County than assumed in this TSP for 2024. As discussed elsewhere in this plan, further analysis such as a Transportation Refinement Plan (TRP) or similar effort may be necessary to identify the improvements and implementation strategy needed to serve a military training facility on the Bombing Range. The new off-highway vehicle (OHV) park in south County could also increase traffic volumes more than expected. However, OHV park activity is expected to be

concentrated on weekends. With existing traffic daily traffic volumes on the roads serving the park area a few hundred vehicles or less, capacity is not expected to be an issue.

In 2001 ODOT completed a safety improvement at the Bombing Range Road/OR 207 intersection to add guardrail, but in doing so reduced the turn radius. As a result, truck traffic turning right onto the highway must swing wide into opposing traffic. The County is working with ODOT to realign the Bombing Range Road/Highway 207 intersection to a point slightly to the east and in doing so eliminate the existing turning radius and sight distance constraints. Eastbound and southbound left turn lanes are planned as part of the improvement.

Local Street Network

Under the requirements of the Transportation Planning Rule (TPR), Morrow County must develop its own standards for creation of streets that meet TPR objectives. Standards are used to control the spacing of streets and to limit excessive out-of-direction travel. This TSP provides recommended ordinance language that will assist the County in refining local street standards and in identifying local roadway networks.

Under the TPR, streets need not be required under one of the following conditions:

- Where physical or topographic conditions make a street impractical.
- Where redevelopment to accommodate a street or access way now or in the future is precluded by existing buildings or other development.
- Where the street or access way violates the provisions of an easement, lease, covenant, restriction, or other agreement existing as of May 1, 1995 that preclude the street's or access way's connection.
- Where conditions of development approval require off-site improvements. (The improvements shall include facilities that accommodate pedestrian and bicycle travel.)

In Morrow County, the local street network plan needs to address infill development, especially in north County buildable residential areas. Revisions to the County's zoning and subdivision ordinances are recommended to establish minimum block lengths of 600 to 800 feet within urban growth boundaries. A suggested goal for areas outside of urban growth boundaries is 1,200 feet. With the adoption of this local street network policy, existing opportunities for street extensions are preserved and developed over time.

A first step in developing a local street network plan is to identify opportunities for new local streets. Factors such as existing development patterns, vacant land, existing utility easements, and connectivity with surrounding streets must be considered in planning new street alignments. To assist in developing these local street networks, a series of figures is presented in this TSP. These figures present a conceptual street network plan for buildable lands in north Morrow County in areas adjacent to Irrigon and Boardman, and have been developed with

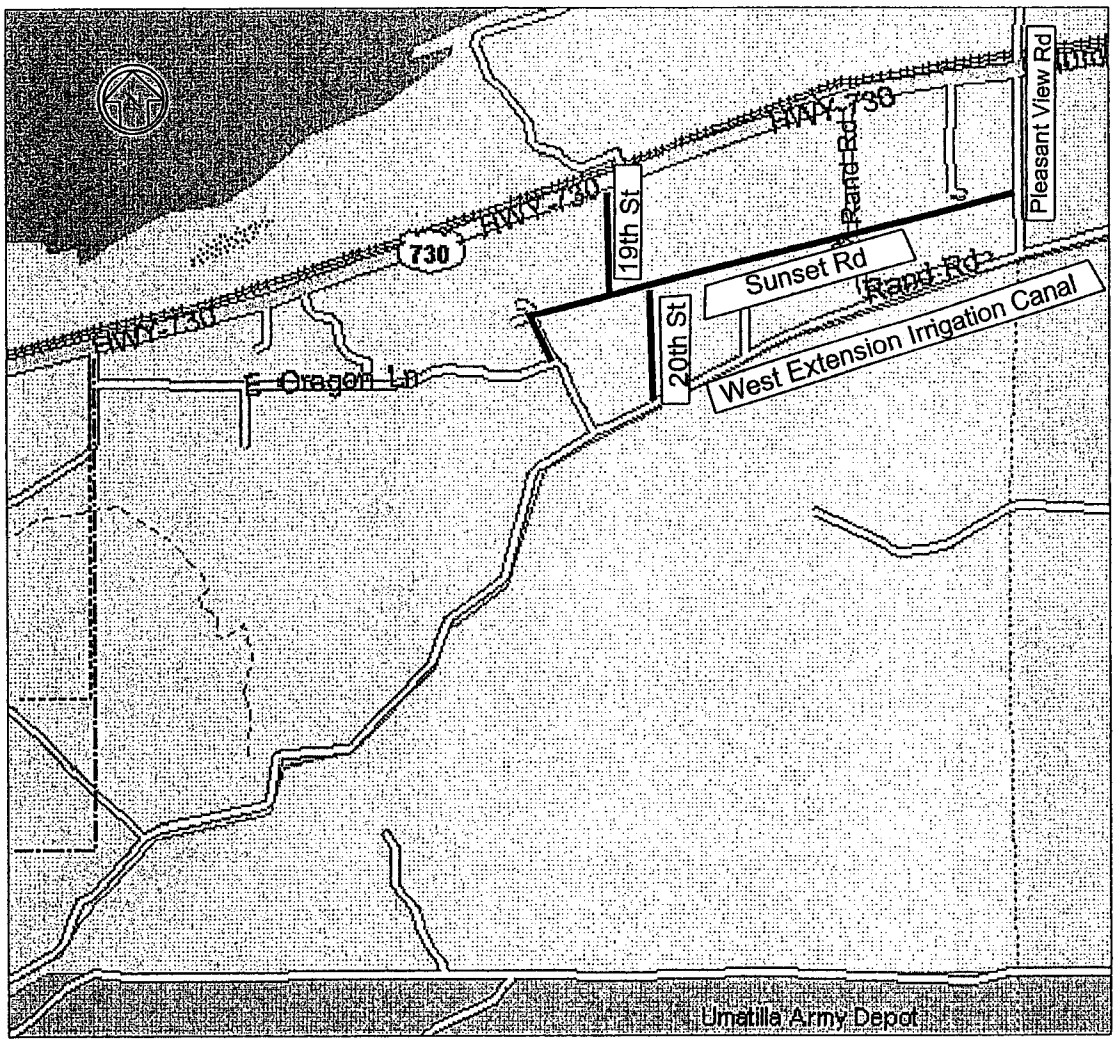
consideration of the street elements of the adopted Transportation System Plans for the two cities. The following figures identify buildable lands and a proposed conceptual street network:

- Figure 4-3, East Irrigon Area Rural Residential Development
- Figure 4-4, West Irrigon Area Rural Residential Development
- Figure 4-5, South Irrigon Area Rural Residential Development
- Figure 4-6, East Boardman Farm Residential Development
- Figure 4-7, West Boardman Farm Residential Development

These local street network plans would be implemented through adoption of the TSP and supporting plan and ordinance language as the transportation chapter in the County's Comprehensive Plan. Zoning and subdivision ordinance amendments are needed to ensure that local street rights-of-way are acquired and that streets are improved over time as land is developed and new homes are constructed. While the implementation of the network plan is provided through zoning and subdivision ordinance modification, an allowance for flexibility in local street alignments to meet network plan objectives and phased development is crucial.

Recommended standards in the TSP are based on a 60-foot right-of-way for local, collector and arterial roads. This right-of-way width allows a reserve strip on each side of the street drainage and planting strips, sidewalks or paths, and other utilities.

Figure 4-3
East Irrigon Local Street Plan



Legend

- General location for required local road connections, subject to refinement
- Existing platted but unimproved road
- City Limits
- Urban Growth Boundary (UGB)

Not to scale
April 2005

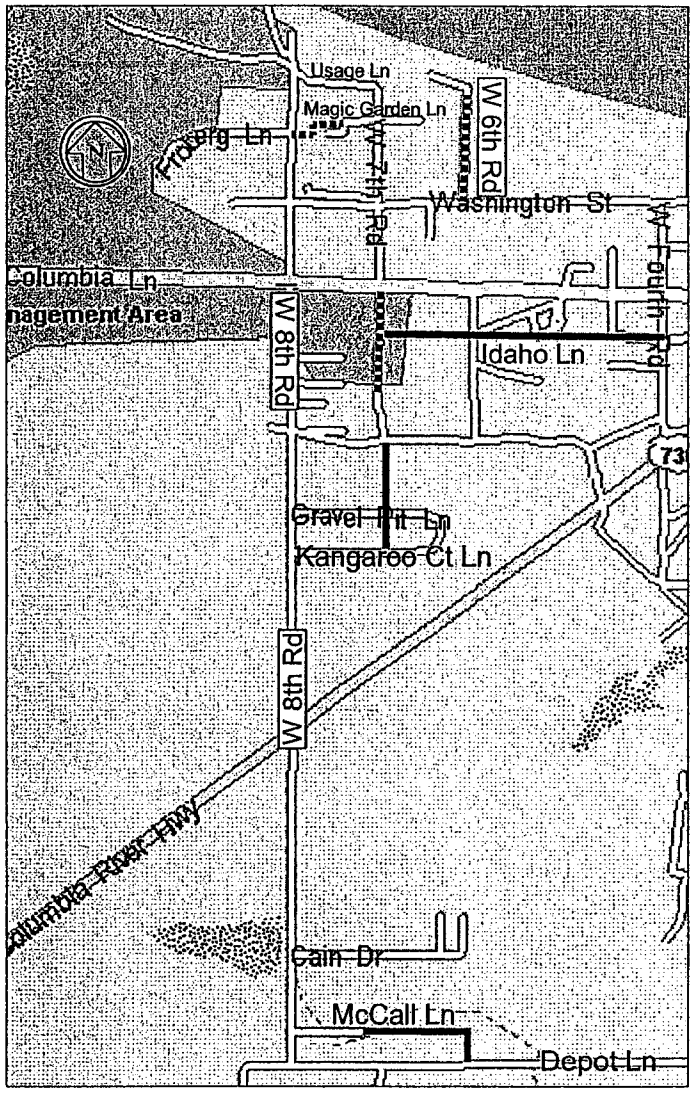
CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING
CTS Engineers

MORROW COUNTY
LOCAL STREET PLANS

MORROW COUNTY TSP UPDATE
0R04.055.T01

ODOT/ MORROW COUNTY

Figure 4-4
West Irrigon Local Street Plan



Legend

- General location for required local road connections, subject to refinement
- Existing platted but unimproved road
- City Limits
- Urban Growth Boundary (UGB)

Not to scale
April 2005

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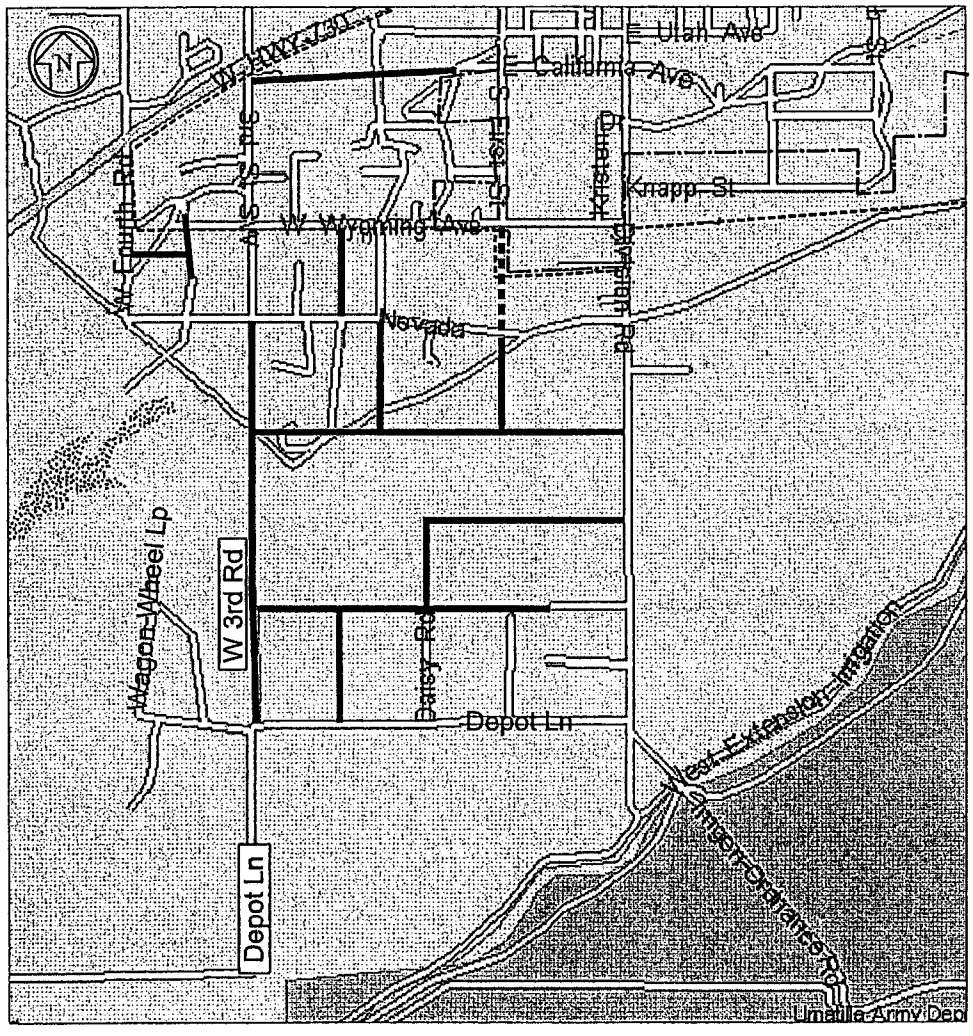
Figure 4-5
South Irrigon Local Street Plan



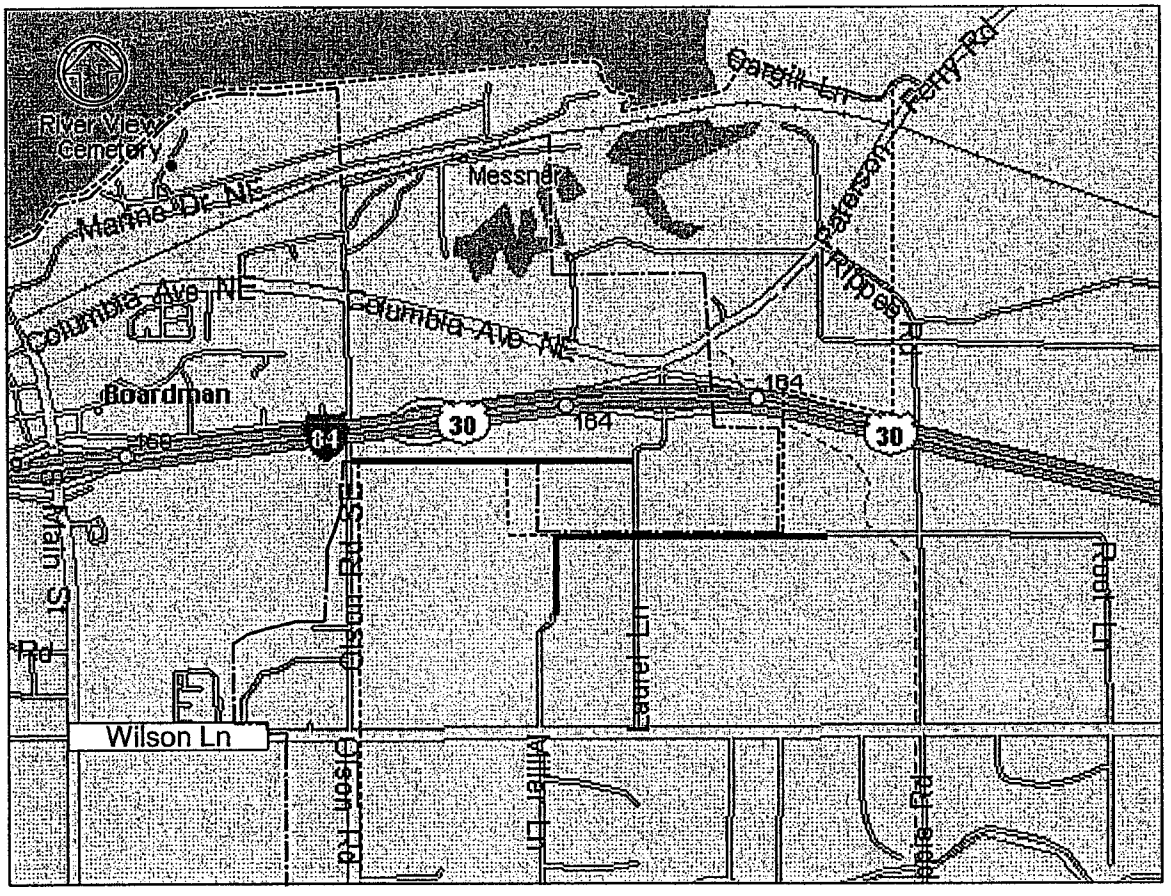
Legend

- General location for required local road connections, subject to refinement
- Existing platted but unimproved road
- City Limits
- Urban Growth Boundary (UGB)

Not to scale
April 2005

	CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING CTS Engineers	CADD BY: NAME / CHECKED BY: NAME REVISIONS: NO. / DATE / DESCRIPTION	DRAWING TITLE: MORROW COUNTY LOCAL STREET PLANS	PROJECT MORROW COUNTY TSP UPDATE 0R04.055.T01	PREPARED FOR: ODOT/ MORROW COUNTY

Figure 4-6
East Boardman Local Street Plan



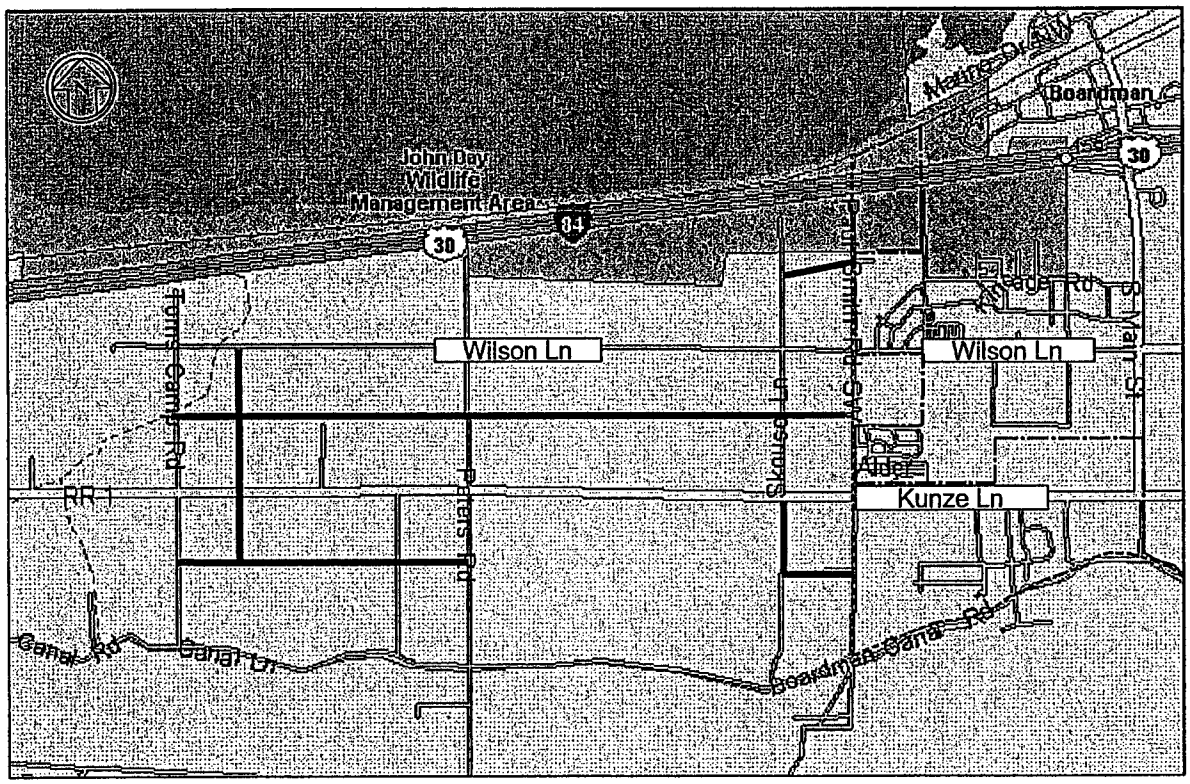
Legend

- General location for required local road connections, subject to refinement
- Existing platted but unimproved road
- City Limits
- Urban Growth Boundary (UGB)

Not to scale
April 2005

	CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING CTS Engineers	DRAWN BY: RAME / CHECKED BY: RAME; REVISIONS / DESCRIPTION; NO / DATE	DRAWING TITLE: MORROW COUNTY LOCAL STREET PLANS	PROJECT: MORROW COUNTY TSP UPDATE 0R04.055.T01	PREPARED FOR: ODOT/ MORROW COUNTY

Figure 4-7
West Boardman Local Street Plan



Legend

- General location for required local road connections, subject to refinement
- Existing platted but unimproved road
- City Limits
- Urban Growth Boundary (UGB)

Not to scale
April 2005

	CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING	REVISIONS NO. DATE DESCRIPTION	MORROW COUNTY LOCAL STREET PLANS	MORROW COUNTY TSP UPDATE 0R04.055.T01	ODOT/ MORROW COUNTY

Access Management

Access management is a tool used for controlling existing and future points of connection to major transportation facilities. It is intended to maintain or enhance safety and operational performance at less cost than adding capacity to the facility. Adding access points to an arterial can reduce its functional capability, causing delays and increased safety concerns created by turning movements.

In addition to reducing capital expenditures, implementing access management has positive impacts on maintaining the livability along arterials and improving safety. A direct correlation exists between the number of access points and collision rates. As an example, closing or consolidating existing driveways along arterials decreases the number of conflicts between vehicles entering and exiting from adjacent properties and those traveling along the arterial. The result is less vehicle delay with improved travel time along the arterial. Access management measures also decrease safety issues for motorists, pedestrians and bicyclists.

Where access management is not implemented, the livability of a community can suffer. This change in livability is usually created by increased numbers of access points, which lead to wider arterial construction and a resulting increase in traffic volume. Management techniques implemented at the outset will limit the number of connections and produce minimum spacing standards, reduce the need for costly improvements such as lane additions, and prevent the loss of livability to a community created by increased traffic volumes after arterial lane additions. For these reasons, it is prudent that all levels of government maintain the efficiency of existing arterial roadways by implementing an access management strategy.

Techniques

Access points are restricted by use of the following techniques:

- Restrict spacing between access points (driveways) based on the type of development and arterial.
- Consolidate looping driveways serving individual parcels into a single access point.
- Encourage adjoining properties to share a single access point.
- Provide driveway access to collector or local roadways where possible.
- Construct frontage roads for separation of local and through traffic.
- Provide service drives to reduce increased vehicle queues onto adjoining roadways.
- Provide acceleration, deceleration, and right turn lanes.
- Use T-intersections to create driveway offsets, which reduce the number of conflict points with through traffic.

- Place median barriers to control conflicts with left turn movements.
- Create side barriers along property adjacent to the roadway.

Also recommended is restricting the use of "split" accesses, where the driveway serving a single parcel splits into two connections just before reaching the public roadway. These split driveways or access points, which are fairly common on County roads, create safety concerns due to the driver's angle of approach. This is in contrast to a "tee" intersection, where the side street intersects the major street at or near a right angle, providing the driver with a clear view to the left and right.

Recommended Standards

Access management techniques range from complete access control on freeways to restrictions on parking and loading on local and minor streets. Recommended access management guidelines by roadway functional classification are described in ***Table 4-3***. The table lists the recommended ***minimum*** spacing between adjacent access points for each functional classification. A modification or variance process is also needed, as less restrictive spacing standards can be appropriate in areas with more intense development and lower travel speeds.

TABLE 4-3
RECOMMENDED ACCESS MANAGEMENT STANDARDS FOR COUNTY ROADS*

	Type of Intersecting Facility			
	Public Road		Private Drive	
Functional Classification	Type	Minimum Spacing	Type	Minimum Spacing
Rural Arterial	at-grade	600 ft	Left/right turns	600 ft
Rural Collector	at-grade	300 ft	Left/right turns	300 ft
Rural Local	at-grade	200 feet	Left/right turns	Access to each lot

* For most roadways, at-grade crossings are appropriate. Also, allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the district office of ODOT and is subject to the access spacing standards in Table 4-4 below.

Application

Recommended access management standards should be applied to county roads in Morrow County. Morrow County is not required to meet these standards immediately. However, existing permitted connections that are not conforming will be upgraded as circumstances permit. Generally, access management standards do not eliminate existing intersections or driveways but apply to the creation of new access points as development occurs, and modification of existing accesses as redevelopment occurs. As the ongoing development process

continues, access to roadways should meet these guidelines. Where safety has been compromised, as evidenced by an unusually high number of collisions or other difficulties, these access management standards and techniques can be applied using a "staged implementation" approach to improve an existing roadway. A "staged" approach might involve providing shared or consolidated driveway connections, eliminating left turns from selected driveways onto the street, installing a center median to limit access to right-in/right-out only (RIRO), and ultimately closing the access when it becomes possible to provide an alternate access point.

Summary

In summary, access management strategies control the number of access points and provide for roadway facility improvements. If used effectively, this comprehensive program provides reasonable access without compromising the safety and effectiveness of traffic movement.

State Highways

Access management is important to promoting safe and efficient travel for local and long distance travel along OR 74, OR 206, and OR 207 and US 730 in Morrow County. The Oregon Highway Plan (Oregon Department of Transportation 1999) includes an access management classification system for state facilities with access spacing standards based on the highway classification and posted speed. These access spacing standards are included in section 734-051 of the Oregon Administrative Rules. Although Morrow County may designate state highways as arterial roadways within their transportation systems, access management categories for these facilities would need to generally follow the guidelines of the Oregon Highway Plan. This section of the TSP describes the state highway access categories and specific roadway segments where special access applies.

US 730 is an Oregon state highway that previously had a statewide level of importance. Since the interconnection of I-82 to I-84, US 730 is judged to have regional importance within Morrow County, outside the urban growth boundary for Irrigon. OR 74 is also designated as a regional highway. Access spacing standards for regional highways range from 450 feet (at 25 mph posted speeds) to 990 feet (at 55 mph posted speeds).

OR 206 and OR 207 through Morrow County are classified as district highways, with access spacing standards ranging from 400 feet (at 25 mph posted speeds), to 700 feet (at 55 mph posted speeds). Traffic signals are permitted at a minimum of 1/2-mile spacing.

Adopted Standards - State Highways

Access management standards for all state facilities are included in section 731-054 of the Oregon Administrative Rules (OAR). Applicable standards for the highways in Morrow County are shown in ***Table 4-4***. These standards apply only to unsignalized access points. Where a right of access exists, the Oregon Highway Plan requirements allow a property to have access onto a state highway only if that property does not have reasonable access and there are no other options possible.

TABLE 4-4
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY NON-INTERSTATE HIGHWAYS

		Access Spacing Standards for Public or Private Unsignalized Access (ft) for Posted Speed Indicated (mph)				
Highway	Classification	>55	50	40 & 45	30 & 35	<25
US 730, OR 74	Regional	990	830	750	600	450
OR 206, OR 207	District	700	550	500	400	400

REFERENCE: Oregon Administrative Rules Section 734-051 (2004)

Access within the influence area of existing or proposed interchanges is also regulated by the State of Oregon (OAR 734-051). A minimum of 1,320 feet is required between an off-ramp and the nearest major intersection. No left turns and no four-legged intersections are allowed in the first 1,320 feet. On two-lane crossroads in developed urban areas, right turns are allowed a minimum of 750 feet from an interchange on two-lane crossroads. On four-lane crossroad in developed urban areas, a minimum of 990 feet is required between the last right-in/right-out access and the start of an on-ramp taper. Exceptions to these interchange management standards must meet specific criteria described in OAR 734-051-0135 in order to be approved by the Region Access Management Engineer.

Other Transportation

Concerns have been raised that demand for transit services and other alternative travel modes will increase in Morrow County. Some indications demonstrate that there may be a greater demand for public transportation services as the existing population ages. Other system improvements that may follow modifications to county roadway standards will increase the ability for alternative methods of travel, such as bicycles and pedestrians.

Since the original TSP was prepared in 1997, the County has succeeded in receiving grants to partially fund signage for the Columbia River Heritage Trail (Heritage Trail), a bicycle/pedestrian facility along the north border of the County adjacent to the Columbia River. The Heritage Trail connects the cities of Irrigon and Boardman, creating an attractive intercity commute route for work, school, and recreation. The Heritage Trail also has historic and

cultural significance relating to the Lewis and Clark trail route, the Oregon Trail, and native Americans' historical use of the area. The 2005 TSP promotes adding more local connections to the Heritage Trail to increase its accessibility.

Bicycle travel is also popular in south County along the Blue Mountain Scenic Byway and other roads. Most of the roadways have narrow shoulders not suitable for riding, but have traffic volumes low enough that shared use is comfortable for most bicyclists.

CHAPTER 5
FUTURE TRANSPORTATION SYSTEM OPTIONS ANALYSIS

INTRODUCTION

The Oregon Transportation Planning Rule (TPR) requires the analysis of transportation system alternatives that respond to safety and mobility needs. For the Morrow County Transportation System Plan (TSP), potential roadway improvement projects were identified using available county and state sources together with input from stakeholders and the public that address the specific goals and objectives of this plan. Options included in the analysis address both county and state facilities. The following areas are discussed in the chapter:

- Evaluation criteria
- Statewide Transportation Improvement Program (STIP)
- Morrow County roadway projects
- Port of Morrow roadway and intermodal system projects
- Other modes and transportation needs

The options included in this chapter are based on recommendations made by the state, County, local jurisdictions, and members of the general public. These recommendations reflect needs for safety, traffic mobility, and community development.

EVALUATION CRITERIA

To evaluate the appropriateness of transportation improvements requires that each project be compared to a set of criteria. The evaluation criteria selected for the Morrow County TSP are based on the goals and objectives identified in Chapter 2. This analysis qualitatively assesses each project based on whether a proposed project increases or decreases each of the following criterion areas:

- Safety
- Environmental
- Socio-economic
- Land use impacts
- Cost effectiveness

The safety criterion addresses the proposed project's ability to increase the safety of automobiles, trucks, bicyclists, pedestrians, and equestrians. The environmental criterion considers factors such as air quality, wetlands protection, water quality, noise, and quality of life. Th e socio-economic criterion includes the factors such as roadway capacity and maintenance needs, community livability, and economic development. Land use factors include the zoning adjacent to proposed projects, impacts to residential areas, and right-of-way requirements. Finally, cost effectiveness involves the availability of funding sources to address the proposed project and the expected benefit to the community.

TRANSPORTATION SYSTEM OPTIONS ANALYSIS

This section involves the evaluation of recommended projects by the state and County for inclusion into the Morrow County TSP. In addition, projects are considered that were identified in the public involvement process. These projects include changes to state highways, county roads, bridges, intersections, and bicycle and pedestrian facilities.

State Transportation Improvement Program Projects

The Oregon Department of Transportation (ODOT) establishes a four-year plan for improvements to the state highway system. The STIP lists the specific projects, describes the project's purpose, sets a project schedule and estimates the completion cost. Most STIP projects correct existing or projected roadway preservation needs, improve safety, or increase facility capacity. The original TSP listed a number of bridge and resurfacing projects from the 1998-2001 STIP, which have all been completed. An additional $6.856 million in improvements listed in the 2002-2005 STIP that were not in the 1997 TSP have also been completed. Except for the 2004 Main Street enhancement in the City of Boardman, these projects were all funded under the first round of the Oregon Transportation Investment Act (OTIA I), which is described in more detail below.

The 2004 through 2007 STIP projects are described below and listed in ***Table 5-1***:

- *Port of Morrow Rail Access Loop:* This project, which has an estimated cost of $6.35 million, will construct a new local access rail loop from the main Union Pacific railroad. It began construction while this TSP was underway, and is scheduled for completion in late 2005.

TABLE 5-1
STATE TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS IN MORROW COUNTY

Program Year	Program	Project Description	Action	Estimated Cost ($1,000s)
2005	2004-2007 STIP	Port of Morrow Rail Access Loop	New rail access; widen Columbia Blvd.	$6,350

REFERENCE: ODOT 2004-2007 STIP

In 2001 the Oregon State Legislature initiated a $400 million-dollar bonding program, the ***Oregon Transportation Investment Act*** (OTIA), to finance major bridge and highway maintenance projects throughout the state. The act has been renewed twice and now represents over $1 billion in bonded improvements. OTIA III, the largest installment of OTIA funding to date, includes two major projects in Morrow County representing an investment of nearly $13 million for repair of the bridges on I-84 at the Irrigon Junction and reconstruction of Kunze Road in Boardman from Main Street to Tower Road. Additional State Highway improvements planned beyond the current STIP include an overpass of I-84 at Olson Road, which is listed in

the Boardman TSP and proposed in this TSP, and restroom facilities for Cutsforth Park, which are in the draft 2006-2009 STIP. ***Table 5-2*** lists these projects, which represent over $21 million in improvements for the County.

TABLE 5-2
STATE HIGHWAY IMPROVEMENTS IN MORROW COUNTY LISTED IN OTIA III. DRAFT 2006-2009 STIP AND LOCAL TSPs

Program Year	Program	Project Description	Action	Estimated Cost ($1,000's)
2007	2006-2009 Draft STIP	Cutsforth Park	Add restroom facilities	$35
n/a	OTIA III	I-84 Irrigon Junction	Repair eastbound, westbound bridges	$9,800
2008	2006-2009 Draft STIP (OTIA III)	Kunze Road (Boardman)	Repair roadway from Main to Tower	$2,700
n/a	City of Boardman TSP	Olson Road overpass	Construct overpass over I-84	$8-10,000

REFERENCE: ODOT Draft 2006-2009 STIP; ODOT OTIA III Bridge Delivery Program, City of Boardman Transportation System Plan; n/a = listed as proposed project in local TSP, not a funded project.

Evaluation of Recommended Transportation Improvements

Additional transportation strategies and improvement projects were identified by the County, Port of Morrow, and members of the community. These measures address safety, capacity, and maintenance issues that need to be attended to within the next 20 years. While none of these projects are shown in the 2004-2007 STIP, they have been identified as needs in the County Comprehensive Plan or by stakeholders in the Morrow County TSP. The following sections describe transportation options for the Morrow County TSP.

State Facilities Recommendations

Several capital improvements have been suggested for state highway facilities in Morrow County. The list of potential projects includes corridor safety studies, roadway realignments, turnouts, and roadway maintenance. The projects on this list were compiled from suggestions of the Morrow County Planning Department and from citizen and stakeholder comments made during the public involvement process. While no schedule has been established for the completion of these projects, these projects would likely be completed after 2007.

- *US 730 from I-84 to Umatilla county line.* In the 1997 TSP a project was identified that would widen US 730 to provide increased capacity along this corridor. Since that time an access management project on US 730 covering Morrow and Umatilla

counties has been authorized and will begin in 2005 under ODOT administration. The estimated cost is $2.325 million, including the portion in Umatilla County.

- *OR 207 from Hardman to Spray.* This stretch of highway requires a new overlay to take care of maintenance needs. The approximate cost would be $1,420,000.
- *OR 207 at Bombing Range Road.* Intersection improvements are needed to provide safe turning radii for trucks and other oversize vehicles, and to provide sight distance for turns onto the highway. The estimated cost is $400,000
- *OR 74 horseshoe curve near Morgan.* Roadway improvements are needed at this location to improve safety on this route. The estimated cost for the improvements would be $1,200,000.

The cost estimates for the improvements in 2004 dollars are shown in ***Table 5-3***. The cost of these state facility improvements totals $5.345 million. These improvements will improve the safety and preserve the integrity of the state highway system within Morrow County. Freight movement will also benefit from these measures, which address traffic safety and circulation issues on OR 207 and US 730 that affect freight mobility.

TABLE 5-3
STATE FACILITIES RECOMMENDED IMPROVEMENTS

Project Description	Action	Estimated Cost
US 730 Corridor Safety Study (Began in 2005)	Access management and safety improvements	$2,325,000
OR 207 from Hardman to Spray	Overlay	$1,420,000
Bombing Range Road at OR 207	Relocate Intersection	$400,000
OR 74 at curve near Morgan	Safety improvements and reconstruction	$1,000,000

The County Road Program

In recent years the Morrow County Public Works Department has taken on a more strategic approach to prioritizing maintenance and repair needs that applies resources to more than one project within the same general area. This reduces set-up and transportation costs, allowing the County to stretch roadway improvement resources further compared to a traditional "worst-first" maintenance and repair process.

The Public Works Department's current roadway improvement plan covers the period from 2002 to 2008. It is reduced to a three-year improvement plan (2005-2008) for the 2005 TSP. Ten of

the twelve projects programmed for 2002-2004 have been completed, including chip seals, pavement overlays, and shoulder and drainage work. One of the 2004 projects has been spread over two years (Jordan Grade Road shoulder work and chip seal). A second project (overlay of the southern third of Bombing Range Road) has been combined with a proposed ODOT project to relocate the intersection of Bombing Range Road with OR 207 to the east to improve sight distance and safety. In total, the Public Works Department's roadway improvement plan for 2004/2005-2007/2008 identifies 28 projects with a total estimated cost of $3.76 million (***Tables 5-4A – 5-4C***).

TABLE 5-4A
MORROW COUNTY
RECOMMENDED 2004-2005 ROADWAY SYSTEM PROJECTS

Roadway.	Project Description	Estimated Cost
CR #793 (Little Butter Creek Road)	Pine City to Upper Little Butter Creek (project length 20.4 miles) - Chip seal 5.7 miles from Hwy 74 to Currin Ranch - Reconstruct 6.9 miles from Currin Ranch north - Chip seal 2.6 miles from Hwy 74 south to end of pavement - Chip seal 5.2 miles from Pine City to reconstructed section	$993,000
	2004-2005 ESTIMATED TOTAL COST	$993,000

TABLE 5-4B
MORROW COUNTY
RECOMMENDED 2005-2006 ROADWAY SYSTEM PROJECTS

Roadway.	Project Description	Estimated Cost
CR #504 (Bunker Hill Road)	Hwy 207 to end of oil (2.8 miles) – pavement reclamation, chip seal,	$85,000
CR #966 (Clarks Canyon Road	Lexington City limits to end of oil (8.1 miles) – chip seal, shoulder and drainage work.	$167,000
CR #728 (Frontage Road)	I-84 to Co. line (6.05 miles) – chip seal	$120,000
CR #561 (Rippee Road)	I-84 south to Wilson Road (0.5 miles) – chip seal, shoulder reconstruction	$19,000
CR #936 (Laurel Lane)	Wilson Road to I-84 (0.8 miles) – rebuild shoulders and re-pave road	$80,000
CR #747 (Miller Lane)	Wilson Road to Kunze Lane (0.5 miles) – rebuild shoulder and chip seal	$19,000
CR #973 (Eastregaard Road)	Wilson Road to Canal (0.5 miles) – rebuild shoulders and pave	$75,000
CR #599 (Jordan Grade Road)	Hwy 74 to Baseline Road (1.6 miles) – rebuild shoulders and chip seal	$35,000
CR #902 (Root Lane)	Wilson Road to Rippee Road (1.1 miles) – rebuild shoulders and chip seal	$35,000
	2005-2006 ESTIMATED TOTAL COST	$650,000

TABLE 5-4C
MORROW COUNTY
RECOMMENDED 2006-2007 ROADWAY SYSTEM PROJECTS

Roadway.	Project Description	Estimated Cost
CR #715 (Basey Canyon)	Hwy 207 to Rhea Creek Road (2.0 miles) – chip seal	$38,000
CR #608 (Upper Rhea Creek Road)	Basey Canyon to Road Canyon (4.1 miles) – chip seal	$76,000
CR #638 (Ione-Boardman Road)	Ella Road to Juniper Canyon Road (6.0 miles) – drainage and shoulder work, chip seal	$171,000
CR #746 (Big Butter Creek Road)	Pine City to County Line (11.5 miles) – repair cattle guard and bridge approaches, drainage work, chip seal	$185,000
CR #746 (Big Butter Creek Road)	Hwy 207 to Pine City (3.0 miles) – crack seal and chip seal	$55,500
CR #754 (15th Street & E Oregon Lane)	To end of oil (0.8 miles) – patch and chip seal	$15,500
CR #908 (8th Street)	Columbia Lane to Riverview Lane (0.7 miles) – crack seal and chip seal	$15,500
CR #908 (8th Street)	Hwy 730 to Depot Lane (0.9 miles) – crack seal and chip seal	$15,500
CR #837 (7th Street)	Columbia Lane to Usage Lane (0.6 miles) – crack seal and chip seal	$11,500
CR #909 (Usage Lane)	7th Street to 8th Street (0.3 miles) – crack seal and chip seal	$5,500
CR #718 (Idaho Lane)	2nd Street to 4th Street (0.5 miles) – crack seal and chip seal	$9,500
	2006-2007 ESTIMATED TOTAL COST	$598,500

TABLE 5-4D
MORROW COUNTY
RECOMMENDED 2007-2008 ROADWAY SYSTEM PROJECTS

Roadway.	Project Description	Estimated Cost
CR #630 (Juniper Lane)	Ione-Boardman Road to new section (3.8 miles) – rebuild/repave	$810,000
CR #724 (Washington Lane)	2nd Street to 8th Street (1.6 miles) – chip seal over grindings	$30,000
CR #596 (Tower Road)	Taggarres Lane South (1.6 miles) – crack seal and chip seal	$31,000
CR #809 (Ella Road)	Hwy 74 to Ione-Boardman "Y" (2.5 miles) – pave length	$631,500
CR #722 (Oregon Street)	2nd Street to 4th Street (0.5 miles) – chip seal	$18,000
CR #716 (Pleasant View Lane)	Hwy 730 to end of oil (0.4 miles) – chip seal	$8,000
CR #906 (3rd Street)	Hwy 730 to Idaho Lane (0.2 miles) – crack seal and chip seal	$4,500
	2007-2008 ESTIMATED TOTAL COST	$1,533,000

Morrow County also identified 18 projects that are needed over a 5 to 20 year timeframe (***Table 5-5***). These projects were identified by the County and are neither funded nor scheduled at this time. They are listed by decreasing planning level cost estimate. Implementation priorities will be established in the future as part of capital improvement plan updates, based on a combination of need and potential resources.

Projects in ***Table 5-5*** have a total estimated cost of $22.7 million, with individual project costs ranging from $250,000 for reconstruction of Miller Lane, to $9 million for the Olson Road overpass across I-84. ***Table 5-5*** includes also five intersection realignment improvements, which may be possible to complete earlier as they are relatively low-cost improvements ranging from $5,000 to $15,000. Estimated costs shown in ***Table 5-5*** are based on current oil costs, which are a substantial share of chip seal project costs. Unexpected future changes in oil costs could affect the number or extent of projects the County is able to complete.

TABLE 5-5
MORROW COUNTY
5 to 20 YEAR RECOMMENDED ROADWAY SYSTEM PROJECTS

Roadway.	Project Description	Estimated Cost
CR #689 (Olson Road)	Construct new overpass over I-84	$9,000,000
CR #589 (Kunze Road)	Main Street to Tower Road (5.5 miles) – reconstruct and pave	$2,700,000
CR #670 (Sunflower Flat Road)	Pave over gravel road (9.0 miles, a Federal Forest Highway Project	$2,500,000
CR #681 (Ione-Gooseberry Road)	McElligott Road to Hwy 206 (8.3 miles) – reconstruct roadway	$2,300,000
CR #761 (Depot Lane)	Paterson Ferry Road to Division Road 4.9 miles) – reconstruct and pave	$2,000,000
CR #598 (Kunze Lane) and CR #689 (Olson Road)	On Kunze, South Main to Olson Road (0.7 miles). On Olson, Kunze Lane to I-84 – reconstruct and pave (2.0 miles total)	$900,000
CR #733 (Sand Hollow Road)	Hwy 74 to new pavement (6.7 miles) – reconstruct and pave	$900,000
CR #793 (Little Butter Creek Road)	Currin Ranch north (5.2 miles) – reconstruct and pave	$600,000
CR #608 (Upper Rhea Creek Road)	Ruggs to Basey Canyon Road (4.5 miles) – improve drainage and pave	$500,000
CR #759 (Bombing Range Road)	At Hwy 207 - acquire right-of-way to realign intersection, construct new section and pave	$400,000
CR #906 (3rd Street)	Nevada Avenue to Depot Lane (0.8 miles) – reconstruct and pave	$350,000
CR #747 (Miller Road)	Kunze Lane to Wilson Lane (0.5 miles) – reconstruct and pave	$250,000
CR #598 (Kunze Lane)	Olson Road to Miller Road (0.5 miles) – reconstruct and pave	$250,000
CR #681 (Ione-Gooseberry Road)	Realign at junction with Hwy 206	$15,000
CR #713 (Shobe Canyon Road)	Realign at junction with Hwy 206/207	$15,000
CR #612 (Clarks Canyon Road)	Realign at junction with Hwy 206/207	$10,000
CR #693 (Rhea Creek Road)	Realign at junction with Hwy 206/207	$8,000
CR #533 (Porcupine Lane)	Realign at junction with Hwy 206/207	$5,000
5 to 20-YEAR PROJECTS ESTIMATED TOTAL COST		$22,703,000

All of these roadway improvements are recommended, and can be found to support the evaluation criteria, particularly safety and socio-economic benefits. Priority of these projects will be determined by the Public Works Department based on the urgency of the need, total cost, and the availability of funding sources.

Port of Morrow Recommended Projects

In general, roadway improvements on Port lands are market-driven and timed to serve new industrial tenants. The Port, which is presently developing a local rail loop connecting to the Union Pacific mainline, identified the additional major projects listed in ***Table 5-6*** to be included in the 2005 TSP. These are projects that the Port has identified as necessary to increase capacity, allow for economic development, increase safety, and improve intermodal access. Projects that would be a joint effort of the Port and the City of Boardman are also listed. Access to the Port's east industrial area north of the I-84/US 730 interchange is recommended via one or more at-grade or grade-separated connections to US 730 between I-84 and Paterson Ferry Road. Over the longer term as this industrial area becomes more fully developed, additional access may be needed, potentially including modification to the existing I-84/US 730 interchange to provide direct freeway access. The initial step toward interchange modification, an interchange area access management plan, is recommended in this TSP.

TABLE 5-6
MORROW COUNTY
PORT OF MORROW FUTURE ROADWAY PROJECTS

Roadway	Project Description	Estimated Cost ($1,000's)
East Industrial Area Access	New access is proposed to serve the Port of Morrow East Industrial Area located north of the existing I-84/US 730 interchange and west of US 730, which includes several thousand acres zoned for industrial use. Access is initially proposed to be provided onto US 730 via an at-grade or elevated intersection or intersections. As the east industrial area develops, the need for direct interchange access will require further analysis.	$1,000 – 6,000
East Industrial Area Interchange Area Management Plan	An Interchange Area Management Plan is recommended to develop a long-term plan for additional Port of Morrow freeway interchange access.	$500
Kunze Road (Boardman)	Reconstruct from Main to Tower	$2,700
Olson Road (Boardman)	Construct overpass over I-84	$9,000
Tower Road overcrossing (Boardman)	Construct overcross over UP railroad line	$1,000

These projects reflect the importance of the Port of Morrow to the County and the region. The Port of Morrow recommends that these projects be included in the Morrow County TSP.

Structurally Deficient and Functionally Obsolete Bridges

Bridges in Morrow County are inventoried biennially. The last inventory was completed in 2004. The inventory rates bridges on a sufficiency rating scale that ranges from 0 to 100, with lower scores meaning worse conditions and higher scores indicating adequate conditions. Sufficiency scores for bridges in the National Bridge Inventory database (NBI) are translated to a qualitative ranking of Not Deficient, Structurally Deficient or Functionally Obsolete. There are 116 bridges in the County, including 44 County bridges, 11 city bridges, 60 ODOT bridges and 1 railroad bridge. ***Table 5-7*** lists the four bridges in the County rated as structurally deficient or functionally obsolete, including one state facility and three County bridges. The US 730 bridge is listed for repair in the state's OTIA III bridge program. Replacement of the County's Brenner Canyon Bridge was completed under the OTIA I program.

TABLE 5-7
EXISTING BRIDGE DEFICIENCIES

Bridge Number	Owner	Description	Sufficiency Rating	Status Code
08885	ODOT	US 730/USRS Canal	17.7	Structurally Deficient
49C05	County	Spring Hollow Rd/Rhea Creek	49.8	Functionally Obsolete
49C12	County	Road Canyon Rd/Rhea Creek	54.1	Structurally Deficient
49C21	County	Clarks Canyon Rd/Padberg	50.8	Structurally Deficient

REFERENCE: ODOT (2004)

All of these bridges are recommended for upgrades over the next 20 years to increase safety and mobility along these key roadways. Priority for improvement should be based on the traffic volume, level of deficiency, safety, and available funding.

Bicycle and Pedestrian Facilities

Adequate bicycle and pedestrian facilities become more important in and surrounding population centers. As population increases, so does the total number of bicyclists and pedestrians. Goals and policies identified in Chapter 2 include the development of multi-use paths and trail systems and roadway design features to accommodate bicycles and pedestrians. The County has developed a bicycle and pedestrian plan to promote bicycle, pedestrian, and other non-motorized forms of travel.

Two bicycle and pedestrian facilities recommended in the original TSP have been or are currently being built. A multi-use pathway extending from the City of Heppner to the swimming pool has been constructed. The Columbia River Heritage Trail, a multi-use pathway along the Columbia River, continues to be developed. The Heritage Trail in Boardman runs along Tom's Camp Road, Wilson Lane, Main Street and Marine Drive. East of Boardman the

trail turns south along Ullman Boulevard to Columbia Avenue, continuing along Columbia through the wildlife refuge. From Irrigon it continues to the Umatilla County line, connecting with Umatilla County's Lewis & Clark Trail. Additional connections to the existing portions of the Heritage Trail are needed to enhance its accessibility. Future extension of the trail west of Boardman is planned.

The option to modify roadway design standards to include facilities for bicycles and pedestrians was also considered. Bicycle and pedestrian facilities can be developed at a variety of levels, from grade-separated pathways to shared roadway facilities. Because county roads serve mainly rural areas, the proposed modification to the roadway standards will include a widened roadway shoulder for pedestrian and bicycle travel.

All of these actions should be included in the TSP in order to increase safety and mobility for non-motorized travel. In addition, the County will work with the cities in the creation of their respective TSPs to develop bicycle and pedestrian projects within the urban growth boundaries.

Airport Facilities

Air access will be increasingly important as the County continues to grow. The state's most recent pavement maintenance report for the Lexington-Morrow County airport (2003) calls for a five-year maintenance plan for the 2004-2009 period with about $617,000 of inspection and maintenance work that is needed to avoid more costly repair work. The Airport Layout Plan for the Lexington-Morrow County Airport, acknowledged by DLCD in 2002, is a 20-year plan for use of the airport and adjacent lands.

Transportation Demand Management

Transportation demand management (TDM) is a collection of strategies directed to reduce the number of trips by automobiles. Programs are normally directed towards major employers whose size increases the chances for employees to carpool (share a ride with another employee), telecommute (work at home), or participate in shift work schedules (4-day, 10-hour shifts, for example). These strategies not only benefit the roadway system through reduced traffic levels, but also contribute to reduction in air pollutants.

TDM strategies are usually most effective in highly urbanized areas; however, these programs can be applied to rural areas. The County and cities can work towards providing more bicycle lanes, pedestrian paths, and carpool programs--all of which are still appropriate to rural areas. In addition, major employers within the County (those with more than 100 employees) could be required to develop TDM programs that promote the increased use of commute alternatives and reduce the dependence on the single occupant vehicle.

A TDM program is recommended for inclusion in the County's TSP. Construction of the Heritage Trail offers a TDM resource for employees to utilize non-vehicular commute alternatives. Further measures should include the County's adoption of employer-based TDM

regulations to implement TDM strategies to its major employers. The County needs to also encourage cities within the County to evaluate TDM measures as part of their TSP.

SUMMARY OF RECOMMENDATIONS

The recommendations of the alternatives analysis are summarized in ***Table 5-8***. As shown in the table, it is recommended that all projects listed for county transportation facilities be implemented and included in the 2005 Morrow County TSP. These recommendations reflect input by the state, County, jurisdictions, and residents. All projects are supported by the evaluation criteria and will assist in meeting the County's goals of improving safety and mobility, improving the quality of life for its residents, increasing opportunities for non-motorized forms of transportation, and providing for economic growth. Chapter 6 discusses the implementation of these actions for Morrow County.

TABLE 5-8
TRANSPORTATION IMPROVEMENT OPTIONS RECOMMENDATIONS

Option	Recommended Action
1. Construct projects identified in the STIP	Implement
2. Construct county-identified projects	Implement
3. Complete Port of Morrow recommended projects	Implement
4. Upgrade structurally deficient and functionally obsolete bridges	Implement
5. Develop bicycle, pedestrian and equestrian facilities, including the Heritage Trail	Implement
6. Perform recommended maintenance measures at the Lexington-Morrow County Airport to avoid more costly repair work.	Implement
7. Implement TDM Strategies	Implement

CHAPTER 6
TRANSPORTATION SYSTEM PLAN

INTRODUCTION

This chapter provides the detailed operational plan for each of the transportation systems within the County. The Transportation System Plan (TSP) identifies improvements necessary to address the needs of County residents over the next 20 years, including the development of new facilities, reconstruction and maintenance of existing facilities, and the development of bicycle and pedestrian facilities, as well as improvements to airport and freight operations. Components of the TSP include roadway classification standards, access management recommendations, transportation demand management (TDM) measures, improvements to the mobility of goods and freight, and a TSP implementation program.

This chapter describes the implementation strategy for each of the following areas:

- Roadway standards modifications
- Management of access on arterials and highways
- System plans for each transportation mode
- Implementation of the TSP

MODIFICATIONS TO ROADWAY STANDARDS

Roadway standards provide the minimum design characteristics for each class of road (called a functional classification). In other words, for each functional classification, the roadway standards specify the minimum lane width, shoulder width, pavement depth, etc. As discussed in Chapter 3, the County adopted roadway standards for eight classifications of roadways developed during the process of preparing the original TSP. Roadway standards were revised in the 2005 TSP, and are summarized in ***Table 6-1***. Illustrations of the proposed standards as roadway cross-sections are included in Appendix C, including standard dimensions for roadway base, pavement elements, and drainage for each class of road. These standards maintain the increased shoulder width for bicycles and pedestrians proposed in the original TSP. In addition, all the standards in the 2005 TSP maintain the 60-foot right-of-way to ensure adequate room for utilities and drainage. The recommended implementation ordinance modifications for this TSP include County staff review of proposed engineering plans to construct or modify roads constructed by private developers. If the initial review of the engineered street design plans indicate additional right-of-way is necessary beyond the standard width of 60 feet (e.g., areas where slopes, sensitive areas or other factors require additional right-of-way to accommodate the roadway), the additional right-of-way width will be required to be dedicated as part of final plat approval.

Roadways constructed by private development must comply with the basic cross sections for the appropriate functional classification in the TSP and applicable sections of the County's implementing ordinances, as well as applicable sections of the most current AASHTO and/or ODOT standards for other design elements, including horizontal and vertical geometry. Additionally, developers will be required to have a registered professional engineer sign and stamp final road design plans, and certify the conformity of roadway construction with final plans.

Finally, this TSP proposes to add a broader gravel road standard to the County's adopted roadway standards. Many rural counties face the need to channel limited roadway maintenance funds toward delayed upgrades for low-volume paved facilities at various levels of disrepair. Maintaining these paved roadways requires a commitment of resources that is disproportionate to their use, and limits resources available for maintaining County facilities that accommodate more travel. Typically, these are low-volume roadways where patching shoulders and filling potholes are no longer adequate, and there is a need to reconstruct the base and repave the entire road, but they may also be low-volume collectors or arterials. Adopting a gravel road standard applying to all types of County roads will give the County greater flexibility for the cost-effectively use of limited maintenance funds.

TABLE 6-1
ROADWAY STANDARDS

Road Classification	Right of Way (ft)	Lane Width (ft)	Paved Shoulder Width (ft)	Pavement Width (ft)	Average Daily Traffic (ADT)
Rural Access I*	60	9	1	20	100-200
Rural Access II*	60	9	1	20	50-100
Rural Gravel**	60	11	n/a	n/a	varies
Rural Collector I	60	12	3-4	30-32	300-500
Rural Collector II	60	12	2	28	200-300
Rural Collector III	60	12	1	26	100-200
Rural Arterial I	60	12	4-8	32-40	> 700
Rural Arterial II	60	12	3-6	32-40	300-700

* Rural Access 1 and Rural Access II differ in the surface material (Rural Access II is gravel).
** Applies to collector and arterial functional classifications, not just rural access.

Modifications to the roadway standards discussed in this TSP are consistent with Policies 5.1, 5.2, 9.1, 9.2, and 9.4 of the TSP.

Rural Gravel Roadways

Appropriate gravel road cross-sections are a function of several factors including the amount and type of precipitation, temperature variation, traffic volume, heavy truck traffic, and condition of the subgrade (roadbed soil). Minimum aggregate base thickness typically ranges from 4-5 inches for low volume roads with high quality roadbed soils, to 13-15 inches for medium volume roads with poor quality roadbed soils. ***Table 6-2***, based on material published by the Washington State Department of Transportation, is proposed as general guidance for gravel road sections in Morrow County.

TABLE 6-2
GUIDANCE FOR GRAVEL ROAD THICKNESS

Relative Quality of Roadbed Soil	Traffic Level*	Aggregate Base (Inches)
Very Good	High	9
	Medium	7
	Low	4
Good	High	11
	Medium	9
	Low	5
Fair	High	13
	Medium	10
	Low	5
Poor	High	**
	Medium	15
	Low	8
Very Poor	High	**
	Medium	**
	Low	8

* Typical traffic volume ranges are High = 100 or more daily trips; medium = 50 - 100 daily trips; low = fewer than 50 daily trips.

** Gravel surface not recommended.
SOURCE: Washington State Department of Transportation

A broader Rural Gravel standard (compared to the current Rural Access II) is proposed and also illustrated in Appendix C. The intent of this standard is to provide the County with more options for maintaining low-volume roads and provide a general guideline for gravel road sub-base sections needed with various conditions of underlying material and existing/expected traffic volumes.

Rural Access Roadways

The recommended minimum standard for paved rural access roadways is a 20-foot roadway within a 60-foot right-of-way. This class of roadway is designed for low

average daily traffic (ADT) volumes without substantial amounts of heavy vehicle traffic. Paved shoulders outside of the travel lanes provide room for pedestrians.

Rural Collector Roadways

A collector roadway is intended to primarily serve the local access needs of adjacent land uses and between access roadways and arterials. Three subclassifications of collectors are found in the recommended standards, varying from 26 to 32 feet of paved roadway. Travel lanes are 12-feet wide, with 1- to 4-foot wide shoulders, depending on the expected ADT. On Collector I roadways, the 4-foot shoulders are generally wide enough to encourage bicycle as well as pedestrian travel.

Rural Arterial Roadways

Arterials make up the majority of the County's roadway system. An arterial's purpose is to handle higher traffic volumes at higher speeds, with minimal roadway access.

ACCESS MANAGEMENT

Access management is the practice of controlling the number and spacing of access points along roadways in order to improve main line roadway capacity and reduce the potential for accidents. By controlling the access onto a road, the number of turning movements is reduced, allowing the main line road to operate closer to its designed capacity. Access management benefits the County by efficiently using its existing roadway resources, reducing the need for expensive capacity improvements.

In addition to preserving roadway capacity, roadways with too many or poorly located driveways are a safety issue. Too many driveways or closely spaced accesses result in a high number of points where conflicts can occur. Research has shown that the number of conflict points is related to the number of collisions that occur.

Access management strategies include the following:

- Combining driveways and roadway approaches along a road in order to reduce the number of conflicting movements between vehicles.
- Developing frontage roads to minimize the need for major facility access.
- Developing of internal circulation between parcels.
- Requiring access onto collectors or local streets for corner parcels with arterial frontage.
- Realigning existing accesses to allow adequate spacing between access points, or to line up offset accesses.
- Developing access standards for new developments that require joint access with future subdivisions.

Table 6-3 lists recommended access management guidelines by roadway functional classification for County roadways. These are recommended ***minimum access management standards*** applicable to public roads and private driveways Along with access management standards, a process needs to be set up to allow modifications to the standards based on an evaluation of safety and other factors. Access management is generally not necessary for driveways onto local streets, although access spacing standards are appropriate for the intersections of public local roads.

TABLE 6-3
RECOMMENDED ACCESS MANAGEMENT STANDARDS FOR COUNTY ROADS*

	Intersection			
	Public or Private Road		Private Access	
Functional Classification	**Type**	**Minimum Spacing**	**Type**	**Minimum Spacing**
Rural Arterial	at-grade	600 ft	Left/right turns	300 ft
Rural Collector	at-grade	300 ft	Left/right turns	100 ft
Rural Local	at-grade	200 ft	Left/right turns	Access to each lot

* For most roadways, at-grade crossings are appropriate. Also, allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the district office of ODOT and is subject to the access spacing standards in Tables 6-4 and 6-5 in this section.

For state facilities, the County has decided to adopt the Oregon Department of Transportation (ODOT) access management standards shown in ***Table 6-4***. There is an immediate need to evaluate and propose access control to US 730 between Umatilla and Irrigon because of the projected traffic volume expected on that roadway as well as the large number of existing access points along this part of the highway. During the time this TSP was being prepared, ODOT began a corridor safety study for US 730 in Morrow and Umatilla County. It is recommended that Morrow County maintain an active role in the study as it progresses. Access management changes in the Morrow County portion of US 730 will be addressed in the later stages of the US 730 corridor safety study.

These access management measures are consistent with TSP Policies 2.4, 2.5, 2.9, 3.2 and 3.3. They are included in the revisions to the zoning regulations as identified in Appendix E.

TABLE 6-4
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY NON-INTERSTATE HIGHWAYS

		Minimum Access Spacing Standards for Public or Private Unsignalized Access (ft) for Posted Speed Indicated (mph)				
Highway	**Classification**	**>55**	**50**	**40 & 45**	**30 & 35**	**<25**
US 730, OR 74	Regional	990	830	750	600	450
OR 206, OR 207	District	700	550	500	400	400

REFERENCE: Oregon Administrative Rules Section 734-051 (2004)

Access Management for State Facilities in Morrow County

ODOT has an extensive access management program, which is regulated by Oregon Administrative Rules Section 734-051. Through the adopted standards in OAR 734-051, ODOT controls access based on the type of facility, level of importance (state, regional, or district), and whether the facility is in an urban or rural area. This program, directed toward the management of state facilities, has been used to protect access along state facilities and at interchanges.

The state access management standards apply to the development of all ODOT highway construction, reconstruction or modernization projects, approach road and private road crossing permits, as well as all planning processes involving state highways, including corridor studies, refinement plans, state and local transportation system plans and local comprehensive plans.

The standards do not retroactively apply to legal approach roads or private road crossings in effect prior to adoption of this Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these legal approach roads or private road crossings occurs. At that time the goal is to meet the appropriate spacing standards, if possible, but at the very least to improve current conditions by moving in the direction of the spacing standards.

When in-fill development occurs, the goal is to meet the appropriate spacing standards. In some cases this may not be possible, and at the very least the goal is to improve the current conditions by moving in the direction of the spacing standards. Thus, in-fill development should not worsen current approach road spacing. This may involve such options as joint access.

In some cases access will be allowed to a property at less than the designated spacing standards, but only where a right of access exists, that property does not have reasonable access, and the designated spacing cannot be accomplished. If possible, other options should be considered such as joint access.

If a property becomes landlocked (no reasonable access exists) because an approach road cannot be safely constructed and operated, and all other alternatives have been explored and rejected, ODOT might be required to purchase the property. (Note: If a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT does not have responsibility for purchasing the property.)

Access within the influence area of existing or proposed interchanges is also regulated by the State of Oregon (OAR 734-051). ***Appendix F*** includes current guidelines and illustrative figures for freeway and non-freeway interchanges with two-lane or multi-lane crossroads.

Morrow County relies on the adopted state access management policies to control access on state highways.

DEVELOPMENT REQUIREMENTS

This section describes the regulatory actions required for implementing the TSP. These actions include modification or adoption of land use development requirements, impact assessment, and right-of-way requirements.

Land Use Development Requirements

Development during the next 20 years will occur in many different ways: large and small, commercial and residential, urban and rural. Different types and sizes of development require different levels of assessment and mitigation. The full range of requirements for most types of development permits, including the transportation improvements required under the TSP, is shown in ***Table 6-5***. The transportation requirements fall into the basic categories of access and system improvements. There are five basic types of permits issued for development in Morrow County. These are zoning permits, land partitions, subdivisions, conditional use, and variance permits. For land that is already platted into lots and is appropriately zoned, a *zoning permit* is required for development. *Land partition* is required when one lot is to be divided into two or three smaller lots. A *subdivision* is required when more than four or more lots are created. A conditional use permit is required for projects with the potential to create a larger impact than land uses that are permitted outright or with a zoning permit. If the proposed development is not fully consistent with the existing zoning requirements, a *variance permit* is required.

TABLE 6-5
LAND USE DEVELOPMENT PERMIT REQUIREMENTS

Permit Type	Plot Plan Requirements		Conditions	Review/Approval Type				
	Footprint (setbacks)	Access*	Transportation Improvements	DEQ Site Suitability	Parking	Sign	Review	Action
Zoning Permit								
Residential	Yes	Designated access.	Frontage improvements.	Yes	N/A	N/A	Staff	Bldg. permits Road approach permit
Commercial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Industrial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Farm Exempt	Yes	Yes	N/A	N/A	N/A	N/A	Staff	County issues a Farm Agriculture Bldg Exemption Certificate
Land Partition								
1 to 3 Lots		Legal access via r/w or easement.	Frontage improvements.				Planning Comm.	Approval Road Approach permit
Subdivision								
4 to 39 lots		Legal access via r/w.	Frontage improvements.				Planning Comm.	Approval Road Approach Permit
40 or more lots		Legal access via r/w.	Frontage improvements, TIA.				Planning Comm.	Approval Road Approach Permit
Conditional Use Permit								
	Yes	Legal access via r/w or easement.	Under 400 trips: frontage improvements. Over 400 trips: TIA.		Review	Review	Planning Comm.	Approval, Bldg. permit Road Approach

*1000′ or less, 20′ easement; 1000′ or more 40′ easement; 3 or more lots (current or potential), 60′ easement.
r/w = Right-of-way.
TIA = Traffic Impact Analysis. Number of trips refers to passenger-car equivalents; one truck trip is generally equivalent to two passenger car trips.
N/A = not applicable.

Traffic Impact Assessment

New development provides many benefits to the County, including property tax revenues, more jobs, and economic stimulation. However, growth can also stress transportation facilities. Increased congestion, demands for new roads, and higher expectations for more services can often accompany development. It is appropriate for the County to require applicants to formally assess the potential traffic impacts of their development proposals on the County transportation system by conducting a traffic impact analysis (TIA).

TIAs are based on the number of trips generated by the development. A TIA would be required when a development generates more than 400 daily passenger car equivalent trips. Traffic engineering research shows that one single-family residence generates an average of 10 trips per day. (More trip generation information is available from the ITE Trip Generation Report and in Appendix D.) Based on this rate, up to 40 homes could be constructed in a residential development without preparing a TIA. Any commercial or industrial use that generates more than 400 daily passenger car equivalent trips would also be required to have a TIA.

The TIA would assess the traffic impacts of the project and identify the appropriate mitigation of those impacts. The TIA would need to be prepared by an engineer and would contain information about the traffic generated by the project including the following items:

- Trip generation of the development.
- Distribution pattern of project-generated traffic.
- Identification and of service (LOS).analysis of the access point onto the public road system and any intersections at which the project adds 30 or more peak-hour trips.
- Measurement of impacts caused by the project.
- Mitigation of the project's impacts in proportion to the relative impact of the project, e.g., construction of improvements, implementation of management measures, or payment of system development charges.

The actions listed above are consistent with Policies 2.5 and 9.2 of the TSP. The guidelines for the completion of the TIA are shown in Appendix D.

Access Requirements

Appropriate access would also be required for development. For a single-family residence, a driveway or easement could provide access if the lot does not front on a county road. Improvements to the frontage of the lot could also be required as determined by the county engineer or public works director. This could include minor

widening to adopted standards, or improvements to ditches or culverts at driveway locations. For a small development that generates up to 30 trips per day, legal access would be required via a county road or a recorded easement (a 20-foot wide easement if 1,000 feet or less; a 40-foot wide easement if more than 1,000 feet). If it is possible to further partition the land into more than three lots, a 60-foot wide access to a county road must be provided. This could either be dedicated right-of-way or a legal guarantee that right-of-way would be provided at the time of further development.

The TSP actions listed above are consistent with Policies 2.4 and 2.6 of the TSP. These modifications to the zoning code and subdivision regulations are found in Appendix E of this document.

Right-of-Way

Right-of-way is the publicly owned corridor in which a road is constructed. Generally, the right-of-way includes the travel lanes, road shoulder, drainage ditch or gutter, and easements for utilities or a reserved area for future roadway expansion.

The TSP establishes a 60-foot right-of-way for all classifications of county roadways. The 60-foot width provides adequate right-of-way width to allow the roadway as well as the shoulders, ditches and/or sidewalks, and utility corridors to be located within the right-of-way, eliminating the need for additional easements. This ensures protection of the public infrastructure, and minimizes disruption to the adjacent property owner caused by maintenance and repair activities. This 60-foot width is reflected in the county road standards discussed later in this section.

In some cases, the County may need to acquire right-of-way for new transportation improvements, or abandon right-of-way that is no longer needed for transportation purposes. It is also likely that right-of-way needs to be dedicated to the County for transportation purposes by other parties. To clarify the requirements for this task, the TSP establishes policy statements that refer to following current State statute and rule for the acquisition, abandonment, and dedication of right-of-way. These rules include the circumstances under which right-of-way would be identified to be acquired or abandoned, and the legal process for approval and recording of the transactions.

The procedures for abandonment, acquisition, and dedication listed above are consistent with Policies 2.6, 2.7, 2.8, and 5.11 of the TSP. They are included in the revisions to the zoning and subdivision regulations found in Appendix E.

MODAL PLANS

Modal plans are the sections of the TSP for each transportation mode required by the Transportation Planning Rule. Morrow County's modal plans were developed using information collected and analyzed through a review of state and county goals and objectives, input from area residents, and available roadway system data. These plans consider the transportation system needs for the County during the next 20 years for capacity improvements as well as roadway maintenance and safety needs. The timing of specific improvement will depend on the rate of development and the changes in land use patterns throughout the County.

Roadway System Plan

Within Morrow County, the roadway system will continue to be the primary method of transportation in the region throughout the 20-year planning period. This section highlights improvements to the roadway system to accommodate growth and address safety and operational needs.

Performance Standards

Traffic engineers use a measurement called level of service (LOS) to assess the performance of a roadway system. It is measured on a scale that ranges from LOS A, which represents free flowing traffic with minimal delay, to LOS F, which represents severe congestion and long delays. The LOS is often used as a threshold to determine when improvements should be considered, such as additional lanes or new traffic control devices.

Because Morrow County currently does not have what would be considered significant traffic congestion, determining LOS for every roadway was not included as part of this study. However, the growth and development projected for the next 20 years could cause enough congestion to affect the operation of the roadway system in the more developed areas of the County.

To maintain an acceptable operating standard, the TSP sets LOS C as the minimum acceptable level for the unincorporated areas of the County and LOS D for the areas surrounding the cities within urban growth boundaries.

ODOT uses V/C ratio thresholds to set performance standards for state facilities. The State V/C standards are listed earlier in ***Table 6-4.***

Estimated Cost of Roadway Improvements

Using recent construction costs as a basis, estimated costs per mile to improve rural system deficiencies were developed. Cost-per-mile estimates for reconstructing an existing rural two-lane roadway to county standards are shown in ***Table 6-6***. The standard conditions estimate is for relatively flat, straight roadway; the moderate conditions estimate is for roads with moderate grades; and the difficult conditions estimate is for roads with severe grade, roadway realignment, accessibility problems, or other difficult construction conditions. For roads that do not require complete reconstruction, the seal cost and overlay estimates are used; for example, collectors are assumed to be overlaid and minor collectors are assumed to be seal coated.

The costs include engineering, inspection, and construction management. Estimated costs are averages to be used for planning purposes only; they may not represent the actual cost of proposed improvements. All costs are given in 2004 dollars and do not represent the time-value of money. Costs do not include widening the roadway to provide more lanes, but shoulder widening is included. Purchase costs for additional right-of-way are not included.

TABLE 6-6
ESTIMATED CONSTRUCTION COSTS PER MILE FOR RURAL IMPROVEMENTS

Road Classification	Standard Conditions	Moderate Conditions	Difficult Conditions	Overlay	Seal Coat
Collector	$425,000	$850,000	$1,275,000	$200,000	--
Minor Collector	360,000	$720,000	$1,080,000	--	$40,000

Connectivity

Connectivity refers to the ability to travel between commonly used origins and destinations in a reasonably direct fashion. A major connectivity deficiency within the County is the lack of a second north-south connection specifically between Ione and Boardman, which has historically been referred to as Ione-Boardman Road. This deficiency is heightened by the fact that the portion of Bombing Range Road adjacent to the Naval Weapons System Training Facility is not dedicated public right-of-way, but is instead managed and controlled by the Navy. Lack of public right-of-way for the entire north-south route poses difficulty for installation of utilities along the road, and for improvements to the road itself.

The existing impediments to transfer of Bombing Range Road to the County magnify the importance of Ione-Boardman Road as a second north/south connection. However, there are also impediments to constructing Ione-Boardman Road. Throughout the 1980's and

1990's the County participated in negotiations with the State of Oregon and major property owners, including the Boeing Agri-Industrial Company and Threemile Canyon Farms, to secure right-of-way for an Ione-Boardman Road by extending Ella Road north to Boardman. This effort was hampered by a 2001 Multi-species Candidate Conservation Agreement with Assurances (MSCCAA) for the Washington ground squirrel, ferruginous hawk, loggerhead shrike, and sage sparrow, in the event any or all of the these species are listed in the future as endangered or threatened.

The 2001 MSCCAA was researched in the May 11, 2005 Federal Register as part of the 2005 TSP preparation. The Federal Register states in part (emphasis added):

"The majority of existing colonies (in Oregon and throughout the species' current range) [i.e., colonies of the Washington ground squirrel] are located on the Boardman Bombing Range and the Boeing tract, which contain the largest contiguous suitable Washington ground squirrel habitat. Although Boardman Bombing Range activities ***are not certain, they are not expected to change significantly in the foreseeable future.***"

However, a major military training facility now in the initial stages of planning by the Oregon National Guard would be certain to significantly change activities on the Boardman Bombing Range in the foreseeable future. This information is not addressed by the May 2005 Federal Register or the 2001 MSCCAA. The Oregon National Guard's plans for a military training facility on the Boardman Bombing Range create both an opportunity and an obligation to revisit the 2001 MSCCAA and revisit the ability to construct an Ione-Boardman connection. Action steps to assist the County in pursuing this issue further are included in the 2005 TSP implementation program.

The County has acquired a dedicated right-of-way that would allow construction of a road (Tower Road Extension) connecting the southern end of Tower Road to Highway 74 near Cecil, which would be useful for the western mid-County area as a transportation facility and as a fire break. As the next step the County must initiate a design effort, which is recommended in the 2005 TSP. However, this indirect alignment does not fully meet the need for a second Ione-Boardman connection, since it would serve the western area of mid-County.

Within urban areas of the County, connectivity allows better access for auto as well as bicycle and pedestrian travel. In order to improve connectivity, the TSP includes a block length standard of a maximum of 1,200 feet per block face. This standard gives non-motorized travelers the ability to travel more directly between their origins and their destinations.

These actions are supported by results of the public open house, the stockholder interviews and Goals 3, 5 and 8 of the goals and policies developed by the Technical Advisory Committee (TAC).

Intersection Controls

Most intersections in Morrow County will probably operate without signals for the next 20 years. The most likely intersections to require signalization are along I-84 in Boardman and along US 730. Any traffic signal proposed on US 730 should be coordinated with the school's pedestrian crossing plans. The placement of intersection controls should only be done when the control can improve the efficiency and safety of an intersection. Usual practice is to follow the intersection control warrants outlined by the Manual of Uniform Traffic Control Devices (MUTCD). These warrants consider a variety of factors including safety, sight distance, pedestrian presence, and traffic volumes in determining the type of appropriate traffic control. No signals on US 730 should be installed prior to the completion of the US 730 corridor safety study now beginning.

Proposed changes in intersection traffic control should be studied to ensure the changes are warranted based on thresholds in the MUTCD. This is consistent with Policies 5.4 and 5.5 of the TSP.

Pedestrian System Plan

In rural areas, pedestrians are typically accommodated on roadway shoulders. As roadways are paved, widened, reconstructed, or repaved on county and state facilities, shoulders should be widened to meet the recommended roadway standards discussed previously in this chapter and illustrated in Appendix C.

The TSP calls for improved pedestrian and bicycle facilities on county roads by improving roadway standards to include widened shoulder areas and by promoting better connectivity through a block length standard. Reduced block lengths allow pedestrians and bicyclists to shorten their travel distance by creating more direct routes through an area.

The original TSP recommended the development of two bicycle/pedestrian pathways, one a short off-road pathway extending from the City of Heppner to the swimming pool, which has been constructed, and the second a path along the Columbia River over the 12 miles between Boardman and Irrigon (the Columbia River Heritage Trail). For the Heritage Trail, additional local connections are recommended in Boardman, Irrigon and the Port of Morrow Industrial Area, as well as extension of the trail west of Boardman. Ultimately the Heritage Trail is planned to extend 25 miles from Umatilla County to Gilliam County, subject to the availability of funding. Extensions of and connections to the Heritage Trail should conform to the trail guidelines, which include the following facility width recommendations:

- Two-foot rural road shoulders on both sides of the road, in compliance with Oregon Rural Road standards.

- Eight-foot dedicated trails in "urban" areas (City of Boardman/Tower Road to City of Irrigon/Twelfth Street), subject to right-of-way availability.

- Eight-foot dedicated trails in rural segments in rural segments (west Morrow County line to Tower Road; USFW Umatilla Wildlife Refuge where not already paved; through the ODFW Wildlife Area).

Bicycle System Plan

On most County facilities, bicyclists share the roadway with motorists. On roadways with high ADT volumes, shoulders need to be widened to accommodate bicyclists. As roadways are paved, widened, reconstructed, or repaved on county and state facilities, shoulders should be widened to meet the recommended roadway standards.

Designated bicycle facilities can be provided in a variety of ways and are often available for use by pedestrians and other non-motorized users. Bicycles would share the road with motorists on roadways with shoulders narrower than 4 feet. In areas with high bicycle use, a separate pathway or striped bicycle lane should be considered along both sides of the roadway. This TSP recommends that the County prepare a county-wide bicycle, pedestrian, and equestrian strategy to identify opportunities for facilities. As outlined above in the Pedestrian System Plan, the County should continue to plan and construct additional connections to the Heritage Trail, which also serves bicycle travel.

This is consistent with Policies 6.1, 6.2, and 6.3 of the TSP.

Transportation Demand Management Plan

TDM is a collection of strategies directed to reduce the number of trips by automobiles. Programs are normally directed towards commute trips, when traffic levels are usually highest. These strategies not only benefit the roadway system through reduced traffic levels but also contribute to reduction in air pollutants. While TDM is usually applied only in highly urbanized areas, the following measures are part of the TSP:

1. Require companies with more than 100 employees to provide TDM measures for their employees, that could include some or all of the following options:
    - — *Cash-out parking program:* Gives an employee the choice between a parking space and a monthly cash incentive.
    - — *Employer-sponsored shuttle or vanpools:* Usually works best for groups of employees who live more than 30 minutes from the work site.
    - — *Carpool or vanpool incentives or subsidies:* Encourages employees to share rides to work.
    - — *Ride matching services:* Helps employees find others who live along their commute route.

- — *Preferential carpool and vanpool parking:* Rewards those who share ride a more convenient parking location.
- — *Commute alternatives information:* Provides a variety of information on alternative methods to get to work.
- — *Provision of showers and locker facilities:* Encourages employees to bicycle or walk to work.
- — *Travel allowance:* Gives each employee a specific amount of money to use to "purchase" a parking space, or "save" by using commute alternative.
- — *Flexible work hours:* Allows employees to participate in carpools or other commute options.
- — *Compressed work week:* Reduces the number of weekly trips made by establishing 4-day 10-hour shifts or other compressed schedules.
- — *Assignment of a transportation coordinator*: Gives employees a contact person to assist in choosing a commute alternative.
- — *Telecommuting program:* Allows employees to work from home through the use of a "home-office".

2. Establish a population threshold of 15,000, after which the County will initiate TDM programs such as the following:
   - — Employer information program on TDM measures.
   - — Formation of TDM committee made up of major employers and governmental representatives. Such a committee should include the Oregon National Guard, if the Boardman Bombing Range becomes a major military training facility.
   - — Development of park-and-ride facilities near freeway interchanges
   - — Development of pedestrian and bicycle facilities between key destinations

This TDM program is included as part of the Morrow County TSP.

Public Transportation Plan

Public transportation in Morrow County is currently limited to dial-a-ride service for older adult and physically challenged residents, and Greyhound bus service.

Greyhound operates private transit bus lines throughout the United States. Greyhound has a daily route that travels through Morrow County, but does not have a scheduled stop in the County. For the bus to stop in Boardman, current operations require the passenger to flag the approaching bus and to pay the driver for the fare. Greater service

options are available in Hermiston and Pendleton in Umatilla County. Service is provided to various cities along routes to Portland, Seattle, and Boise, where connections can be made to other destinations. Existing and expected population in Morrow County suggest that Greyhound should schedule additional stops in Boardman and a new stop in Irrigon.

A second private transit line is operated by Linea Express, serving primarily agricultural workers that are moving up and down the west coast.

Transportation services to older adults and physically challenged residents of Morrow County are provided by Morrow County Special Transportation, a para-transit provider. Services provided include dial-a-ride services, client transportation, and medical transportation, all provided by volunteer drivers. The operation includes two buses in Heppner serving mid-county, and one bus in both Boardman and Irrigon. Operations are funded through a grant from the Public Transit Division of ODOT. Morrow County Special Transportation recently received a grant for $50,000 to construct a bus shed in Boardman at the Boardman Senior Center to house Special Transportation buses. This project, which is a coordinated effort through Special Transportation and the City of Boardman, is scheduled to be completed by fall of 2005.

The TPR exempts communities with a population of less than 25,000 from including mass transit facilities in their development regulations. The para-transit services provided by Morrow County Special Transportation are adequate to meet existing and projected transit needs, and fixed-route public transit is unlikely to be needed within the 20-year planning horizon of the TSP under currently projected conditions. However, Morrow County strongly supports transit use. The County will continue to promote private transit service to provide connections to major employment sites and regional airports, both within Morrow County and for linkages to Umatilla County, and periodically will re-evaluate the need for public transit in the County. Should the Oregon National Guard proceed with major military training facility, as is being discussed, additional transit service may be justified to and from Umatilla County.

Rail Service Plan

Rail services within Morrow County include freight services. Rail transportation has historically been, and continues to be, an important avenue for moving goods within the region.

Union Pacific Railroad's main line parallels I-84. Two spurs extend from this line to serve a coal-fired gas plant and the Umatilla Army Depot. Most of the rail freight service supports agricultural activities in the county and the Port of Morrow freight activities.

There has been no passenger rail service in Morrow County since rail service between Salt Lake City, Utah and Portland, Oregon was suspended in the mid-1990s. Amtrak

does provide service between Portland and Spokane on its Empire Builder line. The Tri-Cities is the closest stop for this service.

No plans are expected for the expansion of existing or development of new rail service along the I-84 corridor; however, the expansion plans by the Port may result in the increased demand for future rail freight services. The Port is currently in the process of constructing a loop track to connect the Port of Morrow Industrial Area to the main Union Pacific line. In addition, as population in Morrow County and nearby counties increases, efforts should be made by the County to investigate the development of passenger rail service into the region.

Truck Service Plan

Currently, all highways, arterials, and collectors are designated as truck routes within the County. This approach is limited in that it does not focus available resources in the development of specific truck routes. An exception to this approach is the County's Draft Solid Waste Management Plan, which ***does*** recommend specific truck routes for movement of solid waste. A freight and goods transportation strategy should be developed for Morrow County by the County and the Port of Morrow that involves interested stakeholders and emphasizes the development of private/public partnerships. The study should identify specific corridors for development into truck routes and develop the specific truck route design specifications to improve the operations and safety of these routes.

An additional concern for truck traffic is the impact on rural access roads from heavy truck traffic, most frequently in connection with trucks traveling to and from gravel quarry sites. Frequently these trucks are non-local contractors working on State facility projects, or trucks serving new development sites. The County needs to use ordinances and a permitting process to ensure local access roads damaged from truck traffic are repaired and restored by the parties causing the damage.

Airport Service Plan

Air access will be increasingly important as the County continues to grow. The state's most recent pavement maintenance report for the Lexington-Morrow County airport (2003) calls for a five-year maintenance plan for the 2004-2009 period with about $617,000 of inspection and maintenance work that is needed to avoid more costly repair work. The Airport Layout Plan for the Lexington-Morrow County Airport, acknowledged by DLCD in 2002, is a 20-year plan defining how the airport and the adjacent lands are planned to be used over the planning period. The County should coordinate pursuit of grants or other funding mechanisms to ensure that the recommended maintenance work is performed, and to begin implementing the measures identified in the 2002 Airport Layout Plan.

Pipeline Service Plan

A pipeline transporting natural gas runs across Morrow County. The PGT Pipeline enters Morrow County near the southeast corner of the County, travels near Ione, and continues to the northeast to the Morrow-Umatilla county line. Installation of a pipeline connection to Heppner is planned, but has not yet been constructed. No other future expansion or major modifications are expected within Morrow County.

Water Transportation Plan

The Port of Morrow operates barge facilities on the Columbia River. The port serves as a key multimodal transportation facility for the County, providing an interface between ground, rail, air, and water transportation. As discussed in Chapter 3, the port activities extend beyond its role as a freight terminal. The Port offers a number of industrial sites, provides industrial utilities, and plays a supportive role in the development of the adjacent communities.

The Port is expanding its market from a historical emphasis on agriculture and logging to include more food processing and light manufacturing. The Port of Morrow has three to four miles of frontage on the Columbia River including six docks, two berths that are 12 to 16 feet deep, and two overhead cranes that have an approximate 200-ton capacity. There are four barge companies that service the Port of Morrow with approximately 2,000 containers being handled at their container docks each month. Over 50 percent of the goods shipped are from foreign markets, and the destination port for most shipments is Portland.

In addition to freight traffic, the Port's facilities could provide docking for recreational and tourist opportunities, e.g., the Columbia Sternwheeler. The County and Port need to work cooperatively to provide needed docking facilities and promote their use.

Current access to the Port's facilities in Boardman is from a two-lane roadway with no turning lanes. This facility serves current traffic adequately, but may not be sufficient as the Port's business increases. The width and weight restrictions of several overpasses on roads in the immediate vicinity of the port may also restrict the port's growth. Alternate access to the east side of the Port from US 730 is a priority to port officials. Two Port accesses to US 730 are included in the roadway element of this TSP, with a longer-term recommendation that they be connected by an overcrossing over the Union Pacific railroad. As a long-term improvement to serve industrial development in this area, modifications to the existing I-84/US 730 interchange may be necessary. However, for the 20-year timeframe analyzed in this TSP it is assumed that at-grade intersections on US 730 will be adequate.

TRANSPORTATION SYSTEM PLAN IMPLEMENTATION PROGRAM

Implementation of the Morrow County TSP requires increased coordination between jurisdictions, changes to the existing zoning code and subdivision ordinance, and the preparation of a 20-year capital improvement plan (CIP). These actions enable the County to address both existing and future transportation issues in a timely and cost effective manner.

Interjurisdictional Planning

The co-adoption of the Cities' TSPs allows for coordination of standards and planning efforts within the urban growth areas, such as the coordination of road standards and the provision of bicycle and pedestrian facilities. In addition, interjurisdictional planning allows the development of county-wide funding resources and the mechanisms to distribute these funds. The County's change to two-acre minimum parcel size for rural residential development allows a greater focus on areas within the Urban Growth Boundaries of the cities.

Interjurisdictional coordination with ODOT is a structured process involving Area Commissions on Transportation (ACTs), which establish the public process by which projects are included in the area project selection priorities for the Statewide Transportation Improvement Program (STIP). (ACTs) are advisory bodies charted by the Oregon Transportation Commission (OTC) to address all aspects of transportation (surface, marine, air, and transportation safety) with primary focus on the state transportation system. ACTs consider regional and local transportation issues if they affect the state system. They work with other local organizations dealing with transportation-related issues. There are 11 ACTs across the state. Morrow County is a member of the Northeast Area Commission on Transportation (NEACT), which includes representatives from Morrow, Baker, Union, Umatilla and Wallowa counties; five members representing the cities in each county; one at-large representative from each County; two representatives of the Confederated Tribes of the Umatilla Indian Reservation; and the ODOT Region 5 Area manager. NEACT prioritizes transportation problems and solutions, and recommends projects to be included in the STIP. Morrow County is committed to working through the NEACT to pursue implementation of improvements recommended in this TSP.

Another aspect of interjurisdictional planning is the need to address ownership of and planning for the section of Bombing Range Road owned by the US Navy and maintained by Morrow County.

Recommended Changes to Code and Ordinances

Changes to planning documents, the zoning code, and subdivision ordinances are recommended to ensure that policy and ordinance language conforms to the requirements of the TPR. Proposed modifications to the zoning and subdivision ordinances are found in Appendix E.

20-Year Capital Improvement Program

A 20-year CIP that schedules and prioritizes each of the projects of the TSP is provided in ***Table 6-7*** (State projects), ***Table 6-8*** (Port and city projects), ***Table 6-9*** (High Priority County projects), and ***Table 6-10*** (Medium Priority County Projects). State, Port and city projects are listed for purposes of establishing consistency and funding eligibility. ***Figure 6-1*** shows the locations of the County projects listed in ***Table 6-9*** and ***Table 6-10***. (***Figure 6-1a*** highlights the Boardman-Irrigon area of north Morrow County). Two levels of priority are established in each table, based upon the anticipated need for the project's implementation:

- High priority (0 to 5 years)
- Medium priority (5 to 20 years)

These priorities were set based upon the projects' qualitative evaluation as compared to the criteria established in Chapter 5. Scheduled projects that would produce the most safety, environmental, socioeconomic, land use, or cost benefits were ranked with the highest priority. Remaining projects were ranked medium priority. ***Tables 6-9*** and ***6-10*** include a number (high priority projects) or letter (medium priority projects) that correlate to project locations in ***Figures 6-1*** and ***6-1a***.

Morrow County identified 54 projects in its 20-year roadway plan with at total cost of $60.8 million. These include 32 projects ranked highest priority at a cost of $14.4 million, including $3.7 million for 28 projects on County facilities and $10.7 million for 4 projects on state/local/Port facilities. Twenty-two medium-priority projects were identified with a total cost of approximately $46.4 million, including $22.7 million for 16 projects on County facilities and $23.7 million for 6 projects on state/local/Port facilities.

TABLE 6-7
STATE FACILITIES RECOMMENDED IMPROVEMENTS

Project Description	Action	Estimated Cost ($1,000's)
High Priority		
US 730 Corridor Safety Study (Length of US 730 in Morrow and Umatilla counties)	Access management and safety improvements	$2,325
Bombing Range Road at OR 207	Relocate Intersection, add Left turn pocket	$400
Medium Priority		
I-84 Irrigon Junction	Repair eastbound, westbound bridges	$9,800
OR 207 from Hardman to Spray	Overlay	$1,420
Cutsforth Park	Restroom facilities	$35
OR 74 at horseshoe curve near Morgan	Safety improvements and reconstruction	$1,200

TABLE 6-8
PORT/CITY FACILITIES RECOMMENDED IMPROVEMENTS

Project	Description/Action	Estimated Cost ($1,000's)
Medium Priority		
East Industrial Area Access	New access to serve the Port of Morrow East Industrial Area located north of the existing I-84/US 730 interchange and west of US 730, initially onto US 730 via an at-grade or elevated intersection or intersections. As the east industrial area develops, the need for direct interchange access will require additional analysis.	$1,000-6,000
East Industrial Area Interchange Area Management Plan	An Interchange Area Management Plan is recommended to develop a long-term plan for additional Port of Morrow freeway interchange access.	$500
Kunze Road (Boardman)	Reconstruct from Main to Tower	$2,700
Olson Road (Boardman)	Construct overpass over I-84	$9,000
Tower Road overcrossing (Boardman)	Construct overcross over UP railroad line	$1,000

TABLE 6-9
MORROW COUNTY
0-5 YEAR (HIGH PRIORITY) RECOMMENDED ROADWAY SYSTEM PROJECTS

Map Key / Roadway.	Project Description	Estimated Cost ($1,000's)
1 / CR #793 (Little Butter Creek Road)	Hwy 74 to Upper Little Butter Creek (project length 20.4 miles) - Chip seal 13.5 miles from Hwy 74 to Currin Ranch - Reconstruct 6.9 miles from Currin Ranch north - Chip seal 2.6 miles from Hwy 74 south to end of pavement Chip seal 5.2 miles from Pine City to reconstructed section	$993
2 / CR #504 (Bunker Hill Road)	Hwy 207 to end of oil (2.8 miles) – pavement reclamation, chip seal,	$85
3 / CR #966 (Clarks Canyon Road	Lexington City limits to end of oil (8.1 miles) – chip seal, shoulder and drainage work.	$167
4 / CR #728 (Frontage Road)	I-84 to Co. line (6.05 miles) – chip seal	$120
5 / CR #561 (Rippee Road)	I-84 south to Wilson Road (0.5 miles) – chip seal, shoulder reconstruction	$19
6 / CR #936 (Laurel Lane)	Wilson Road to I-84 (0.8 miles) – rebuild and pave shoulders	$80
7 / CR #747 (Miller Lane)	Wilson Road to Kunze Lane (0.5 miles) – rebuild shoulder and chip seal	$19
8 / CR #973 (Eastregaard Road)	Wilson Road to Canal (0.5 miles) – rebuild shoulders and pave	$75
9 / CR #599 (Jordan Grade Road)	Hwy 74 to Baseline Road (1.6 miles) – rebuild shoulders and chip seal	$35
10 / CR #902 (Root Lane)	Wilson Road to Rippee Road (1.1 miles) – rebuild shoulders and chip seal	$35
11 / CR #715 (Basey Canyon)	Hwy 207 to Rhea Creek Road (2.0 miles) – chip seal	$38
12 / CR #608 (Upper Rhea Creek Road)	Basey Canyon to Road Canyon (4.1 miles) – chip seal	$76
13 / CR #638 (Ione-Boardman Road)	Ella Road to Juniper Canyon Road (6.0 miles) – drainage and shoulder work, chip seal	$171

TABLE 6-9 (cont'd.)
MORROW COUNTY
0-5 YEAR (HIGH PRIORITY) RECOMMENDED ROADWAY SYSTEM PROJECTS

Map Key / Roadway.	Project Description	Estimated Cost ($1,000's)
14 / CR #746 (Big Butter Creek Road)	Pine City to County Line (11.5 miles) – repair cattle guard and bridge approaches, drainage work, chip seal	$185
15 / CR #746 (Big Butter Creek Road)	Hwy 207 to Pine City (3.0 miles) – crack seal and chip seal	$56
16 / CR #754 (15th Street & E Oregon Lane)	To end of oil (0.8 miles) – patch and chip seal	$15
17 / CR #908 (8th Street)	Columbia Lane to Riverview Lane (0.7 miles) – crack seal and chip seal	$16
18 / CR #908 (8th Street)	Hwy 730 to Depot Lane (0.9 miles) – crack seal and chip seal	$15
19 / CR #837 (7th Street)	Columbia Lane to Usage Lane (0.6 miles) – crack seal and chip seal	$12
20 / CR #909 (Usage Lane)	7th Street to 8th Street (0.3 miles) – crack seal and chip seal	$6
21 / CR #718 (Idaho Lane)	2nd Street to 4th Street (0.5 miles) – crack seal and chip seal	$9
22 / CR #630 (Juniper Lane)	Ione-Boardman to new section (3.8 miles) – rebuild/repave	$810
23 / CR #724 (Washington Lane)	2nd Street to 8th Street (1.6 miles) – chip seal over grindings	$30
24 / CR #596 (Tower Road)	Taggarres Lane South (1.6 miles) – crack seal and chip seal	$31
25 / CR #809 (Ella Road)	Hwy 74 to Ione-Boardman "Y" (2.5 miles) – pave length	$632
26 / CR #722 (Oregon Street)	2nd Street to 4th Street (0.5 miles) – chip seal	$18
27 / CR #716 (Pleasant View Lane)	Hwy 730 to end of oil (0.4 miles) – chip seal	$8
28 / CR #906 (3rd Street)	Hwy 730 to Idaho Lane (0.2 miles) – crack seal and chip seal	$4
	0-5 YEAR PROJECTS ESTIMATED TOTAL COST	$3,760

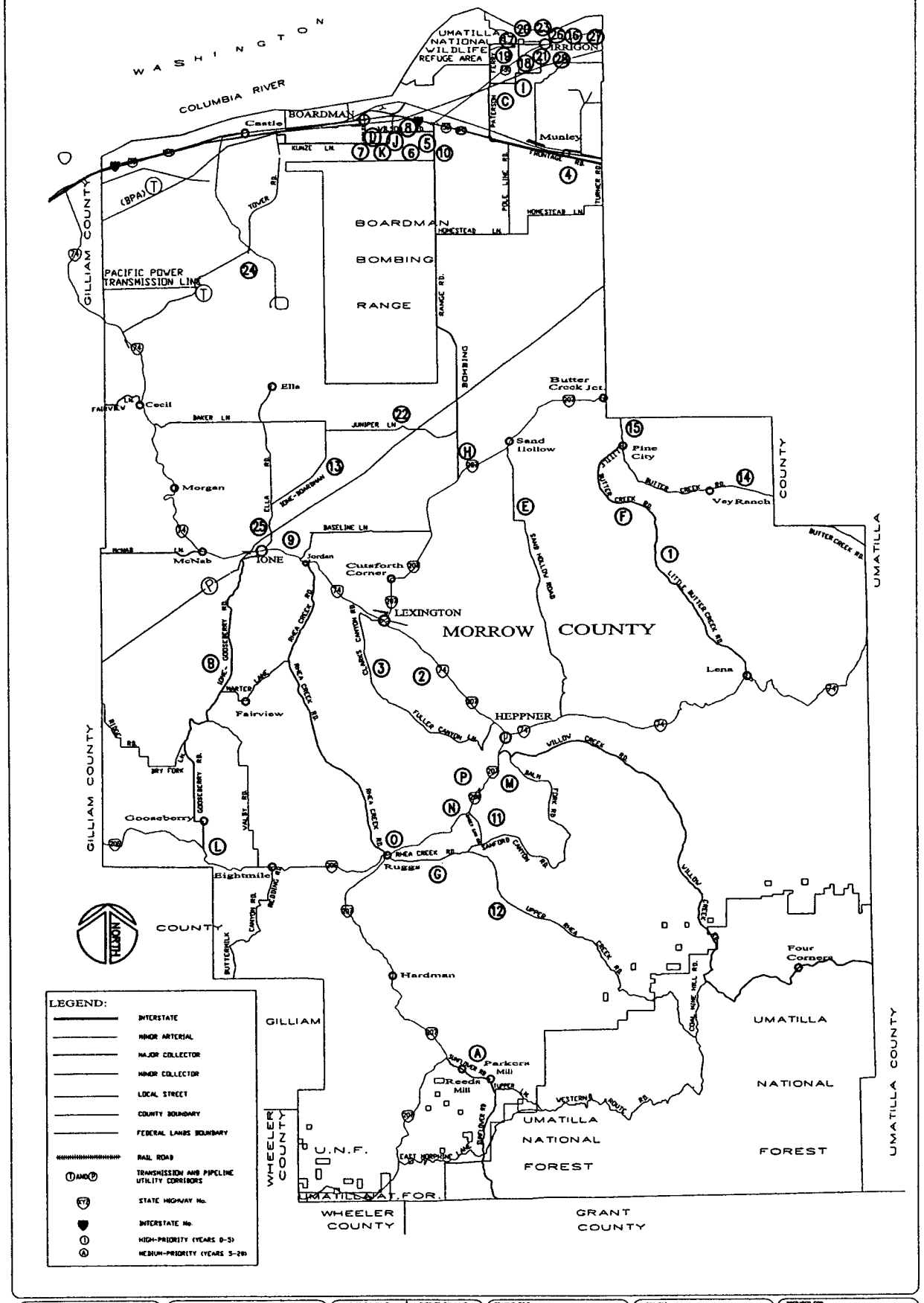
TABLE 6-10
MORROW COUNTY
5-20-YEAR (MEDIUM PRIORITY) RECOMMENDED ROADWAY SYSTEM PROJECTS

Map Key / Roadway.	Project Description	Estimated Cost ($1,000's)
A / CR #670 (Sunflower Flat Road)	Pave over gravel road (9.0 miles, a Federal Forest Highway Project	$2,500
B / CR #681 (Ione-Gooseberry Road)	McElligott Road to Hwy 206 (8.3 miles) – reconstruct roadway	$2,300
C / CR #761 (Depot Lane)	Paterson Ferry Road to Division Road 4.9 miles) – reconstruct and pave	$2,000
D / CR #598 (Kunze Lane) and CR #689 (Olson Road)	On Kunze, South Main to Olson Road (0.7 miles). On Olson, Kunze Lane to I-84 – reconstruct and pave (2.0 miles total)	$900
E / CR #733 (Sand Hollow Road)	Hwy 74 to new pavement (6.7 miles) – reconstruct and pave	$900
F / CR #793 (Little Butter Creek Road)	Currin Ranch north (5.2 miles) – reconstruct and pave	$600
G / CR #608 (Upper Rhea Creek Road)	Ruggs to Basey Canyon Road (4.5 miles) – improve drainage and pave	$500
H / CR #759 (Bombing Range Road)	At Hwy 207 - acquire right-of-way to realign intersection, construct new section and pave	$400
I / CR #906 (3rd Street)	Nevada Avenue to Depot Lane (0.8 miles) – reconstruct and pave	$350
J / CR #747 (Miller Road)	Kunze Lane to Wilson Lane (0.5 miles) – reconstruct and pave	$250
K / CR #598 (Kunze Lane)	Olson Road to Miller Road (0.5 miles) – reconstruct and pave	$250
L / CR #681 (Ione-Gooseberry Road)	Realign at junction with Hwy 206	$15
M / CR #713 (Shobe Canyon Road)	Realign at junction with Hwy 206/207	$15
N / CR #612 (Clarks Canyon Road)	Realign at junction with Hwy 206/207	$10
O / CR #693 (Rhea Creek Road)	Realign at junction with Hwy 206/207	$8
P / CR #533 (Porcupine Lane)	Realign at junction with Hwy 206/207	$5
	5-20-YEAR PROJECTS ESTIMATED TOTAL COST	$22,703

TABLE 6-11
MORROW COUNTY RECOMMENDED PROJECTS FOR NON-VEHICULAR MODAL SYSTEMS

Plan Element - Facility.	Project Description	Estimated Cost ($1,000's)
Pedestrian/Bike – Heritage Trail	Phase 1 of the Heritage Trail between Irrigon and Boardman.	$350
Pedestrian/Bike – Heritage Trail	Completion of Phase 2 of the Heritage Trail, including an Ullman Boulevard bicycle/pedestrian overcrossing over the Union Pacific railroad, and additional pavement width along Ullman Boulevard north of railroad to accommodate bicyclists and pedestrians.	$215
Transit – Bus facility in Boardman	Parking/maintenance facility for Special Transportation buses serving North County	$50
Air – Lexington-Morrow County Airport	Complete the 5-year maintenance program for the 2004-2009 period as recommended in the state's 2003 pavement maintenance report, to avoid more costly repair work.	$600

HIGH AND MEDIUM PRIORITY PROJECT LOCATIONS



CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING
CTS Engineers

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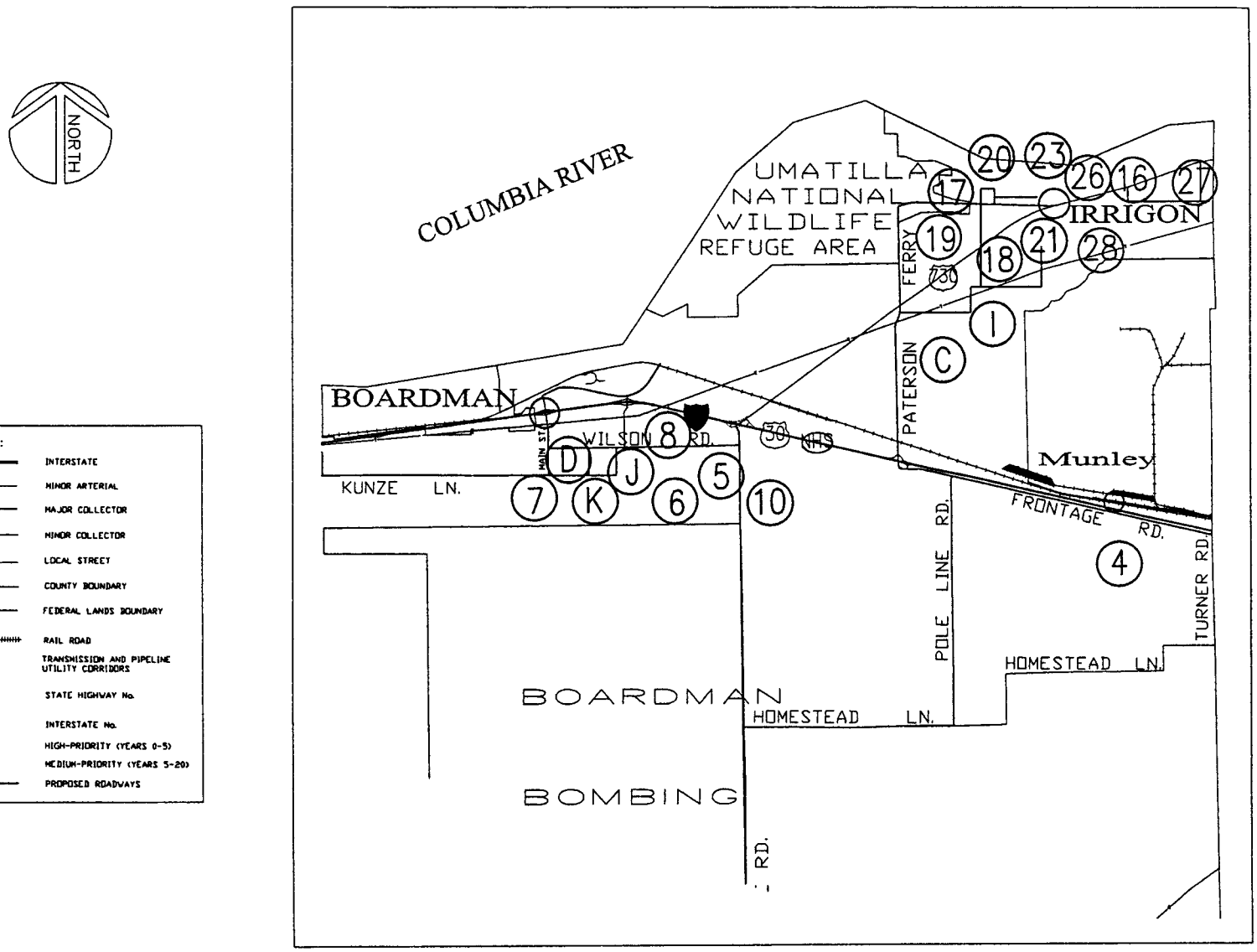
NO. DATE	

DRAWING TITLE: FIGURE NO 6-1 HIGH & MEDIUM PRIORITY PROJECT LOCATIONS

PROJECT: MORROW COUNTY TSP UPDATE OR04.055.T01

PREPARED FOR: ODOT/ MORROW COUNTY

HIGH AND MEDIUM PRIORITY PROJECT LOCATIONS
BOARDMAN - IRRIGON AREA



LEGEND:

- INTERSTATE
- MINOR ARTERIAL
- MAJOR COLLECTOR
- MINOR COLLECTOR
- LOCAL STREET
- COUNTY BOUNDARY
- FEDERAL LANDS BOUNDARY
- RAIL ROAD
- (1) AND (P) TRANSMISSION AND PIPELINE UTILITY CORRIDORS
- (YY) STATE HIGHWAY No.
- INTERSTATE No.
- (1) HIGH-PRIORITY (YEARS 0-5)
- (A) MEDIUM-PRIORITY (YEARS 5-20)
- PROPOSED ROADWAYS

PREPARED FOR: ODOT/ MORROW COUNTY

PROJECT: MORROW COUNTY TSP UPDATE OR04.055.T01

DRAWING TITLE: FIGURE NO. 6-1A BOARDMAN - PORT OF MORROW - IRRIGON AREA PROJECTS

CAD BY: MAE	CHECKED BY: MAE
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CIVIL TRANSPORTATION STRUCTURAL LAND SURVEYING
CTS Engineers

CHAPTER 7
FUNDING OPTIONS AND FINANCIAL PLAN

INTRODUCTION

The Transportation Planning Rule (TPR) requires the Morrow County Transportation System Plan (TSP) to evaluate possible sources of funding for improvements. Increased competition for available funding sources has created an environment where creative and innovative techniques are needed to fund both existing and future transportation needs. This chapter presents the funding options and financial plan for meeting the recommended improvements identified in the TSP. The chapter is organized as follows:

- Transportation needs over the next 20 years.
- Historical sources of funding.
- Transportation revenue sources.
- Financing options.

TRANSPORTATION NEEDS

An estimated total of $60.8 million in current dollars is required to implement the transportation improvement projects recommended in the TSP. Project scheduling will be determined partially by the population and employment growth the County experiences over the next 20 years, which will influence the timing and magnitude of improvement needs. For many projects, joint funding will need to be pursued, as appropriate, with the Port of Morrow, ODOT, and individual cities. Should the Boardman Bombing Range become an active tank training facility as is being considered by the Oregon National Guard, a partnership with the federal government and/or the Oregon National Guard should also be pursued for needed improvements to the roadways serving the Bombing Range. Finally, the County should pursue opportunities to apply joint public/private financing for economic development projects such as development of major new industrial facilities, or a major new entertainment facility such as a speedway.

HISTORICAL SOURCES OF FUNDING

Morrow County currently funds transportation system improvements through federal, state, and local sources. Property taxes make up the largest single source of revenue (53% of the $3.417 million in total revenue for 2002). Although annual increases in property tax assessments on individual properties are limited as a result of Measures 5 and 50, property tax revenue as a whole has more than doubled since 1997, when property tax revenue totaled $721,000. Property tax revenue has increased as a result of new development throughout the County. Other major funding sources include gas tax/vehicle licensing revenues and, beginning in 2002, funds from the Oregon

Transportation Investment Act (OTIA). OTIA funds are devoted to specific improvements, primarily bridge repair and/or replacement. Other existing funding sources include a portion of waste disposal fees collected at the Finley Buttes Landfill, (collected for Bombing Range Road), and forest receipts (collected for national forest lands). Until 2002 the County general fund was a major revenue source for the transportation system. Miscellaneous funds are typically reimbursements, interest payments, or other one-time sources. Funds received are not only used for system improvements, but also for maintenance, equipment, staff salaries, and materials costs.

The historic transportation budget for Morrow County between 1998 and 2002 is shown in ***Table 7-1***. During that time the County's overall transportation budget increased by about eight percent. The two largest revenue sources, property taxes and gas taxes, are the most stable but are unlikely to be able to meet increasing future demands.

TABLE 7-1
1998-2002 TRANSPORTATION FUNDING IN MORROW COUNTY

Funding Source	ANNUAL AMOUNT 1998	1999	2000	2001	2002	1998-2002 % Change Constant $
Property Tax	$1,358,400	$1,397,300	$1,606,700	$1,589,300	$1,871,700	38%
Forest Receipts	$51,200	$73,800	$32,200	$227,200	$229,000	349%
Gas Tax/ Vehicle License	$531,700	$572,000	$572,300	$561,600	$565,500	6%
Finley Buttes Road Fund	$118,200	$143,300	$119,100	$113,700	$162,500	37%
OTIA	$0	$0	$0	$0	$524,700	n/a
STP/HBR	$100,000	$78,400	$39,900	$0	$0	n/a
Misc. Revenue	$67,800	$76,200	$108,500	$83,000	$53,700	(21%)
Other Funding Sources	$411,500	$415,500	$830,500	$378,700	$4,200	(99%)
Total	$2,944,100	$2,762,200	$3,315,100	$2,959,300	$3,417,300	16%

In 2002, the Oregon legislature created a task force to explore options to replace the gas tax, due to concerns over the gas tax revenue stream flattening or decreasing due to better fuel economy, more hybrid vehicles and the volatility of gas prices, which affects fuel consumption.

REVENUE SOURCES CURRENTLY USED IN MORROW COUNTY

In order to finance the transportation system improvements recommended for Morrow County over the next 20 years, the County will need to consider and implement a variety of funding sources. Recent property tax limitations (Measures 5 and 50) have substantially reduced the ability to raise needed funds through increases in property tax rates or through higher property assessments. The revenue sources described in this section may not all be appropriate in Morrow County, but they represent the range of financial sources currently available to fund transportation improvements in Oregon. The County already uses many of these funding sources. Grant funding for bicycle and pedestrian improvements has been used in the City of Heppner, but not directly by the County.

ODOT Funds

ODOT provides funding for highway-related or highway-benefiting improvements through the Statewide Transportation Improvement Program (STIP). The STIP sets out a four-year funding cycle for transportation plans, and is updated every two years. The STIP is funded through federal transportation funding. Following the first two rounds (ISTEA and TEA-21), passage of the third iteration (TEA-3) of the federal government's 1991 surface transportation act is expected sometime in 2005. ODOT's allocations of federal transportation revenues increasingly target those improvements that benefit highways indirectly, such as bicycle and pedestrian facilities, and those that provide economic benefit to a jurisdiction or region. Morrow County should continue to pursue funding for its high-priority projects through the STIP process, particularly those that provide economic benefits. Projects identified through this TSP or other planning processes may be eligible for STIP funds. The County's highway-related projects would be combined with all other projects within ODOT Region 5 submitted for STIP consideration, and then funded based upon the relative priority to other projects within the region.

ODOT's OTIA bonding program has contributed the greatest influx of new transportation funds over the past few years. OTIA is presently in its third and largest round (OTIA III), which focuses on repairing and replacing aging state and local bridges across the state. ODOT funds will remain to be an important source of funding to maintain and improve projects within Morrow County highway corridors. With the passage of ISTEA, its successor, TEA-21, and the imminent passage of TEA-3, federal funding administered by ODOT will continue to be one of the primary resources for funding capital improvements.

Property Taxes

Property taxes are often considered as a primary revenue source for raising general fund revenues. Revenue from property taxes can be used to fund transportation improvements through general fund transfers. Property taxes may be permanent (tax base levies), directed to specific projects (bond levies), or for a limited amount of time (serial levies). Tax base levies are the most common type used. Over the last two decades, the use of property taxes for raising general fund revenues has been restricted through a series of ballot initiatives. The first, Measure 5, restricted the non-school tax districts to $10 per $1,000 of assessed value and the total tax to $15 per $1,000 of assessed value. In May 1997, Measure 50 passed, which rolled back property taxes to 1994-95 levels and limited future increases to three percent annually, while requiring that jurisdictions prioritize funding for public education and safety. These restrictions typically decrease the amount of funds available to cities and counties for application to the transportation system. Given that property tax revenues will likely continue to be limited for all governmental uses, transportation projects will have to compete with other government services. Morrow County has substantial amounts of undeveloped industrial property under the control of the Port of Morrow. As this property is developed, the increased assessed values will increase property tax revenues. The County should not consider property taxes to be a major source of new roadway improvement funds in the future.

Gasoline Taxes

The state of Oregon currently provides funds from the sale of gasoline, vehicle registration, and weight/mile taxes to provide jurisdiction's funds to maintain and improve street facilities. Gasoline taxes are collected for every gallon purchased by the consumer. An allocation formula based partially on population divides available funds among the state's counties and incorporated cities. State law also allows voters within a jurisdiction to approve additional gasoline taxes for use in funding street maintenance and improvements. A vote of the County's residents would be needed to enact a county-wide increase to the gasoline tax. As noted earlier, the legislation has a task force exploring potential options to replace or supplement the gasoline tax.

Vehicle Registration Fees

Like gasoline taxes, vehicle registration fees are collected by the state and then distributed to cities and counties. Under state law, counties are allowed to impose an additional vehicle registration surcharge on all vehicles residing within the county. Funds collected are required to be used to either maintain or improve roads within the County. To implement an additional vehicle registration fee within Morrow County would require voter approval, and the County would need to develop mechanisms to distribute the funds for county and city roadway projects.

Special Public Works Funds

The state of Oregon through the OEDD supports economic development and job creation by providing grants and loans to construct, upgrade, or repair public infrastructure. Special public works funds (SPWF) have been used to construct capital facilities such as water, sewer, and street improvements. Funding is limited to projects that are associated with economic development of a community and the creation of family-wage jobs. The Port of Morrow was awarded a $1.2 million SPWF loan in 2003. The County may be able to apply for SPWF funds for roadway improvements as population increases in the area.

Project Mitigation

The County should pursue project mitigation to offset the transportation impacts from large projects. Under the preferred alternative, the project will be subject to TIA requirements included in this plan, which will analyze and identify impacts created on the transportation system. Expected mitigation for the project impacts would be provided either as mitigation payments or by the proponent completing improvements to affected facilities.

Public Transportation Funds

Funds and loans for public transportation are available to encourage the development and operation of service for the general public, older adults, and those with special needs. Most programs require local government contribution to receive funds. Four of the major sources available include the following:

- Special transportation fund (STF)
- Section 5311 funds
- Community transportation program
- Special transportation district

Bicycle and Pedestrian Program Funds

The state of Oregon has grants available through the state Bicycle and Pedestrian Program for promotion of bicycle facilities for non-recreational improvements. A local match is required to obtain funds. Funding sources such as TEA-3 enhancement funds should be pursued by the County to further develop their bicycle and pedestrian systems. The City of Heppner recently constructed a shared pedestrian/bikeway funded through ODOT-administered grant funds.

OTHER REVENUE SOURCES NOT CURRENTLY USED IN MORROW COUNTY

Transportation System Development Charges

A transportation system development charge (SDC), also referred to as a transportation impact fee (TIF), is a fee charged to new development to offset a portion of the costs for necessary transportation improvements to the entire system. SDCs are also applicable to water and sewer. The fee is usually based on the number of new trips generated by a development, either during a peak hour or on a daily basis. ORS 223.297 to 223.314 describe the requirements that a SDC must meet and the method of determining the amount of the fee, which is based on the total cost of eligible improvements over the planning timeframe, typically 20 years. Generally, SDCs can only be applied to transportation projects identified in a jurisdiction's capital facilities plans. Developments that are conditioned to improve specific facilities to mitigate the development's impact can receive a credit against their SDC, subject to rules governing which facilities are eligible for SDC credits, and the specific components of improvements for which the developer can receive a credit. For example, a proposed shopping center development might be conditioned to widen an adjacent roadway or install a traffic signal at a nearby intersection, and could receive a credit for the cost of that work up to the amount of that development's SDC assessment. Should the County elect to enact a transportation SDC, the TSP recommends that traffic impact analyses (TIAs) be required of new development over a certain minimum threshold, to assess the impact to county-controlled facilities. Morrow County can then collect SDC fees based on the number of trips generated by new development and use the funds to construct or maintain the County's roadway system. Creating an SDC program first requires a countywide analysis of future transportation system needs, improvement costs, potential development, and the extent to which future development should be responsible for those costs.

Local Improvement Districts

State law allows jurisdictions to fund public improvements through the development of Local Improvement Districts (LIDs). This source allows either property owners or local jurisdictions to approve an LID as a method of funding street, sidewalk, or other improvements. An LID allows the cost of improvements to be shared among those most to benefit from the improvement. Costs are normally assessed either by property frontage, building square footage, or other method. Property owners usually have the option of paying for the improvement up front or apportioning the costs out over a specified term through financing through the jurisdiction. The county or city must adopt an LID Ordinance to identify the LID boundary and the repayment provisions. A difficulty of LIDs is that sufficient support among affected property owners must first be obtained to approve its implementation.

Street Utility Fees

A street utility fee is an assessment on all businesses and household to fund improvements to the transportation system. The fee differs from an LID in that the assessment is usually based on the type of land use and is based on the expected number of trips to be generated by that type of use. Differing fee schedules are normally developed for commercial and residential properties. The City of Medford, Oregon implemented such a fee to operate and maintain its city street system.

FINANCING OPTIONS

Morrow County may require financing in order to accumulate the funds required to improve its transportation system. Financing allows the County to accrue debt in order to fund roadway improvements, which it then can pay back as revenue sources become available. This allows the County to initiate roadway improvements sooner or provide a local match to additional funding sources so that the improved roadway network can be used to attract new businesses and residents that should increase its tax base. There are two main types of financing available: general obligation bonds and revenue bonds.

General Obligation Bonds

General obligation bonds are bond issues that are repaid by a voter-approved property tax levy. Whether voters approve a property tax levy to fund repayment of the bond depends on the whether the project or projects are perceived as being a benefit to a majority of the county residents.

Revenue Bonds

On the other hand, revenue bonds are sold by a jurisdiction and repaid with "revenue" from an enterprise fund. The most common examples are for sewer or water facilities where service rates are used to repay the bond. The bond's rating and interest rate is generally based on the reliability of the revenue source. In Morrow County's case, revenue bonds could be sold to fund improvements with a portion of vehicle fuel tax revenues used as the method of repayment.

CHAPTER 8
REGULATIONS AND ORDINANCE MODIFICATIONS

INTRODUCTION

The Transportation Planning Rule (TPR), OAR Section 660-012, requires that each jurisdiction in the state of Oregon adopt a transportation system plan (TSP) and make amendments to its land use regulations that support the implementation of the plan. ***Appendix E*** contains changes to the Morrow County Subdivision Code and Zoning Ordinance that are recommended to implement the TSP and conform to the TPR. This chapter provides a brief summary of the sections with recommended changes.

RECOMMENDED MODIFICATIONS TO THE MORROW COUNTY SUBDIVISION CODE SECTION 8.020 (STREETS)

- *Section 8.020.B Design and Construction Approval* requires that plans for roadways to be constructed as part of a development, and subsequently dedicated as public right-of-way, to be signed by a registered professional engineer. The County Public Works Department is responsible for inspection of new roads proposed to be dedicated as public right-of-way.

- *Section 8.020.C Minimum Right-of-Way and Roadway Width* summarizes the minimum roadway dimensions. This section also notes that additional right-of-way may be required to conform to applicable design standards (e.g., where slopes, soil types or other issues require additional right-of-way to meet design standards).

- *Section 8.020.R Access Management* incorporates current State of Oregon standards for access onto state facilities. It addresses minimum distances required between new public or private accesses onto state highways. Interchange area access management standards are incorporated by reference. Proposed County road access management standards for minimum distance between access points on County arterials, collectors and local roads are summarized.

- *Section 8.020.T Driveway Standards* recommends minimum and maximum driveway widths. Section 8.020.T also calls out driveway design standards, including a requirement for a paved apron at any new connection from an unpaved facility onto a paved County roadway.

- *Section 8.020.AB Private Roadways Outside Urban Growth Boundaries* lists requirements applying to new private roads constructed outside existing urban growth boundaries.

RECOMMENDED MODIFICATIONS TO THE MORROW COUNTY ZONING ORDINANCE, ARTICLE 4 (SUPPLEMENTARY PROVISIONS)

- *Section 4.010 Access* includes County access permit requirements; minimum access spacing requirements on state highways, in interchange influence areas, and on County roads; and the mechanism for interim access when minimum access spacing standards cannot be met.

- *Section 4.020 Sight Distance* replaces sections 4.020 and 4.030 in the existing County zoning code.

- *Section 4.035 Permit Requirements* adds consent to participate agreement to the permit requirements for development that access local roads that are not improved to County standards.

- *Section 4.040 Off-Street Vehicle Parking Requirements* includes minor modifications to off-street parking requirements, based on updated off-street parking data published by the Institute of Transportation Engineers.

- *Section 4.045 Bicycle Parking Requirements* (new) applies to development applications within Urban Growth Boundaries, to comply with the Transportation Planning Rule.

- *Section 4.050 Off-Street Parking and Loading* includes two new provisions. The first addresses parking designated for people with disabilities, and the second allows a reduction for required parking for specific residential land uses.

- *Section 4.060 Design and Improvement Standards – Parking Lots* exempts single-family and duplex dwellings from existing requirements for durable parking surfaces and visibility screens adjacent to parking areas. A revised table of off-street parking design standards is recommended to constrain the options for off-street parking angles.

- *Section 4.070 Sign Limitations and Regulations* is amended to require sign placement at any access point to meet sight distance standards, and sign placement along Scenic Byways or other similarly designated roadways to meet applicable sign placement criteria.

- *Section 4.160 Standards for Transportation Improvements* is amended to address no-spray zones, cattle guard placement, and pavement apron requirements at the intersection of gravel roads or driveways with paved County roads. Section 4.160 also includes recommended changes applying to construction of private streets outside Urban Growth Boundaries.

- *Section 4.165 Site Plan Review* (new) specifies clear and objective standards for ministerial review of development applications conducted without a public hearing.

CHAPTER 9
TRANSPORTATION PLANNING RULE COMPLIANCE

INTRODUCTION

In 1991, the Oregon Transportation Planning Rule (TPR), OAR 660-12-045, was adopted by the Oregon Department of Land Conservation and Development (DLCD) with concurrence of the Oregon Department of Transportation (ODOT). The TPR requires that all jurisdictions adopt an approved transportation system plan (TSP). This section states each of the required TSP elements and shows how the Morrow County TSP meets each applicable requirement of the TPR as of March 15, 2005.

COMPLIANCE ANALYSIS

The TPR requires that jurisdictions take four basic actions to implement their TSP. These include the following:

- Amend land use regulations to reflect and implement the TSP.
- Clearly identify which transportation facilities, services, and improvements are allowed outright, and which will be conditionally permitted or permitted through other procedures.
- Adopt land use or subdivision ordinance measures consistent with applicable federal and state requirements to protect transportation facilities, corridors, and sites for their identified functions, including access management and control, protection of public use airports, coordinated review of land use that could affect transportation facilities, conditional approval of development to minimize transportation impacts, regulations regarding notice, regulations to ensure consistency with the TSP.
- Adopt land use or subdivision regulations to provide safe and convenient pedestrian and bicycle circulation and bicycle parking, and ensure that new development provides on-street streets and accessways that provide reasonably direct routes for pedestrian/bicycle travel.
- Establish street standards that minimize pavement width and total right-of-way.

Morrow County has made changes to several areas to accomplish these requirements. The County has adopted a set of policies that were created as part of the development of the original TSP, which have been reviewed and modified as appropriate for the 2005 TSP (Chapt er 2). Procedures to implement these policies have also been developed (Chapter 6). These procedures include new road standards, a traffic impact analysis (TIA) procedure, and a clarification of the approval process for development.

Table 9-1 shows an analysis of the requirements and how they have been met.

TABLE 9-1
TPR COMPLIANCE ANALYSIS

TPR Required Elements	Morrow County 2005 TSP
1. Amend land use regulations to reflect and implement the TSP.	• Land use goals and policies are included in Chapter 2 of the TSP that support and protect future transportation corridors. • Recommended changes to the county zoning regulations and land use ordinance are contained in Appendix E of the TSP including modified land use regulations and development approval processes. • A TSP recommendation for guidelines for traffic impact studies is included in Appendix E.
2. Clearly identify which transportation facilities, services and improvements are allowed outright and which will be conditionally permitted or permitted through other procedures.	• Coordination/Process Policies 1.5-1.8 identify measures to plan, schedule, and fund projects through the capital improvement program. • Changes to the county zoning regulations and land use ordinance have been recommended as contained in Appendix E of the TSP.
3. Adopt land use or subdivision ordinance measures consistent with applicable federal and state requirements to protect transportation facilities, corridors, and sites for their identified functions, to include the following topics:	
• Access and management control.	• Land Use Policy 2.4 requires new developments provide appropriate access to county roadways. • Land Use Policy 2.9 requires the preparation of an access management plan and use of ODOT standards in the interim. • Modifications to county access control standards are included in Appendix E.
• Protection of public use airports.	• The County has adopted Goal 7 and Air Transportation Policies 7.3, 7.5, and 7.6 to protect public use airports.

TABLE 9-1
TPR COMPLIANCE ANALYSIS

TPR Required Elements	Morrow County 2005 TSP
• Coordinated review of land use decisions potentially affecting transportation facilities.	• Coordination Policies 1.1, 1.2, 1.3 and 1.4 call for the coordination of planning activities with the cities, Port of Morrow, adjacent counties, ODOT, and DLCD.
• Conditions to minimize development impacts to transportation facilities.	• Land Use Policy 2.2 requires the identification and reservation of future transportation corridors. • Land Use Policy 2.5 requires new development to identify impacts and provide mitigation. • Land Use Policy 2.6 calls for the dedication of right-of-way were appropriate. • Traffic impact analyses are required for all developments creating more than 400 average daily trips.
• Regulations to provide notice to public agencies providing transportation facilities and services of land use applications that potentially affect transportation facilities.	• Coordination Policies 1.1, 1.2, 1.3 and 1.4 call for the coordination of planning activities with the cities, Port of Morrow, adjacent counties, ODOT, and DLCD.
4. Adopt land use or subdivision regulations to provide safe and convenient pedestrian and bicycle circulation and bicycle parking, and ensure that new development provides on-street streets and accessways that provide reasonably direct routes for pedestrian/bicycle travel.	• Roadway System Policy 5.2 requires the development of new roadways to meet the revised standards that provide improved bicycle and pedestrian facilities. • Bicycle, Pedestrian, Equestrian, and Transit Policy 6.1 calls for the development of new roadway design standards to accommodate bicycle, pedestrian and equestrian travel • Bicycle, Pedestrian, Equestrian, and Transit Policy 6.3 encourages the development of multi-use paths and trails. • Roadway design standards are included in the TSP in Chapter 6, and in the implementation ordinances in Appendix E.
5. Establish street standards that minimize pavement width and total right-of-way.	• County road standards are included in the TSP in Chapter 6 and Appendix E that represent minimum design standards

Appendix A
Open House Comment Summaries

MITCHELL NELSON

LAND USE & COMMUNITY PLANNING

LANDSCAPE ARCHITECTURE

PROJECT MANAGEMENT

DEVELOPMENT STRATEGIES

2116 NW WILSON STREET

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Morrow County Transportation System Plan Update

Public Meeting 1 – Meeting Minutes

Meeting Date November 30, 2004 6:00 Stokes Landing, Irrigon

Issues Discussed-

After lighting the Hanukah Menorah, the meeting commenced.

Comments raised include:

1 Several traffic volumes on map appear to be wrong, particularly along Hwy 74 The future and existing volumes are the same. The consultants will review and correct any errors.

2 People asked how improvement priorities are set. Burke O'Brien and Karla answered that they are set via a Road Committee and Public Works. Projects are also recommended to get on ODOT STIP List

2 Other transportation modes were discussed. One person brought up equestrian needs- many residents are riding their horses to the fairground and urban locations. One of the rest stops along I-84 has an exercise area for horses. There are also trails along highways for horses.

3 Several people said that the Olson Road overpass should be a top priority project. Burke said that the estimate for this project was $9 million. It will be placed on the County TSP and is listed in the City of Boardman TSP.

4 Related to the Olson Rd overpass, one woman said that she and others were in favor of having some art on the overpass similar to the Dalles to help define the community. ODOT said that they are working with many communities on this issue and that if this project proceeds, their will be several public meetings to gather input about this.

5 Tillamook Cheese is going ahead with an expansion that will have an additional traffic impact.

6. Kunze Road Realignment-
One realignment project was just completed this past fall- to correct the alignment with Main Street.
Burke O'Brien then discussed that he has funding from ODOT ($2.7 Mil) in 2006 STIP and Fed transportation bill to reconstruct Kunze from Tower to South Main. He said that since this project is now over funded some of the funds would be diverted over to Depot Lane improvements

7 People were concerned about safety at Cutsforth Corner and were surprised at the low

number of crashes.
Howard Stein commented that CTS had visited the site They will make safety recommendations here and at other locations. Crash analysis is based on reported crashes. Individuals running off the road are not included in the crash data.

8 OTIA/Regional Transportation Committee-
There was discussion that Morrow county did very well with the new round of this program, but the funds were grants that had to be paid back, even by local jurisdictions.

9 Trucks- There was discussions that truck traffic in eastern OR is increasing and that the loads are heavier compared to other portions of the state justifying better funding.

10 Equity Funding-Burke said that he recently got hold of an objective study that reviewed how ODOT allocated funding to the counties/local agencies. This study concluded after examining several ways to measure it, was that counties in eastern OR were not funded adequately to meet their basic maintenance needs (and in relation to their contribution/roads) compared to counties in the Willamette Valley. The valley counties receive more funds than they need for maintenance and therefore have money for capital improvement projects.
Burke said he would forward a copy of this study to CTS.

A survey was distributed. The attendees were asked to fill it out and return it to Joyce Jackson.

All attempts were made to accurately reflex the context of the meeting. Please make note of any errors or omissions for inclusion in this record.

Ideas often come to mind after the meeting. Please mail, email, or telephone your additional comments to Joyce Jackson at – Mitchell Nelson Group- 2116 NW Wilson Street – Portland, OR 97210 - 503 225-0822 x 5 - jlj@mngi.com

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MITCHELL NELSON

LAND USE & COMMUNITY PLANNING

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Morrow County Transportation System Plan Update

Public Meeting 2 – Meeting Minutes

Meeting Date February 7, 2005 6:00 Stokes Landing, Irrigon

Issues Discussed-

A survey was distributed. The attendees were asked to fill it out and return it to Joyce Jackson.

The public was welcomed to the meeting. They were asked to look at the plans and note any concerns about the county transportation system that they might have.
Howard Roll then reviewed the project list and opened up the meeting for questions.

Community member reiterated their desire to have artwork that represents the region incorporated into the design of a new overpass.
Cheryl Jarvis-Smith explained that when the overpass project begins their will be several public involvement sessions.

Citizens identified the intersection of Bombing Range Road and Highway 207 as being a dangerous intersection. The intersection has several problems. The roads meet at an acute angle and that, combined with the topography, greatly limits the site distance from Bombing Range Road to the north on Highway 207. There is a bridge immediately to the right of Bombing Range Road on Hwy 207, which provides a very small turning radius for a right turn onto Hwy 207. This forces vehicles into opposing lanes to make the right (southerly) turn.

Emergency access points along Heritage trail should be provided to insure adequate access for emergency vehicles and staff

Citizens pointed out the dwindling pedestrian path along the new railroad over pass road. The overpass is in the City of Boardman. Barry Beyerle, Boardman Community Development Director, responded that he is aware of the problem and is hoping to improve the pedestrian situation by re-striping the drive aisle to provide a wider pedestrian area.

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Appendix B
Road Information Database

MORROW COUNTY TRANSPORTATION SYSTEM PLAN - INVENTORY OF EXISTING FACILITIES

Jurisdiction	Road Num	Road Name:	Milepost St	Milepost Et	Federal Cl	Surface and Mileage	Right of Way	ADT	Remarks	County Cla
County	712	ALPINE, North of	0	0.48	RL	DIRT				RL
	641	BENGE SOUTH	0	1.97	RL	DIRT				RL
	548	DALZELL	0	0.89	RL	DIRT				RL
	580	EAST OF BOARDMAN-IONE RD	0	1.07	RL	DIRT				RL
	555	EIGHTMILE	0	2.41	RL	DIRT				RL
	539	LINDSTROM	0	2.03	RL	DIRT				RL
	513	NO NAME	0	0.96	RL	DIRT				RL
	549	NO NAME	0	0.88	RL	DIRT				RL
	610	NO NAME	0	1.83	RL	DIRT				RL
	634	NO NAME	0	1.3	RL	DIRT				RL
	650	NO NAME	0	1.06	RL	DIRT				RL
	664	NO NAME	0	2.24	RL	DIRT				RL
	744	NO NAME	0	2.01	RL	DIRT				RL
	768	NO NAME	0	1.75	RL	DIRT				RL
	674	TOLL ROCK	0	4.55	RL	DIRT				RL
	769	WARREN ST	0	0.08	RL	DIRT				RL
	573	WEST OF KECK CANYON	0	0.88	RL	DIRT				RL
	552		0	4.6	RL	DIRT				RL
	825		0	4.55	RL	DIRT				RL
	586	NO NAME	0	0.14	RL	DIRT				RL
	706	NO NAME	0	2.2	RL	DIRT 2.29				RL
	774	(HARMAN)	0	0.12	RL	GRAVEL				RL
	683	(Lundsford Canyon)Upper Willow	0	3.23	RL	GRAVEL				RL
	543	(MORGAN)	0	0.09	RL	GRAVEL				RL
	752	23RD ST	0	0.24	RL	GRAVEL				RL
	726	2ND WEST ST	0	0.32	RL	GRAVEL				RL
	835	3RD WEST ST	0	0.15	RL	GRAVEL				RL
	837	7TH WEST ST	0	0.44	RL	GRAVEL				RL
	538	ALBERT LINDSTROM	0	3.14	RL	GRAVEL				RL
	843	ARCHIE BALL	0	2.79	RL	GRAVEL				RL
	518	B/T MCNABB W & ZINTER	0	0.69	RL	GRAVEL				RL
	710	BECKET-PORCUPINE	0	2.27	RL	GRAVEL				RL
	641	BENGE NORTH	0	3.63	RL	GRAVEL				RL
	576	BERGEVIN	0	4.07	RL	GRAVEL				RL
	616	BERT PECK	0	2.21	RL	GRAVEL				RL
	703	BOARD CREEK	0	3.36	RL	GRAVEL				RL
	629	BOARDMAN CANAL	0	2.64	RL	GRAVEL				RL
	556	BUTTERFLY FLAT RNCH	0	0.33	RL	GRAVEL				RL
	795	CAMPBELL	0	4.02	RL	GRAVEL				RL
	697	CANYON	0	8.99	RL	GRAVEL				RL
	780	CHURCH ST	0	0.16	RL	GRAVEL				RL
	686	CLARK-RICE-BEACH	0	2.51	RL	GRAVEL				RL
	652	COYOTEATION RD	0	0.56	RL	GRAVEL				RL
	737	CUTSFORTH-BASE LINE	0	2.36	RL	GRAVEL				RL
	572	DALE BROWN	0	2.75	RL	GRAVEL				RL
	731	DOLVEN	0	1.35	RL	GRAVEL				RL
	687	ELY	0	0.98	RL	GRAVEL				RL

		MORROW COUNTY TRANSPORTATION SYSTEM PLAN - INVENTORY OF EXISTING FACILITIES								
Jurisdiction	Road Num	Road Name:	Milepost S	Milepost E	Federal Cl	Surface and Mileage	Right of Way	ADT	Remarks	County Cla
County	671	EUBANKS	0	2.8	RL	GRAVEL				RL
	553	EWING	0	0.87	RL	GRAVEL				RL
	771	FK WILLOW CR	0	4	RL	GRAVEL				RL
	535	FOURMILE CANYON	0	1.9	RL	GRAVEL				RL
	811	FREEZEOUT RIDGE	0	4.12	RL	GRAVEL				RL
	626	FROM STATE 207 TO MILLER'S	0	1.68	RL	GRAVEL				RL
	523	GABBERT-EIGHTMILE	0	4.29	RL	GRAVEL				RL
	708	HARDMAN RIDGE	0	2.45	RL	GRAVEL				RL
	803	HISLER to JOHNSON GRADE	0	4.21	RL	GRAVEL				RL
	558	HUGHES-HIRL	0	1.94	RL	GRAVEL				RL
	550	IMMIGRANT	0	12.21	RL	GRAVEL				RL
	526	JOHNSON GRADE	0	4.83	RL	GRAVEL				RL
	688	KEMP	0	2.5	RL	GRAVEL				RL
	813	KENNY	0	9.95	RL	GRAVEL				RL
	602	KENNY RANCH (SANDHOLLOW)	0	2.51	RL	GRAVEL				RL
	511	KINCAID-HOLTZ	0	4.92	RL	GRAVEL				RL
	607	KINCAID-HOLTZ	0	1	RL	GRAVEL				RL
	692	KLINGER-DOHERTY	0	3.59	RL	GRAVEL				RL
	762	LAWRENCE-JONES	0	1.29	RL	GRAVEL				RL
	524	LIBERTY SCHOOL	0	1	RL	GRAVEL				RL
	509	LOVGREN	0	1.51	RL	GRAVEL				RL
	755	LOWER SAND HOLLOW	0	0.9	RL	GRAVEL				RL
	764	MCELLIGOTT	0	2.18	RL	GRAVEL				RL
	557	MCLAUGHLIN	0	2.41	RL	GRAVEL				RL
	520	MCNABB WEST	0	7.39	RL	GRAVEL				RL
	696	MELVILLE	0	4.04	RL	GRAVEL				RL
	639	MORGAN CEMETERY	0	0.28	RL	GRAVEL				RL
	653	NELSON	0	1.56	RL	GRAVEL				RL
	525	NO NAME	0	2.03	RL	GRAVEL				RL
	560	NO NAME	0	2	RL	GRAVEL				RL
	590	NO NAME	0	2.19	RL	GRAVEL				RL
	617	NO NAME	0	0.78	RL	GRAVEL				RL
	677	NO NAME	0	1.48	RL	GRAVEL				RL
	720	NO NAME	0	0.14	RL	GRAVEL				RL
	738	NO NAME	0	3.23	RL	GRAVEL				RL
	740	NO NAME	0	0.75	RL	GRAVEL				RL
	743	NO NAME	0	0.65	RL	GRAVEL				RL
	595	NOLAN	0	5.99	RL	GRAVEL				RL
	544	NR HOLTZ-KINCAID	0	0.5	RL	GRAVEL				RL
	734	PATTERSON FERRY ELEV	0	0.12	RL	GRAVEL				RL
	583	PETERSON	0	0.65	RL	GRAVEL				RL
	647	PIEPER CANYON	0	4.37	RL	GRAVEL				RL
	672	RHEA	0	0.83	RL	GRAVEL				RL
	642	SAM BOARDMAN AVE	0	0.63	RL	GRAVEL				RL
	713	SHOBE CANYON	0	4.92	RL	GRAVEL				RL
	736	Stock Dr to Hwy 207	0	0.38	RL	GRAVEL				RL
	614	STOCK DRIVE	0	4.4	RL	GRAVEL				RL

		MORROW COUNTY TRANSPORTATION SYSTEM PLAN - INVENTORY OF EXISTING FACILITIES								
Jurisdiction	Road Numl	Road Name:	Milepost St	Milepost E	Federal Cla	Surface and Mileage	Right of Way	ADT	Remarks	County Cla
County	676	STOCK DRIVE	0	5.04	RL	GRAVEL				RL
	567	SUMNER	0	2.12	RL	GRAVEL				RL
	515	SWANSON	0	2.51	RL	GRAVEL				RL
	802	TEWS RD	0	0.65	RL	GRAVEL				RL
	827	TONY VEY	0	4.37	RL	GRAVEL				RL
	760	V DALZELL	0	2.2	RL	GRAVEL				RL
	663	WELLS SPRING	0	4.39	RL	GRAVEL				RL
	582	WEST OF 809 (ELLA)	0	0.62	RL	GRAVEL				RL
	770	WILLOW ST	0	0.24	RL	GRAVEL				RL
	571	WYLAND	0	9.92	RL	GRAVEL				RL
	512	ZINTER	0	2.87	RL	GRAVEL				RL
	534		0	1.84	RL	GRAVEL				RL
			0	3.23	RL	GRAVEL				RL
	635	DEADMAN HILL	0	7.48	RL	GRAVEL				RL
	792	DON KENNY	0	0.64	RL	GRAVEL				RL
	533	PORCUPINE	0	2.24	RL	GRAVEL				RL
	541	STEFANI	0	2.37	RL	GRAVEL				RL
	806	(MORGAN)	0	0.21	RL	GRAVEL .01				RL
	684	FK WILLOW CR	0	4	RL	GRAVEL .10				RL
	845	HISLER	0	9.75	RL	GRAVEL .22 DIRT 9.53				RL
	636	LINDSAY WEST	0	0.73	RL	GRAVEL .26 DIRT .47				RL
	565	MCCABE	0	2.04	RL	GRAVEL .55 DIRT 2.39				RL
	754	15TH ST	0	0.7	RL	GRAVEL .62				RL
	722	OREGON AVE	0	1.31	RL	GRAVEL .67				RL
	606	BLUE MTN RANCH	0	1.34	RL	GRAVEL .82 DIRT .52				RL
	516	IONE RADIO TOWER	0	1.47	RL	GRAVEL .86				RL
	844	ARBUCKLE MTN	0	5.34	RL	GRAVEL .86 DIRT 4.48				RL
	551	TEWS	0	2.53	RL	GRAVEL .92 DIRT 1.61				RL
	510	BAKER-PAUL TEWS	0	2.5	RL	GRAVEL 1.01 DIRT 2.50				RL
	517	M.BAKER SOUTH	0	1.5	RL	GRAVEL 1.05				RL
	633	CAMAS PRAIRIE	0	3.93	RL	GRAVEL 1.75 DIRT 2.18				RL
	761	IRRIGON	0	4.21	RL	GRAVEL 2.20				RL
	638	IONE-BOARDMAN	0	2.29	RL	GRAVEL 2.29				RL
	507	LUNDELL	0	2.44	RL	GRAVEL 2.44				RL
	819	HUGHES-HIRL	0	5.4	RL	GRAVEL 2.51 DIRT 2.89				RL
	804	MORPHINE SPRING	0	5.64	RL	GRAVEL 2.58 DIRT 3.06				RL
			3.4	10.04	RL	GRAVEL 2.94 DIRT 3.70				RL
	705	SPRING HOLLOW	0	10.44	RL	GRAVEL 3.09 DIRT 7.35				RL
	601	CAMAS PRAIRIE	0	5.31	RL	GRAVEL 3.30 DIRT 2.01				RL
	605	DAVE RIETMANN	0	6.04	RL	GRAVEL 4.06 DIRT 1.98				RL
	637	EMMA WHITE (BECHDOLT)	0	8.5	RL	GRAVEL 4.44 DIRT 4.06				RL
	799	RITTER	0	11.6	RL	GRAVEL 4.64 DIRT 6.36				RL
	569	DALE BROWN	0	5.41	RL	GRAVEL 4.73 DIRT .68				RL
	528	BELL CANYON	0	5.85	RL	GRAVEL 4.81				RL
	585	BARLOW CANYON	0	4.88	RL	GRAVEL 4.88				RL
	721	WILSON CREEK	0	4.98	RL	GRAVEL.67				RL
	514	AIRPORT	0	0.4	RL	PAVED				RL

MORROW COUNTY TRANSPORTATION SYSTEM PLAN - INVENTORY OF EXISTING FACILITIES

Jurisdiction	Road Num	Road Name:	Milepost St	Milepost En	Federal Cla	Surface and Mileage	Right of Way	ADT	Remarks	County Cla
County	655	BASE LINE	0	9.36	RL	PAVED				RL
	716	COUNTY LINE TO UMATILLA	0	0.41	RL	PAVED				RL
	651	CUTSFORTH-BASE LINE	0	2.59	RL	PAVED				RL
	599	JORDAN GRADE	0	1.63	RL	PAVED				RL
	739	KILKENNY	0	2.93	RL	PAVED				RL
	817	KNIGHTON	0	0.47	RL	PAVED				RL
	767	M BAKER	0	2.62	RL	PAVED				RL
	680	MILLER-CUTSFORTH	0	1.62	RL	PAVED				RL
	578	MYERS	0	11.15	RL	PAVED				RL
	689	OLSON	0	0.75	RL	PAVED				RL
	818	ORDNANCE	0	0.69	RL	PAVED				RL
	594	PAUL BROWN (BUNKER HILL)	0	3.59	RL	PAVED				RL
	657	PETERS	0	1.52	RL	PAVED				RL
	561	RIPPEE	0	0.74	RL	PAVED				RL
	733	SAND HOLLOW	0	9.45	RL	PAVED				RL
	741	SAND HOLLOW	0	4.08	RL	PAVED				RL
	527	SOCIAL RIDGE	0	4.78	RL	PAVED				RL
	562	TOM CAMP	0	1.26	RL	PAVED				RL
	504	TURNER	0	2.17	RL	Paved				RL
	718	IDAHO AVE	0	0.52	RL	PAVED				RL
	542	FOURMILE TO CECIL	0	3.18	RL	PAVED .10 GRAVEL 3.08				RL
	531	HEPPNER HIGH SCH	0	0.24	RL	PAVED .14				RL
	789	HANNA-ARBUCKLE	0	15.57	RL	PAVED .20 GRAVEL 15.37				RL
	588	STRAWBERRY EAST	0	7.87	RL	PAVED .20 GRAVEL 3.49				RL
	530	ELY CANYON	0	2.96	RL	PAVED .27 GRAVEL 2.69				RL
	766	OLD ALIGNMENT	0	1.54	RL	PAVED .31 GRAVEL 1.23				RL
	505	Morrow -Gilliam Co Line	0	2.56	RL	PAVED .35 GRAVEL 2.21				RL
	500	MCELLIGOTT	0	1.93	RL	Paved .40, Gravel 1.53				RL
	579	JOHN BERGSTROM	0	3.33	RL	PAVED .48 GRAVEL 2.85				RL
	620	AIRPORT	0	7.6	RL	PAVED .50 GRAVEL 7.10				RL
	537	MORGAN	0	4.61	RL	PAVED .50 GRAVEL 4.11				RL
	506	BILL BERGSTROM	0	4.02	RL	PAVED .51 GRAVEL 2.92				RL
	747	MILLER LN	0	1.34	RL	PAVED .52 GRAVEL .82				RL
	529	M BAKER NORTH TO SOUTH	0	2.66	RL	PAVED .52 GRAVEL 2.14				RL
	502	WARREN	0	2.28	RL	Paved .59, Gravel 1.69				RL
	816	SLAUGHTER	0	0.71	RL	PAVED .63 GRAVEL .08				RL
	645	CEMETERY HILL (LEXINGTON)	0	2.62	RL	PAVED .75 GRAVEL 1.65				RL
	723	DEE COX	0	4.98	RL	PAVED .77 GRAVEL 4.21				RL
	508	ART DALZELL- RANSOM	0	5.23	RL	PAVED 1. DIRT 4.23				RL
	698	BARCLAY	0	4.39	RL	PAVED 1.06 GRAVEL3.33				RL
	777	4TH WEST ST	0	2.26	RL	PAVED 1.08 GRAVEL .79				RL
	622	POINTER	0	4.63	RL	PAVED 1.48 GRAVEL 3.15				RL
	656	PAUL SMITH	0	1.58	RL	PAVED 1.58				RL
	724	WASHINGTON AVE	0	2.37	RL	PAVED 1.58				RL
			0	2.37	RL	PAVED 1.58				RL
	532	ELY CANYON	0	4.89	RL	PAVED 1.66 GRAVEL 3.23				RL
	702	ALPINE-NELSON	0	4.57	RL	PAVED 2. GRAVEL 2.57				RL

		MORROW COUNTY TRANSPORTATION SYSTEM PLAN - INVENTORY OF EXISTING FACILITIES								
Jurisdiction	Road Num	Road Name:	Milepost St	Milepost E	Federal Cl	Surface and Mileage	Right of Way	ADT	Remarks	County Cla
County	643	MEADOWBROOK FARM	0	3.45	RL	PAVED 2.02 GRAVEL 1.43				RL
	735	JERRY DOUGHERTY	0	10.13	RL	PAVED 2.13 GRAVEL 8.				RL
	536	MORGAN EAST	0	6.17	RL	PAVED 2.65 GRAVEL 3.52				RL
	707	HALE RIDGE	0	8.77	RL	PAVED 3.04 GRAVEL 5.73				RL
	778	LITTLE BUTTER CR	0	9.91	RL	PAVED 4.18 GRAVEL 5.73				RL
	577	EIGHTMILE	0	10.38	RL	PAVED 4.91 GRAVEL 5.47				RL
	719	STINGEL CANYON	0	13.05	RL	PAVED 9.49 GRAVEL 3.21				RL
	783	2ND ST	0	0.24	RL					RL
	784	3RD ST (HARDMAN)	0	0.1	RL					RL
	909	7TH WEST ST	0	0.81	RL					RL
	908	8TH WEST ST	0	2.18	RL					RL
	927	ALPINE	0	3.94	RL					RL
	931	ALPINE-NELSON	0	0.29	RL					RL
	921	BARAK-MARTIN	0	4.53	RL					RL
	922	BASE LINE-LINDSAY	0	3.02	RL					RL
	873	BERGSTROM	0	0.57	RL					RL
	849	BROWN PRAIRIE	0	11.13	RL					RL
	874	CARLSON	0	2.75	RL					RL
	932	D O NELSON	0	1.42	RL					RL
	890	FALER	0	0.58	RL					RL
	3017	FREEZEOUT RIDGE	0	8.5	RL					RL
	960	FREEZEOUTWAY DR	0	0.37	RL					RL
	848	FRENCH	0	4.91	RL					RL
	852	GURDANE	0	8.88	RL					RL
	850	HALE RIDGE	0	1.8	RL					RL
	591	HARDMAN CEMETERY	0	0.95	RL					RL
	3005	HIGHVIEW CEM	0	0.36	RL					RL
	923	JUNIPER CANYON	0	5.91	RL					RL
	857	KINCAID-HOLTZ	0	4.68	RL					RL
	936	LAUREL	0	0.36	RL					RL
	924	LLOYD MORGAN	0	3.8	RL					RL
	906	NEVADA, 3RD AVE	0	1.28	RL					RL
	929	North of Alpine	0	1.02	RL					RL
	821	NORTH off BIG BUTTER CREEK	0	3.38	RL					RL
	894	OLSON	0	0.59	RL					RL
	911	PATERSON FERRY	0	1.6	RL					RL
	972	RIPPEE	0	0.57	RL					RL
	902	ROOT LN	0	1.01	RL					RL
	904	SLAUGHTER	0	1	RL					RL
	901	TATON	0	2.65	RL					RL
	3003	TOM ST	0	0.15	RL					RL
	3002	W. MAIN ST, Ione	0	0.96	RL					RL
	910	WASHINGTON AVE	0	1.19	RL					RL
	781	WATER ST	0	0.13	RL					RL
	782	WATER ST	0	0.15	RL					RL
			0.8	1.5	RL					RL
			6.19	6.22	RL					RL

MORROW COUNTY TRANSPORTATION SYSTEM PLAN - INVENTORY OF EXISTING FACILITIES

Jurisdiction	Road Numb	Road Name:	Milepost St	Milepost En	Federal Cla	Surface and Mileage	Right of Way	ADT	Remarks	County Cla
County			2.8	8.45	RL					RL
			0.06	0.7	RL					RL
			2.33	5.01	RL					RL
	714		0	0.11	RL					RL
	775		0	2.73	RL					RL
	786		0	0.07	RL					RL
	856		0	4.9	RL					RL
	900		0	0.93	RL					RL
	913		0	0.21	RL					RL
	925		0	1.44	RL					RL
			0.85	11.38	RL					RL
			1.02	1.98	RL					RL
	3013		0	0.6	RL					RL
	3015		0	1.6	RL					RL
	673	**TUPPER**	**0**	**3**	**RMiC**	**GRAVEL**	**40-60**			
	717	**VAN SCHOIACK**	**0**	**2.77**	**RMiC**	**GRAVEL**	**40**			
	570	**BUTTERMILK CANYON**	**0**	**5.94**	**RMiC**	**GRAVEL**	**40**			
	685	**KINZUA**	**0**	**2.33**	**RMiC**	**GRAVEL 2.03 DIRT .30**	**40-66 (EASE.)**			
			4.02	10.55	RMiC	GRAVEL 6.53				
	630	JUNIPER	0	7.47	RMiC	PAVED	40			
	793	LITTLE BUTTER CR	0	17.73	RMiC	PAVED	40			
	729	TURNER	0	1.19	RMiC	PAVED	40 (EASE.)			
	587	MORGAN	0	1.85	RMiC	PAVED .12 GRAVEL 1.73	40			
	704	RIVERSIDE AVE	0	0.06	RMiC	PAVED .20	50			
	711	REDDING	0	2.33	RMiC	PAVED 1.10 GRAVEL 3.91	40			
	612	FULLER CANYON	0	8.35	RMiC	PAVED 2.29 GRAVEL 6.06	40			
			4.88	7.24	RMiC	PAVED 2.36				
	581	BRENNER CANYON	0	3.4	RMiC	PAVED 3.40	40			
	540	BAKER EAST-WEST	0	0.8	RMiC	PAVED 3.82 GRAVEL 5.88	40			
	589	VALBY	0	7.81	RMiC	PAVED 4.85 GRAVEL 2.95	40			
	608	UPPER RHEA CR (PORCUPIN	0	19.78	RMiC	PAVED 4.90 GRAVEL7.14 DIRT 7.74	40	145	North of Marter Ln.	
			2.29	2.8	RMiC	PAVED 6.16				
	785	COURT ST (Balm Fork)	0	7.3	RMiC	PAVED 6.89	40			
	809	H STREET, IONE (ELLA ROAD)	0	9.43	RMiC	PAVED 7.11 GRAVEL 2.23	40-60			
	966	CLARKS CANYON (LEXINGTON MAI	0	16.26	RMiC		40-60			
	847	WESTERN ROUTE	0	3.03	RMiC		40			
			1.5	6.19	RMiC					
			6.22	9.72	RMiC					
			2.37	6.37	RMiC					
			3.23	5.57	RMiC					
			4.92	7.1	RMiC					
	3004		0	1.02	RMiC		40 (EASE.)			
	670	**SUNFLOWER FLAT**	**0**	**10.1**	**RMaC**	**GRAVEL**	**40-60**			
	798	**WILLOW CREEK (SHAW GRADE)**	**0**	**1.25**	**RMaC**	**GRAVEL**	**100-110**			
	668	BIG BUTTER CR	0	3.25	RMaC	PAVED				
	746	BIG BUTTER CR.	0	9.95	RMaC	PAVED	40			
	759	BOMBING RANGE	0	7.32	RMaC	PAVED	60-155			

MORROW COUNTY TRANSPORTATION SYSTEM PLAN - INVENTORY OF EXISTING FACILITIES

Jurisdiction	Road Num	Road Name:	Milepost St	Milepost Ei	Federal Cl	Surface and Mileage	Right of Way	ADT	Remarks	County Cla
County	810	BOMBING RANGE	0	12.36	RMaC	PAVED	100-150	1060	South of I-84	
	546	CECIL	0	2.69	RMaC	PAVED	40			
	603	COAL MINE HILL/DITCH CREEK (WE	0	2.37	RMaC	PAVED	40			
	728	FRONTAGE	0	5.26	RMaC	PAVED	60 (EASE.)			
	681	GOOSEBERRY-IONE (MARKET)	0	19.42	RMaC	PAVED	40-80	225	North of Marter Ln.	
	598	KUNZE	0	9.75	RMaC	PAVED	40	940		
	522	MCNAB WEST (OLEX)	0	5.67	RMaC	PAVED	40	125		
	693	RHEA CREEK (MARKET)	0	18.6	RMaC	PAVED	60			
	678	WILLOW CR	0	18.65	RMaC	PAVED	40-130	165		
	662	WILSON	0	4.17	RMaC	PAVED		1250	East of Main St.	
	584	SOUTH MAIN-KINCAID	0	1.53	RMaC	PAVED .50	80			
	669	ART DALZELL (RIDGE ROAD)	0	8.43	RMaC	PAVED 1.30 GRAVEL 7.13	40			
	559	HOMESTEAD	0	4.02	RMaC	PAVED 4.02	40	135	West of Pole Line Rd.	
	715	(UPPER) RHEA CREEK (BASEY CAN	0	7.56	RMaC	PAVED 4.19 GRAVEL 3.37	40	50		
	971	BOARDMAN-IRRIGON	0	0.85	RMaC		50-110			
	930	PATERSON FERRY	0	4.99	RMaC		60-100	180	North of US 730	
	930	PATERSON FERRY	0	4.99	RMaC		60-100	960	South of US 730	
	905	POLE LINE	0	6.05	RMaC		40	445		
			17.73	20.75	RMaC					
Federal	I-84	Columbia River Highway No. 2	149.5	167.6				13800	East of Main St.	
State	730	Columbia River Highway No. 2	167.6	178.7				7200	South of Irrigon	
	74	Heppner Highway No. 52	0	8.44				140	Morrow/Gilliam Co. line	
	74/207	Heppner Highway No. 52	36.4	45.9				1500	South of Lexington	
	74	Heppner Highway No. 52	45.9	72.7				180	Morrow/Umatilla Co. Line	
	207	Heppner-Spray Highway No. 321	0	24.7				170-330		
	207	Lexington-Echo Highway No. 320	0	19.9				760-1200		
Federal	I-84	Old Oregon Trail No. 6	167.6	177.1				11400	West of Paterson Ferry	
State	206	Wasco-Heppner Highway No. 300	54.9	73.3				80-170		
	206/207	Wasco-Heppner Highway No. 300	73.3	84.1				490-1300		

Compiled from Morrow Co. IRIS Database 2/4/97, updated for 2005 TSP.

No information available for SW, parking, bicycle facilities, condition or actual width

Appendix C
Roadway Standards

ROADWAY STANDARDS

INTRODUCTION

The following roadway standards were developed in conjunction with the Morrow County Public Works Department and follow the design standards set by the American Association of State Highway and Transportation Officials (AASHTO) and the Oregon Department of Transportation (ODOT). Enclosed are eight road standards that reflect the differing design and capacity needs within the County. Generally, roadways of a lower number represent a higher design standard.

- Rural Arterial I
- Rural Arterial II
- Rural Collector I
- Rural Collector II
- Rural Collector III
- Rural Access I
- Rural Access II
- Rural Gravel

RURAL ARTERIAL

Rural arterials are design for roadways where higher traffic volumes are common or along major truck corridors. This standard of road is characterized by long-wearing asphalt concrete pavement over a base of 10 to 18 inches of aggregate. Travel lanes for this standards are 12-feet wide and a minimum of 3 feet of shoulder is provided on each side of the roadway.

RURAL COLLECTOR

Rural collectors represent a second-level standard for road construction. Like rural arterials, rural collectors are paved using two to three inches of asphalt concrete, but provide only eight to nine inches of base aggregate. Travel lanes are still 12-feet wide, but shoulders can be narrow as one foot.

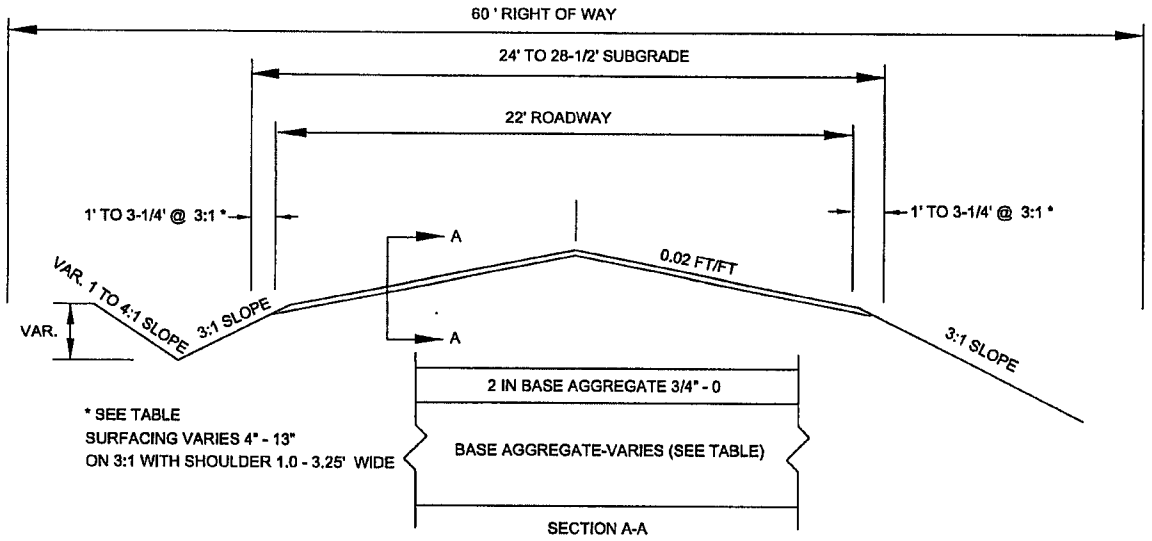
RURAL ACCESS

Rural access roads are lighter duty roads designed mainly for lower travel volumes and fewer truck trips. Rural Access I roads still use asphalt concrete paving, whereas Rural Access II

roads are designed to be unpaved gravel roadways. Base aggregate is only eight inches for this road standard. Travel lanes are specified at nine feet with one-foot shoulders on each side.

RURAL GRAVEL

Gravel roads serve a wide range of needs in Morrow County, and there are gravel roads that serve as higher-classification facilities. The Rural Gravel classification provides a range of cross-sections to accommodate varying needs.



RURAL GRAVEL

(GRAVEL ROAD FOR MULTIPLE FUNCTIONAL CLASSIFICATIONS)

ROADBED SOIL	TRAFFIC LEVEL	AGGREGATE BASE
VERY GOOD	HIGH (ADT > 100)	9 IN
	MEDIUM (ADT 50 - 100)	7 IN
	LOW (ADT < 50)	4 IN
GOOD	HIGH (ADT > 100)	11 IN
	MEDIUM (ADT 50 - 100)	9 IN
	LOW (ADT < 50)	5 IN
FAIR	HIGH (ADT > 100)	13 IN
	MEDIUM (ADT 50 - 100)	10 IN
	LOW (ADT < 50)	5 IN
POOR	HIGH (ADT > 100)	NOT RECOMMENDED
	MEDIUM (ADT 50 - 100)	15 IN
	LOW (ADT < 50)	9 IN
VERY POOR	HIGH (ADT > 100)	NOT RECOMMENDED
	MEDIUM (ADT 50 - 100)	NOT RECOMMENDED
	LOW (ADT < 50)	8 IN

1. ASPHALT CONCRETE (AC) PAVEMENT SHALL BE STANDARD DUTY, CLASS B PER ODOT STANDARD SPECIFICATIONS 00745.
2. BASE AGGREGATE SHALL MEET THE REQUIREMENTS OF ODOT STANDARD SPECIFICATIONS 02630
3. ALTERNATIVE PAVEMENT SECTIONS MAY BE PROPOSED BASED ON A SOILS INVESTIGATION AND PAVEMENT DESIGN BY A LICENSED ENGINEER. ALL CHANGES SHALL BE APPROVED BY THE COUNTY ROAD ENGINEER.
4. DITCH SECTIONS SHALL BE APPROPRIATE TO ACCOMMODATE MAXIMUM STORMWATER FLOW PER ODOT STANDARD SPECIFICATIONS 00745.
5. RIGHT-OF-WAY (R/W) SHOWN IS MINIMUM. ADD'L R/W OR EASEMENT MAY BE REQUIRED FOR CONSTRUCTION IN SLOPED AREAS.

NOT TO SCALE
JUNE 2005

SHEET 5 OF 5

CTS Engineers
CIVIL
TRANSPORTATION
STRUCTURAL
LAND SURVEYING

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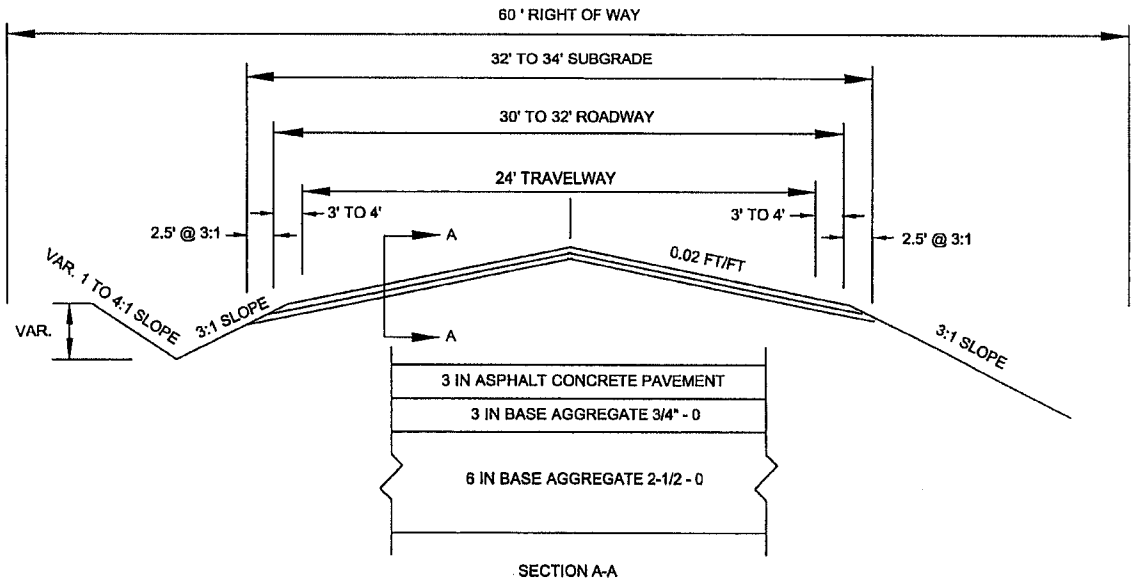
REVISIONS | DESCRIPTION
NO. | DATE

DRAWING TITLE: MORROW COUNTY ROAD STANDARDS TYPICAL SECTIONS

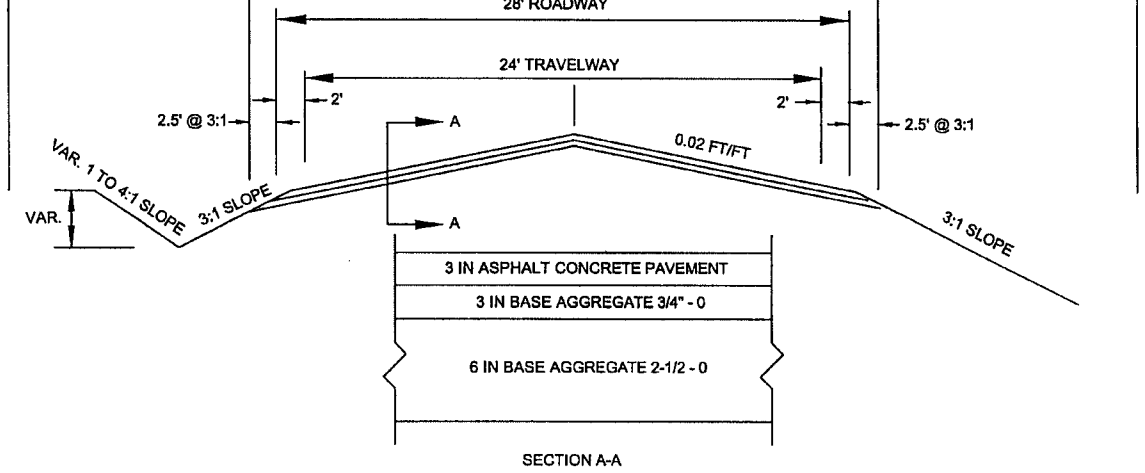
PROJECT: MORROW COUNTY TSP UPDATE
OR04.055.T01

PREPARED FOR: ODOT/ MORROW COUNTY



SECTION A-A

RURAL COLLECTOR I



SECTION A-A

RURAL COLLECTOR II

1. ASPHALT CONCRETE (AC) PAVEMENT SHALL BE STANDARD DUTY, CLASS B PER ODOT STANDARD SPECIFICATIONS 00745.
2. BASE AGGREGATE SHALL MEET THE REQUIREMENTS OF ODOT STANDARD SPECIFICATIONS 02630
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5. RIGHT-OF-WAY (R/W) SHOWN IS MINIMUM. ADD'L R/W OR EASEMENT MAY BE REQUIRED FOR CONSTRUCTION IN SLOPED AREAS.

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JUNE 2005

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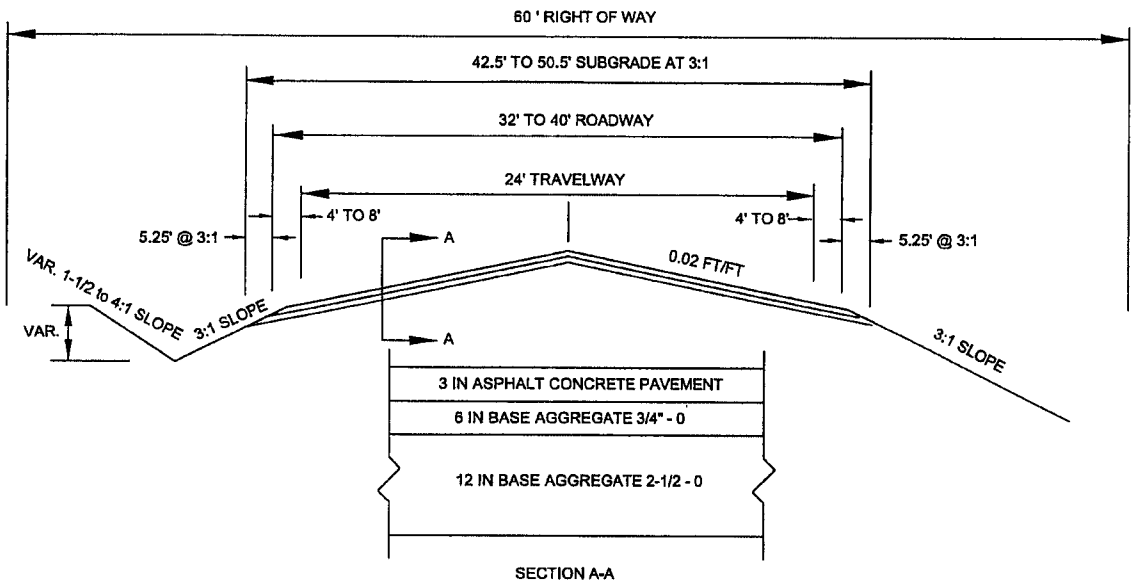
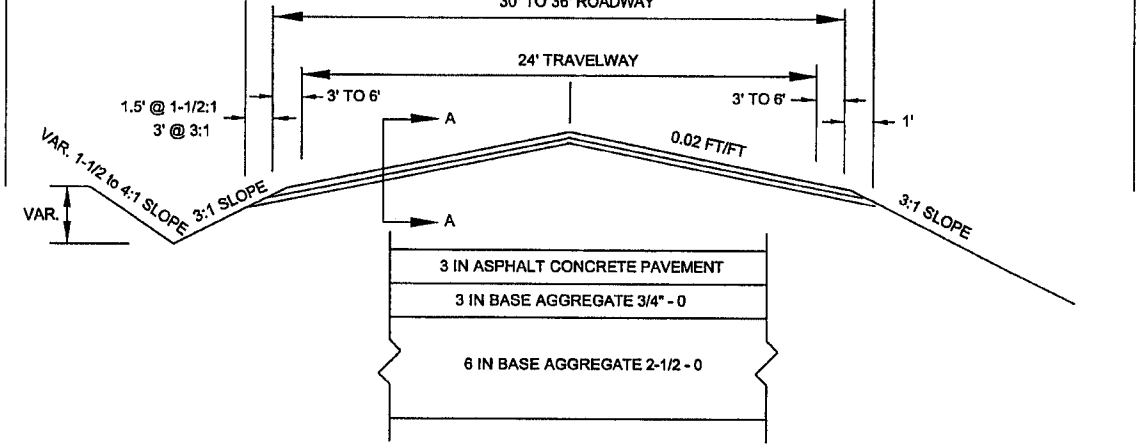


SECTION A-A

RURAL ARTERIAL I



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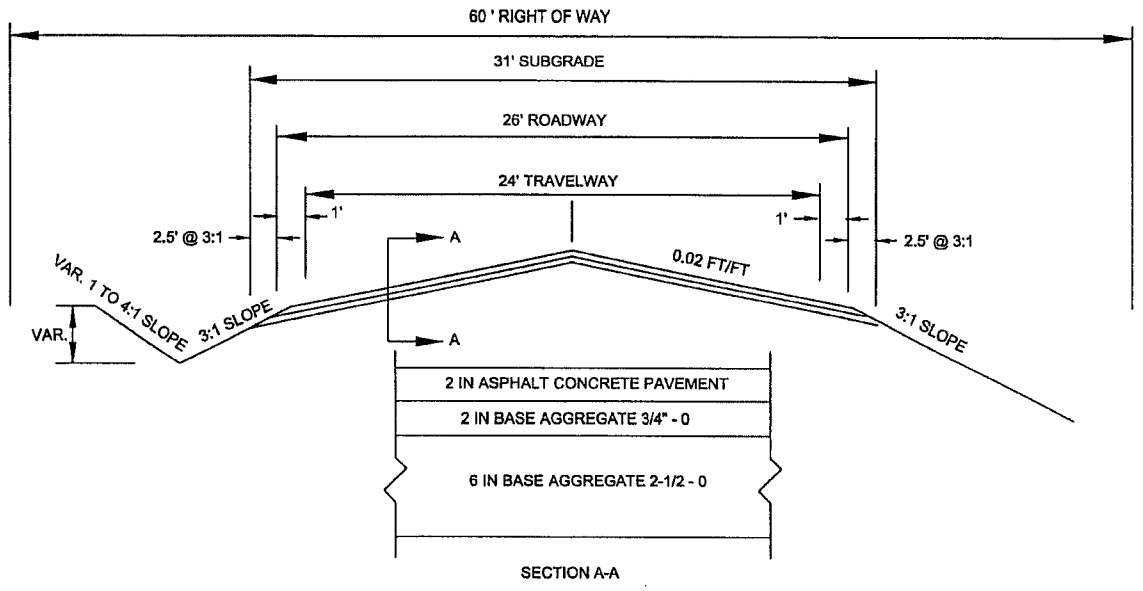

RURAL COLLECTOR III

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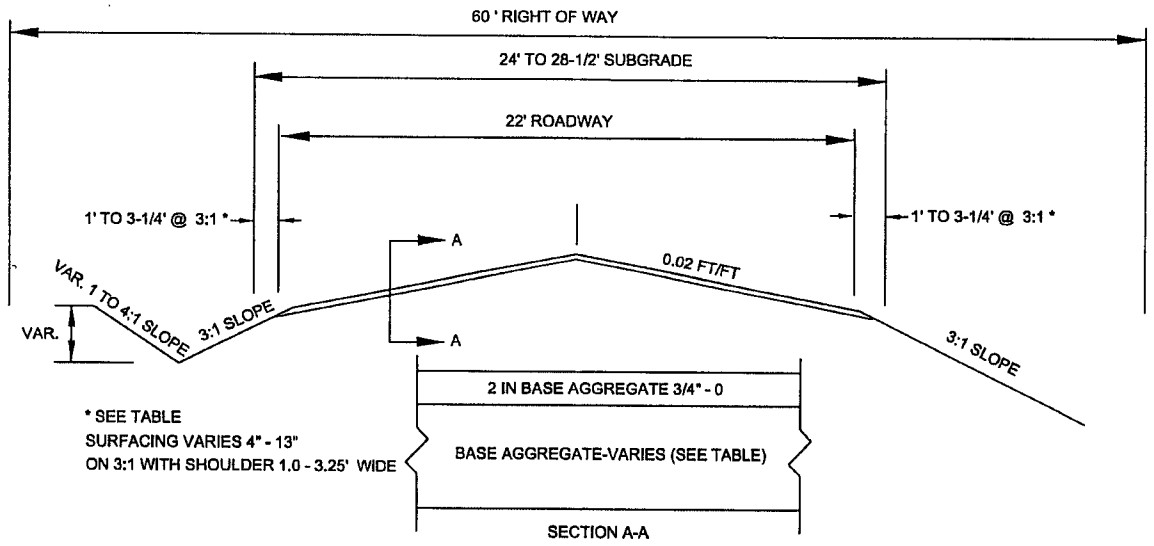

RURAL GRAVEL

(GRAVEL ROAD FOR MULTIPLE FUNCTIONAL CLASSIFICATIONS)

ROADBED SOIL	TRAFFIC LEVEL	AGGREGATE BASE
VERY GOOD	HIGH (ADT > 100)	9 IN
	MEDIUM (ADT 50 - 100)	7 IN
	LOW (ADT < 50)	4 IN
GOOD	HIGH (ADT > 100)	11 IN
	MEDIUM (ADT 50 - 100)	9 IN
	LOW (ADT < 50)	5 IN
FAIR	HIGH (ADT > 100)	13 IN
	MEDIUM (ADT 50 - 100)	10 IN
	LOW (ADT < 50)	5 IN
POOR	HIGH (ADT > 100)	NOT RECOMMENDED
	MEDIUM (ADT 50 - 100)	15 IN
	LOW (ADT < 50)	9 IN
VERY POOR	HIGH (ADT > 100)	NOT RECOMMENDED
	MEDIUM (ADT 50 - 100)	NOT RECOMMENDED
	LOW (ADT < 50)	8 IN

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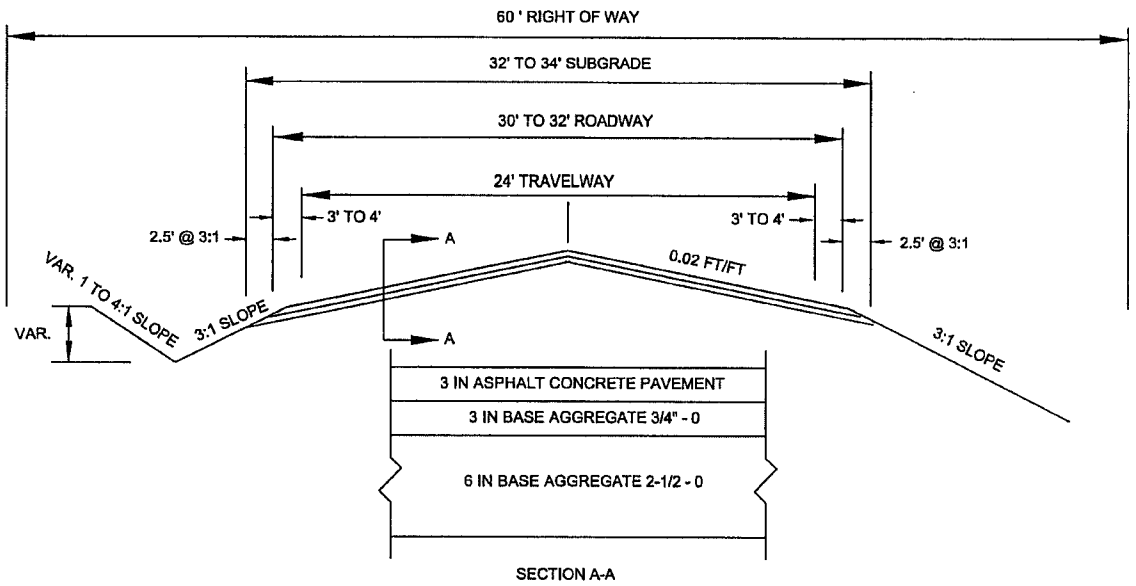
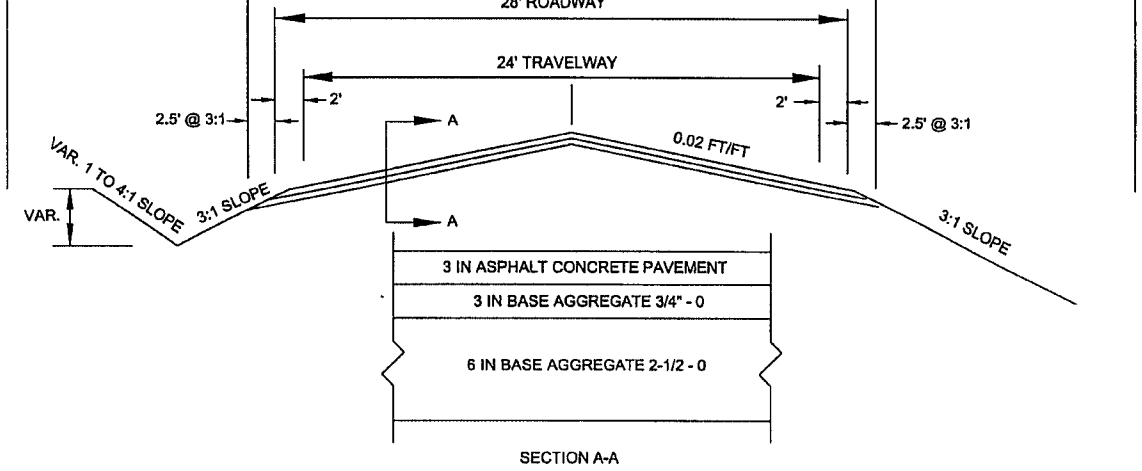


SECTION A-A

RURAL COLLECTOR I



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www.ctsengineers.com

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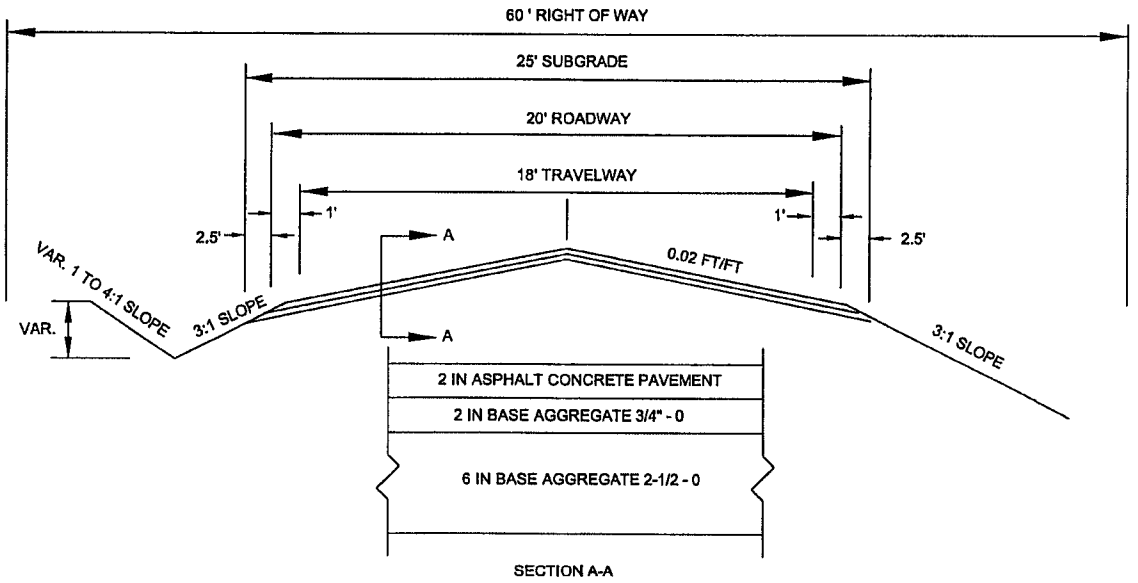
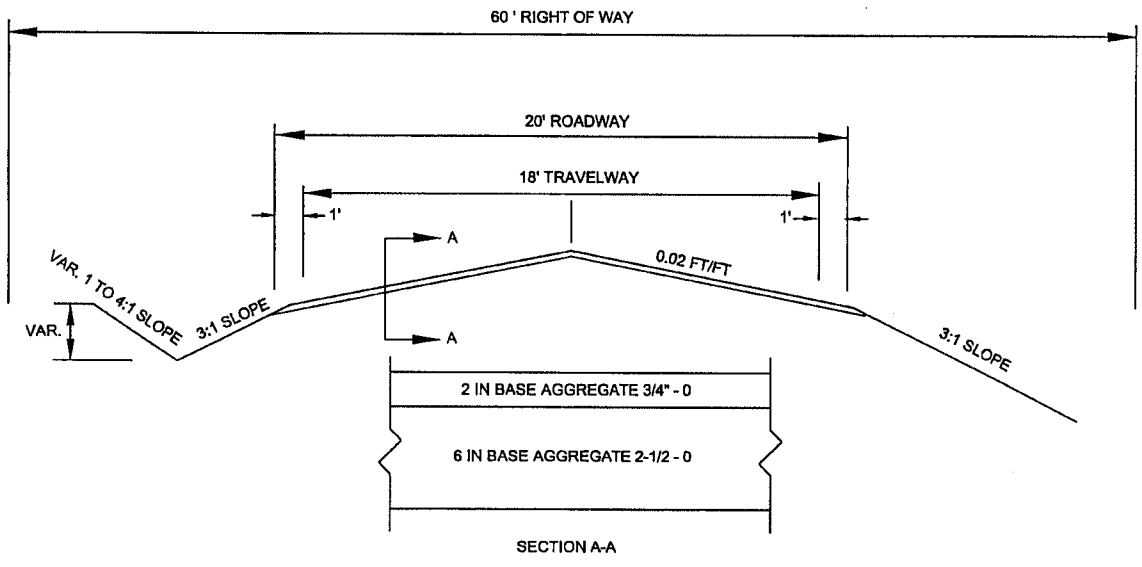


RURAL ACCESS I



RURAL ACCESS II (Gravel Surface)

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Appendix D
Traffic Impact Analysis Guidelines

TRAFFIC IMPACT ANALYSIS GUIDELINES

INTRODUCTION

Morrow County requires all permit applications generating more than 400 new daily trips to prepare a traffic impact analysis (TIA). The TIA will determine the impacts of the project on the existing and future transportation system and will serve as a vehicle for determining appropriate mitigation. The following guidelines contain the elements that should be included in the analysis. Where appropriate, additional study may be required to assess the full impact of the proposed project.

While the determination of whether a TIA is required is based on the number of daily trips, traffic impacts are typically analyzed only during the PM peak-hour of area-wide traffic, which is the one-hour period of highest traffic during the two-hour peak period, typically 4:30-5:30 PM on weekdays. Land uses that generate peak traffic on weekends or evenings (e.g. theaters or recreation facilities) may require additional periods to be counted.

DETERMINATION OF TIA REQUIREMENT

An initial step is necessary to determine whether the proposed project must complete a TIA. This step can often be performed by the applicant using information found in this document. Calculate the number of daily trips generated using the attached table or using the rate found in the ITE Trip Generation Manual. Where a project is replacing an existing use, the net trip generation is used (trips generated by project less the former use). Projects that produce in excess of 400 new daily trips must complete a TIA.

COST OF A TIA

The cost of a TIA varies by the size of the development and the relative location to roadway facilities that are near or at capacity. Typical costs range from a minimum of $2.500 (small subdivision) to over $15,000 (new retail area).

QUALIFICATIONS OF PREPARER

A registered professional engineer is required for all TIA studies, unless approval is obtained by the planning director.

PROJECT DESCRIPTION AND STUDY AREA

The TIA should introduce the project and describe the approximate study area. A location map showing the site and the study area intersections should be included.

I. Project identification and description - The following information is included:

- Project location.
- Project name or name of developer or company.
- Project description. Building area, types of uses, number of units, on-site parking stalls.
- Project buildout year. The year the proposed project is assumed to be completed and occupied.

II. Definition of the study area - The study area is defined by the number and location of the study intersections. The study intersections are determined as follows:

- The study intersections are defined as those within 1,000 feet in either direction of each edge of the parcel for arterial access points, and within 600 feet in either direction of each edge of the parcel for collector or local access points that are likely to be impacted by more than 10 PM-peak-hour trips or are directly associated with the project (e.g. driveways). A trip generation, distribution and assignment process (see Project Conditions) can be used to identify the study area.

EXISTING CONDITIONS

The existing conditions section describes the existing roadway and traffic characteristics within the study area. The following topics are included:

I. Peak period traffic counts – Counts should be completed at each study intersection. Counts must be conducted as follows:

- Counts are completed on Tuesdays, Wednesdays or Thursdays during a two-hour peak period which includes the system PM peak-hour (typically 3:00 PM to 5:00 PM, or 4:00 PM to 6:00 PM). Counts must be collected by individual turning movement at each intersection. Land uses that generate substantial traffic during evenings or weekends (e.g. recreational uses or entertainment facilities) may require traffic counts to be conducted during additional time periods.
- Features such as the number of pedestrians, bicyclists and length of vehicle queuing should be noted.
- Seasonal adjustments should be made to represent peak conditions.
- Counts from other sources may be used if they are less than three years old and are factored to the current year using the background growth rate (see Background Conditions).

II. LOS Calculation – Using the latest published Highway Capacity Manual methodology (currently the 2000 manual), the level of service (LOS) is calculated for existing conditions for each study intersection. LOS at either signalized or all-way stop controlled intersections is defined by the overall intersection LOS. At an intersection with stop controls only on the minor (side street) movements, the LOS is defined by the worst approach to the intersection, typically left turns from the minor street. For intersections within the study area that are on State facilities, the volume-to-capacity ratio (V/C ratio) must also be calculated and reported.

III. Accident data - Five years of accident data is used to describe the number, type and severity of accidents that occurred at each study intersection. Accident data can be obtained from ODOT. High accident locations (where five or more recorded accidents occur annually) should be identified.

IV. Pedestrian, Bicycle and Equestrian Facilities – Include a description of all pedestrian, bicycle and equestrian facilities within the study area.

V. Transit – Describe any transit routes in the area. Include a description of school bus service and stop locations, if applicable.

BACKGROUND CONDITIONS

This section refers to the future year traffic operations before project trips are added. The background volumes need to account for the following elements:

I. Planned changes to roadway facilities and intersections scheduled to occur prior to the project buildout year.

II. Planned changes in land use within the study area resulting from approved development yet to be built and/or fully occupied. This step requires the collection of other TIAs and the inclusion of new trips that may occur as a result of these analyses.

III. Background growth rate at which overall traffic has grown in the area. This rate will be determined by the County.

IV. The calculation of background traffic volumes involve factoring existing traffic to the future year using the background growth rate, then adding all project trips in other TIAs that affect the study intersections.

V. LOS analysis based on background traffic volumes for each study intersection. All study intersections that exceed the LOS standard (or the V/C standard for state facilities) should be noted.

VI. Any planned changes to bicycle, pedestrian and equestrian facilities occurring through the project year should be noted.

PROJECT CONDITIONS

This section shows the calculated trip generation, assumed distribution and assignment of trips:

I. Trip generation – The number of trips generated as calculated from the attached table or from the latest version of the ITE Trip Generation Manual. Where a project is replacing an existing use, the net trip generation is required. A list of typical trip generation rates follows this document.

II. Trip distribution – The percentage of trips traveling by direction, based on existing traffic patterns, unless preferable information is available (customer survey, market analysis, etc.).

III. Trip assignment – The project trips are assigned to the roadway based on the trip distribution and the proportion of trips entering, and exiting volumes from the trip generation.

IV. Future year LOS analysis – The LOS and V/C information for the study intersections based on the sum of the project trip assignment and the background trips.

V. Identify project impacts – All potential impacts to the transportation system should be identified, including vehicle sight distance, truck traffic, roadway geometrics and traffic control, site access, vehicle queuing and turn lane needs, bicycle and pedestrian access, and safety.

VI. Mitigation – Mitigation reflects the need for new development to pay for its fair share of traffic impacts. The following types of mitigation are required under county regulations:

- When the addition of project trips cause an individual intersection to exceed the applicable LOS or V/C standard, the mitigation measures necessary to bring the intersection back into compliance need to be identified, as well as the cost, the project's contribution to the overall cost of the improvement (proportionate share), and how the proportionate share will be paid. Typical mitigation includes the following:
  - Adjustments to signal timing.
  - Addition of turning lanes through restriping or widening.
  - Lengthening storage length of existing turn lanes.
  - Installation of traffic signals or other traffic control devices.
  - Improvements needed to provide adequate sight distance from the development's access onto the public road network.
  - Note: developers are not required to mitigate individual intersections that exceed the LOS or V/C standard in existing or background conditions as determined by HCM methodology. They may, however, be required to

contribute a roughly proportionate share to improve the facility as needed to meet LOS or V/C standards.

- Other mitigation should be considered as appropriate to alleviate the impacts to the transportation system, such as reduction of vehicle queuing, reduction in peak hour travel of employment uses through transportation demand management, and increases in pedestrian, bicycle or equestrian travel and safety.

TRIP GENERATION TABLE

Below are some of the most common trip generation values. The first column defines the land use; the second, the average weekday rate; the third, the PM peak-hour rate; and the fourth, the percent of traffic entering and exiting during the peak-hour. More specific rates are found in the 7th edition of the ITE Trip Generation Manual. An example calculation is as follows:

Project: Construct 4 homes on a subdivided lot
Daily Trip Generation: 9.57 x 4 dwelling units = 38 trips
PM Peak-Hour: 1.01 x 4 = 4 trips (3 entering, 1 exiting)

Therefore, there are 38 daily trips and an impact of 4 trips during the PM peak-hour.

TABLE 1
TRIP GENERATION RATES

Land Use (ITE Code)	Weekday Daily Rate	PM Peak-Hour Rate	Percent Entering/ Exiting in Peak-Hour
Single Family Detached (210)	9.57 / D.U.	1.01 / D.U.	63% / 37%
Apartment (220-Post 1973)	6.72 / D.U.	0.62 D.U.	67% / 33%
Mobile Home Park (240)	4.99 / D.U.	0.59 / D.U.	62% / 38%
Church (560)	9.11 / 1000 GFA	0.66 / 1000 GFA	52% / 48%
Office-General (710)	refer to ITE Trip	refer to ITE Trip	
• <10,000 GFA	Generation Equations	Generation Equations	17% / 83%
• 25,000 GFA	18.4 / 1000 GFA	4.28 / 1000 GFA	
• 50,000 GFA	15.64 / 1000 GFA	2.70 / 1000 GFA	
• 100,000 GFA	13.34 / 1000 GFA	1.91 / 1000 GFA	
Restaurant-High Turnover (932)	127.15 / 1000 GFA	10.92 / 1000 GFA	61% / 33%
Fast Food Restaurant (934) (with drive-through)	496.12 / 1000 GFA	34.64 / 1000 GFA	52% / 48%
Supermarket (850)	102.24 / 1000 GFA	10.45 / 1000 GFA	51% / 49%
General Light Industrial (110)	6.97 / 1000 GFA	0.98 / 1000 GFA	12% / 88%
Manufacturing (140)	3.82 / 1000 GFA	0.74 / 1000 GFA	36% / 64%

D.U.-Dwelling Units
GFA – Gross Floor Area
GLA – Gross Leasable Area

Appendix E
Modifications to Zoning Code (Article 4) and Subdivision Ordinance (Article 8)

ARTICLE 4. SUPPLEMENTARY PROVISIONS

SECTION 4.010. Access. Intent and Purpose: The intent of this ordinance is to manage access to land development while preserving the flow of traffic in terms of safety, capacity, functional classification, and level of service.

Major roadways, including highways, arterials, and collectors serve as the primary network for moving people and goods. These transportation corridors also provide access to businesses and homes and have served as the focus for commercial and residential development. If access points are not properly designed, these roadways will be unable to accommodate the needs of development and retain their primary transportation function. This ordinance balances the right of reasonable access to private property with the right of the citizens of Morrow County and the State of Oregon to safe and efficient travel.

This ordinance shall apply to all public roadways under the jurisdiction of Morrow County and to application for development for any property that abuts these roadways.

This ordinance is adopted to implement the land access and access management policies of Morrow County as set forth in the Transportation System Plan. Access shall be provided based upon the requirements below:

A. Minimum Lot Frontage Requirement. Every lot shall abut a street, other than an alley, for at least 50 feet, except on cul-de-sacs where the frontage may be reduced to 30 feet.

B. Access Permit Requirement. Where access to or construction on a county road is needed, an access permit or right-of-way permit from Morrow County Public Works department is required subject to the requirements in this Ordinance. Where access to a state highway is needed, an access permit from ODOT is required as part of the land use application. Where access is needed to a road managed by the Forest Service or other entity, an access permit or other authorization from the appropriate entity shall be required as part of the land use application.

C. Emergency Vehicle Access. It is the responsibility of the landowner to provide appropriate access for emergency vehicles at the time of development. A dead-end private street exceeding one hundred-fifty (150) feet in length shall have an adequate turn around facility approved by the appropriate Fire Marshal or, if the Fire Marshal fails to review the private street, approval by the Building Official or his designee.

D. Easements and Legal Access: All lots must have access onto a public right of way. This may be provided via direct frontage onto an existing public road, a private roadway, or an easement. Minimum easement requirements to provide legal access shall be as follows:

1. 1000' or less, a minimum easement width of 20'
2. More than 1000', a minimum easement width of 40'
3. Parcels where 3 or more lots share an access (current or potential), a minimum easement of 60'.

E. Access Spacing Requirements for Development Accessing State Highways. Applications for development with access onto state highways shall be provided to ODOT for review, to

ensure consistency with adopted ODOT Access Management Standards shown in Table 4.010-1. These standards apply only to unsignalized access points. Where a right of access exists, a property shall be allowed to have access onto a state highway at less than adopted access spacing requirements only if all the following conditions are met:

1. The property does not have reasonable access via an alternative to the state highway;
2. There are no other possible access options along the parcel's highway frontage; and
3. The access spacing standards cannot be accomplished.

When a proposed access onto a state highway does not meet the access spacing standards in Table 4.010-1, a deviation from standard will be considered by the ODOT Region Manager, subject to requirements in OAR 734-051-0135.

TABLE 4.010-1
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY
NON-INTERSTATE HIGHWAYS

		Access Spacing Standards for Public or Private Unsignalized Access (ft) for Posted Speed Indicated (mph)				
Highway	Classification	>55	50	40 & 45	30 & 35	<25
US 730, OR 74	Regional	990	830	750	600	450
OR 206, OR 207	District	700	550	500	400	400

REFERENCE: OREGON ADMINISTRATIVE RULES SECTION 734-051 (2004)

F. Access within the Influence Area of an Interchange Access within the influence area of existing or proposed state highway interchanges is regulated by standards in OAR 734-051, which are included as Appendix F of the 2005 Morrow County Transportation System Plan Update. These standards do not retroactively apply to interchanges existing prior to adoption of the 1999 Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these existing interchanges occurs. It is the goal at that time to meet the appropriate spacing standards, if possible, but, at the very least, to improve the current conditions by moving in the direction of the spacing standard.

G. Signalized Intersection Spacing on State Facilities. New traffic signals proposed for state facilities, whether the intersecting facility is a public or private road, shall meet the requirements for installation of a traffic signal on a state highway in OAR 734-020-0400. New traffic signals on state facilities must be approved by the State Traffic Engineer. For approval of a new traffic signal on a County facility as part of a condition of development approval, the applicant shall be required to show, through analysis prepared by a qualified professional engineer registered in the State of Oregon, that the signal is warranted to improve traffic operations, address safety deficiencies, or a combination, based upon traffic signal warrants in the current version of the *Manual on Uniform Traffic Control Devices*.

H. Access Spacing Requirements for Development Accessing County Facilities. All developments shall have legal access to a County or public road. Except for interim access as provided in Section 4.010 H [Interim Access], access onto any County road in the unincorporated or incorporated urban area shall be permitted only upon issuance of an access permit upon demonstration of compliance with the provisions of the County road standards and the standards of Section 4.010.

For County roadways designated as major collector or arterial in the Transportation System Plan, the standards in Table 4.010-2 apply for intersections created by a new public roadway, new private roadway or new private driveway. For County roadways designated as minor collectors or local access roads, intersections created by a new public roadway, new private roadway or new private driveway shall meet minimum County traffic safety and operational requirements, including sight distance, as determined by the County Engineer.

TABLE 4.010-2
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY ROADWAYS

	Access Spacing Standards for Public or Private Access (ft)		
Classification	Public Roadway	Private Roadway	Private Driveway[a]
Arterial	600	600	300
Collector	300	300	100
Local	200	200	Access to each lot

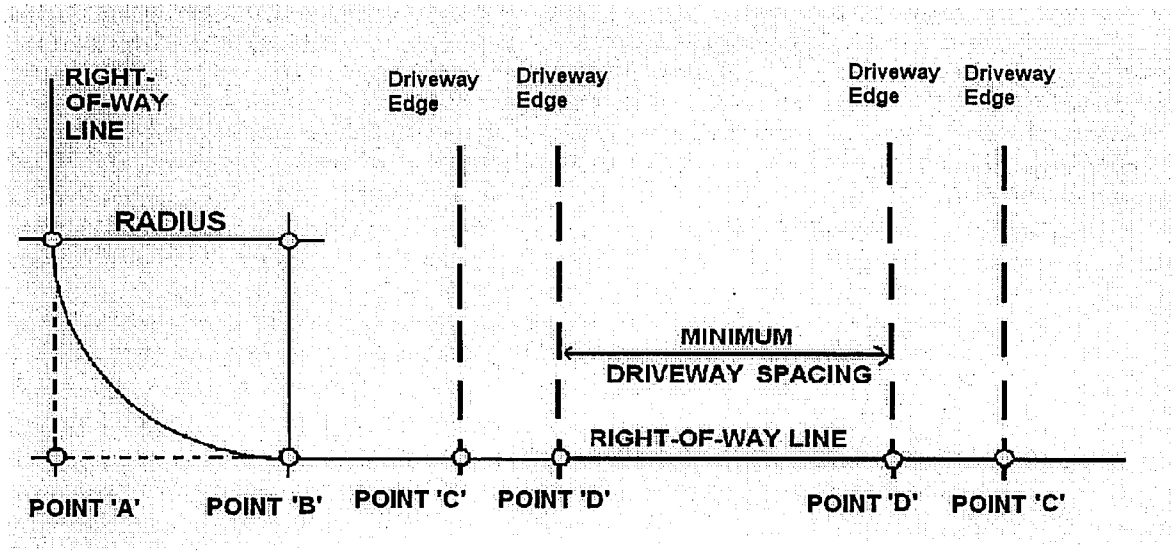
a. For most roadways, at-grade crossings are appropriate. Also, allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the district office of ODOT and is subject to the access spacing standards in Table 4.010-1 in this section.

No use will be permitted to have direct access to a street or road except as specified below, or as provided in Section 4.010.H (Interim Access). Access spacing shall be measured from existing or approved accesses on either side of a street or road. Measurements shall be made from easement or right-of-way line to easement or right-of-way line. (See following access diagram where R/W = Right-of-Way; P.I. = Point-of-Intersection where P.I. shall be located based upon a 90 degree angle of intersection between ultimate right-of-way lines, and 'C' and 'D' = each side of adjacent accesses to private property.

1. All minimum distances stated in the following sections shall be governed by sight distance requirements according to this Ordinance and applicable County Road Standards.
2. All minimum distances stated in the following sections shall be measured to the nearest easement line of the access or edge of travel lane of the access on both sides of the road.
3. The minimum curb radius shown in the diagram below (i.e., distance from Point "A" to Point "B") shall be 15 feet. In areas zoned for industrial uses, the minimum curb radius shall be 30 feet. At intersections between facilities classified as major collector, arterial or highway, any new or modified intersection shall be designed to accommodate a WB-50 Semitrailer Design Vehicle. If either route is designated by the County as a truck route, the intersection shall be designed to accommodate a WB-65 Interstate Semitrailer Design Vehicle. The curb alignment shall be designed

so that the design vehicle can complete a right turn without entering a lane used by opposing traffic.

4. All minimum distances between accesses shall be measured from existing or approved accesses on both sides of the road.
5. Minimum spacing between driveways shall be measured from Point "D" to Point "D" as shown below (i.e., the edges of adjacent driveways closest to each other).
6. In all instances, access points near an intersection with a Collector or Arterial shall be located beyond the influence of standing queues of the intersection in accordance with AASHTO standards. Additionally, access shall be located beyond the back of any left turn refuge either existing on the affected road or required to accommodate the proposed development. This requirement may result in an access spacing greater than one hundred (100) feet in the case of a collector, or 300 feet in the case of an arterial.
7. Access onto local roads will not be permitted within ten (10) feet of Point "B" as shown below. If no radius exists, access will not be permitted within twenty-five (25) feet of Point "A".
8. Access onto collector roads will not be permitted within fifty (50) feet of Point "B" as shown below. If no radius exists, access will not be permitted within sixty-five (65) feet of Point "A". Where a common or shared access is available it shall be used, provided that such use will not result in operational or safety problems. Minimum spacing between driveways shall be one-hundred (100) feet.
9. Direct access to an arterial will be permitted provided that Point 'C' of such access is more than three hundred (300) feet from any intersection Point 'A' or other access to that minor arterial.



I. Interim Access onto County Facilities. No development with sole access onto a County arterial or major collector shall be denied based only on an inability to provide an access that meets applicable access spacing standards. In such an event, the use may be issued an interim access permit which shall expire when access as required under this Ordinance becomes available. An interim access permit may be granted based upon the following:

1. The site is situated such that adequate access cannot otherwise be provided in accord with the access spacing requirements of this Code.

2. The interim access shall meet minimum County traffic safety and operational requirements, including sight distance.

3. Alternate access shall ***not*** be deemed adequate and connections to alternate access shall ***not*** be required if the resulting route of access would require a trip in excess of one (1) block or five-hundred (500) feet out of direction (whichever is less).

4. The property owner signs a consent to participate agreement for the formation of a Local Improvement District or similar financing mechanism for the primary purpose of constructing a public road or right-of-way providing access to the arterial or collector road; such access shall meet the minimum applicable County standard.

5. The property owner records an agreement to participate in any project that would consolidate access points where such project would not result in new or more severe traffic operation or safety problems.

6. The property owner records an agreement to abandon use of the existing private access way when an adequate alternative access becomes available.

SECTION 4.020. SIGHT DISTANCE. In all zones, adequate sight distance shall be maintained at the intersection of two roads (public or private), a road intersecting a private driveway, or a road crossing a railroad.

A. Sight Distance Requirements for New Accesses. It is the intent of this section to ensure that each new access point or each new lot or parcel created or development in the County will have a safe access to a public road, with the exception of development actions listed in Section 4.020.B. but are subject to improvements to maximize sight distance to the extent practicable by the County Operations Division through an Access Permit or Right-of-way Permit:

1. Existing access points that do not satisfy the sight distance standards and are on property included with a development action which will not add any additional vehicle trips to that access, are exempt from this Section. Improvements at these existing access points may be required of the applicant to maximize sight distance to the extent practicable through an Access Permit application.

2. The minimum intersectional sight distance shall be based on the vehicular speeds of the road. The vehicular speeds for the purpose of determining intersectional sight distance shall be the greater of the following, to be selected by the County Engineer or designee.

    a. Design Speed - A speed selected by a registered engineer (Oregon) for purposes of design and correlation of those features of a road, such as curvature, superelevation, and sight distance, upon which the safe operation of vehicles is dependent.

b. Posted Speed - That speed which has been established by the Oregon State Speed Control Board and is posted by the County.

c. Eighty-fifth Percentile Speed - That speed as certified by a registered engineer (Oregon) below which 85 percent of all traffic units travel, and above which 15 percent travel. The eighty-fifth percentile speed shall be measured at the point where the sight restriction occurs.

3. The intersectional sight distance shall:

   a. Be based on an eye height of 3.5 feet and an object height of 4.25 feet above the road; and

   b. Be assumed to be 10 feet from the near edge of pavement or the extended curb line or the near edge of the graveled surface of a gravel road to the front of a stopped vehicle.

4. Minimum intersectional sight distance shall be equal to ten (10) times the vehicular speed of the road such as in the table below.

INTERSECTIONAL SIGHT DISTANCE

MPH	DISTANCE ALONG CROSSROAD (FT)
25	250
30	300
35	350
40	400
45	450
50	500
55	550

5. Intersectional sight distance values shall conform to (3) above. For significant road improvement projects, the above intersectional standards shall be met in addition to the applicable AASHTO roadway sight distance standards.

6. In those instances where there are no access locations available to the site that meet or can meet the sight distance requirements, a written request for modification may be submitted to the County Engineer or designee. The request for modification of the sight distance requirements shall be subject to the following requirements:

   a. Submitted and certified by a registered engineer (Oregon);

   b. Nationally accepted specifications or standards are documented and referenced;

   c. Certification that the modification will not compromise safety or the intent of the County's transportation standards;

d. Agreement that the cost of any modifications agreed to must be borne by the applicant; and

e. Statement that there is no location available to provide an alternative access location which currently meets the sight distance requirements, or which can be altered to meet the sight distance requirements. Alterations needed to provide adequate sight distance include but are not limited to grading and the removal of vegetation. For the purpose of this subsection alternative access location means:

    i. Any location on the proposed development site which meets or can meet the sight distance requirements; or

    ii. Any location off the proposed development site which can provide access to the site by an existing access easement or through an access easement which will be provided to the site as part of the development application. Such an off-site access must be shown to meet or be able to meet sight distance requirements.

B. Accesses Exempt from Sight Distance Requirements. Accesses for the following development actions are exempt from the Sight Distance standards (Section 4.020.A), but are subject to improvements to maximize sight distance to the extent practicable by the County Operations Division through an Access Permit or Right-of-way Permit:

1. Replacement dwellings;

2. Nonbuildable parcels;

3. Applications for one dwelling on an existing vacant parcel;

4. Home Occupation applications in the EFU, FU, SF-40, FR-2 and RR-1 zones; or

5. Applications which will not add additional vehicle trips to an existing access which does not meet the sight distance standards.

SECTION 4.035 PERMIT REQUIREMENTS FOR LAND USE DEVELOPMENT. Except where otherwise noted, all proposed projects should meet the following Plot Plan Requirements as described in Table 4.035-1 below. A common threshold for a TIA (traffic impact analysis) applying to all types of development is 400 daily trips (e.g., 40 houses). Trip generation should be estimated using the current edition of ***Trip Generation*** by the Institute of Transportation Engineers, other similar published resources, or actual driveway counts of similar land uses. The County Planning Commission, County Planning Director or County Public Works Director or designee may require a TIA for any level of development. TIA requirements are described in the Appendix.

TABLE 4.035-1
PERMIT REQUIREMENTS BY TYPE OF LAND USE DEVELOPMENT

Permit Type	Plot Plan Requirements		Conditions				Review/Approval Type	
	Footprint (setbacks)	Access*	Transportation Improvements	DEQ Site Suitability	Parking	Sign	Review	Action
Zoning Permit								
Residential	Yes	Designated access.	Frontage improvements.	Yes	N/A	N/A	Staff	Bldg. permits Road approach permit
Commercial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Industrial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Farm Exempt	Yes	Yes	N/A	N/A	N/A	N/A	Staff	County issues a Farm Agriculture Bldg Exemption Certificate
Land Partition								
1 to 3 Lots		Legal access via r/w or easement.	Frontage improvements.				Planning Comm.	Approval Road Approach permit
Subdivision								
4 to 39 lots		Legal access via r/w.	Frontage improvements.				Planning Comm.	Approval Road Approach Permit
40 or more lots		Legal access via r/w.	Frontage improvements, TIA.				Planning Comm.	Approval Road Approach Permit
Conditional Use Permit								
	Yes	Legal access via r/w or easement.	Under 400 trips: frontage improvements. Over 400 trips: TIA.		Review	Review	Planning Comm.	Approval, Bldg. permit Road Approach

*1000' or less, 20' easement; 1000' or more 40' easement;. 3 or more lots (current or potential), 60' easement.
r/w = Right-of-way.
TIA = Traffic Impact Analysis.
N/A = not applicable.

A. Consent to Participate Agreement Required. For those Local roads which are not improved in accordance with Morrow County Road Standards or maintained by the County, and which abut the property owner's proposed development or which do not abut the development but provide direct access to the development, the property owner shall sign a

consent to participate agreement for the potential formation of a local improvement district or other mechanism to improve and maintain these roads to County standards, per the Morrow County standard Consent to Participate Agreement. Applications for property line adjustments, nonbuildable parcels, temporary housing permits, land partitions in resource zones, and one dwelling on an existing vacant parcel, are not subject to this requirement.

For those Arterial and Collector roads which are not improved in accordance with Morrow County Road Standards and which abut the development site or those roads which do not abut the development site but provide access to the site, the property owner shall sign a consent to participate agreement for the potential formation of a local improvement district or other mechanism to improve the base facility of this road(s) to County standards, per the Morrow County standard Consent to Participate Agreement. Applications for property line adjustments, nonbuildable parcels, temporary housing permits, land partitions in resource zones, and one dwelling on an existing vacant parcel, are not subject to this requirement.

SECTION 4.040. OFF-STREET VEHICLE PARKING REQUIREMENTS. Because vehicle parking facilities can occupy large amounts of land, they must be planned and designed carefully to use the land efficiently while maintaining the visual character of the community. At the time of construction, reconstruction, or enlargement of a structure, or at the time a use is changed in any zone, off-street parking space shall be provided as follows unless greater requirements are otherwise established. When the requirements are based on the number of employees, the number counted shall be those working on the premises during the largest shift at peak season. Fractional space requirements shall be counted as a whole space. Off-street parking spaces may include spaces in garages, carports, parking lots, and/or driveways if vehicles are not parked in a vehicle travel lane (including emergency or fire access lanes), public right-of-way, pathway or landscape area. The County may allow credit for "on-street parking", as provided in Section 4.050. For uses not specified in Table 4.040-1, parking requirements shall be determined by the use in Table 4.040-1 found to be most similar in terms of parking needs.

TABLE 4.040-1
MINIMUM PARKING REQUIREMENTS

USE	MINIMUM VEHICLE PARKING REQUIREMENTS
A. Residential	
1. One, two, and three family dwelling	Two spaces per dwelling unit
2. Residential use containing four or more dwelling units	One and one-half spaces per dwelling unit
3. Rooming or boarding house	One space per guest room
B. Commercial Residential	
1. Hotel or Motel	One space per guest room, plus one space for the manager
C. Public and Institutional Uses	
1. Welfare or correctional institution	One space per six beds
2. Convalescent hospital, nursing home, sanitarium, rest home, home for the aged	One space per four beds
3. Hospital	Two spaces per bed
4. Church	One space per four seats at maximum occupancy
5. Library, reading room	One space per 400 gross square feet
6. Daycare, pre-school or kindergarten	Two spaces per FTE staff
7. Elementary or junior high school	One and one-half spaces per classroom or one space per four seats or eight feet of bench length in the auditorium or assembly room whichever is greater.
8. High school, college, commercial school for adults	One and one-half spaces per classroom plus one space for each 10 students the school is designed to accommodate, or one space for four seats or eight feet of bench length in the main auditorium or assembly room, whichever is greater.
9. Other auditorium or meeting room	One space per six seats or 12 feet of bench length, whichever is greater, or one space for each 75 gross square feet of assembly room not containing fixed seats.

TABLE 4.040-1 (cont'd.)
MINIMUM PARKING REQUIREMENTS

USE	MINIMUM VEHICLE PARKING REQUIREMENTS
D. Commercial Amusement	
1. Stadium, arena, theater	One space per four seats or eight feet of bench length, whichever is greater.
2. Bowling Alley	Five spaces per alley
3. Dance hall, skating rink	One space per 100 gross square feet
E. Commercial	
1. Retail store except as provided in subsection (f)(2) of this section	One space per 350 gross square feet
2. Service or repair shop, retail store handling exclusively bulky merchandise, such as automobiles and furniture	One space per 750 gross square feet
3. Bank, office (except medical and dental)	One space per 350 gross square feet
4. Medical and dental clinic	One space per 300 gross square feet
5. Eating or drinking establishment	One space per 100 gross square feet or one space per four seats, whichever is less.
6. Mortuaries	One space per six seats or eight feet of bench length in chapels
F. Industrial	
1. Storage warehouse, manufacturing establishment, rail or trucking freight terminal	One space per employee on the largest shift.
2. Wholesale establishment	One space per employee on the largest shift plus one space per 700 square feet of patron-serving area.

SECTION 4.045. BICYCLE PARKING REQUIREMENT.

This chapter also provides standards for bicycle parking, because children as well as adults need safe and adequate spaces to park their bicycles throughout the community. All uses subject to Design Review that are located within an Urban Growth Boundary shall provide bicycle parking in conformance with the following guidelines. Uses outside an Urban Growth Boundary are encouraged to provide bicycle parking based on these guidelines.

A. Number of Parking Spaces. A minimum of two bicycle parking spaces is recommended for each use with greater than 10 vehicle parking spaces. The following additional standards apply to uses within an Urban Growth Boundary, and are recommended for other areas of the County:

1. Multi-family residences: At least one sheltered bicycle space per four dwelling units, for uses of four or more units. Bicycle spaces may be located within a garage, storage shed, basement, utility room, or other similar area. If a residential development use has no such protected areas, bicycle parking spaces can be located under an eave, overhang or similar cover to be protected from rain and sun.

2. Parking Lots: At least one bicycle parking space for every ten vehicle spaces at commercial and public parking lots.
3. Schools: One bicycle parking space for every 10 vehicle spaces, at public or private elementary and middle schools. High schools should provide one bicycle space for every five students.
4. Colleges and trade schools: One bicycle space for every 10 motor vehicle spaces. At least half of the spaces should be sheltered under an eave, overhang or similar cover.
5. Multiple Uses: For buildings with multiple uses, such as a commercial building or mixed use development, one bicycle space for every 10 motor vehicle spaces is recommended.

B. Exemptions. This Section does not apply to single family, two-family, and three-family housing (attached, detached or manufactured housing), home occupations, agriculture and livestock uses, or other developments with fewer than 10 vehicle parking spaces.

C. Location and Design. Bicycle parking should be conveniently located no farther away than the closest parking space.

D. Visibility and Security. Bicycle parking should be visible to cyclists from street sidewalks or building entrances, so that it provides sufficient security from theft and damage.

E. Options for Storage. Bicycle parking requirements for long-term and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building.

F. Lighting. Bicycle parking should be least as well lit as vehicle parking for security.

G. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards in Section 4.020.

SECTION 4.050. OFF-STREET PARKING AND LOADING. Buildings or structures to be built or substantially altered which receive and distribute materials and merchandise by trucks shall provide and maintain off-street loading berths in sufficient number and size to handle adequately the needs of the particular use. Off-street parking areas used to fulfill the requirements of this Ordinance shall not be used for loading and unloading operations except during periods of the day when not required to care for parking needs. General provisions are as follows:

A. The provisions and maintenance of off-street parking and loading space is a continuing obligation of the property owner. Should the owner or occupant of any lot or building change the use to which the lot or building is put, thereby increasing off-street parking and loading requirements, it shall be a violation of this Ordinance to begin or maintain such altered use until such time as the increased off-street parking or loading requirements are complied with.

B. Requirements for types of buildings and uses not specifically listed in this Ordinance shall be determined by the Planning Commission based upon the requirements for comparable use listed.

C. In the event multiple uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of each use computed separately.

D. Owners of two or more uses, or parcels of land may agree to utilize jointly the same parking and loading spaces when the hours of operation do not overlap, provided that satisfactory legal evidence is presented to the County in the form of deeds, leases, or contracts to establish the joint use.

E. Off-street parking spaces for dwellings shall be located on the same parcel with the dwelling. Other required parking spaces for residential uses shall be located not farther than 500 feet from the building or use they are required to serve, measured in a straight line from the building.

F. Required parking spaces shall be available for the parking of passenger automobiles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for the parking of trucks used in conducting the business or use.

G. Parking designated exclusively for people with disabilities shall be provided in conformance with the Americans with Disabilities Act.

H. The Director may, upon request, allow a reduction in the number of required off-street parking spaces in housing developments for elderly or disabled persons if such reduction is deemed appropriate after analysis of the size and location of the development, resident auto ownership, number of employees, possible future conversion to other residential uses and other similar relevant factors.

SECTION 4.060. DESIGN AND IMPROVEMENT STANDARDS - Parking Lots

A. Except for single-family and duplex dwellings, areas used for parking for more than two vehicles shall have durable and dustless surfaces adequately maintained.

B. Except for parking in connection with single-family and duplex dwellings, parking and loading areas adjacent to or within a residential zone or adjacent to a dwelling shall be designed to minimize disturbance to residents by the erection between the uses of a sight-obscuring fence or planted screen of not less than six (6) feet in height except where vision clearance is required.

C. Parking spaces along the outer boundaries of a parking lot shall maintain a minimum setback from the property line of five feet, unless a greater setback is specified for a structure in the zoning district, and shall be contained by a bumper rail or by a curb which is at least four inches high.

D. Artificial lighting which may be provided shall not shine or create glare in any residential zone or on any adjacent dwelling.

E. Access aisles shall be a minimum of 24 feet wide for two-way traffic. The minimum aisle width for emergency vehicle access (with one-way traffic) is 20 feet.

F. Except for single-family and duplex dwellings, groups of more than two parking spaces shall be so located and served by a driveway that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley.

G. Service drives to off-street parking areas shall be a minimum of 24 feet wide for two-way traffic flow, and 20 feet wide for one-way traffic flow. The number of service drives shall be limited to the minimum that will accommodate anticipated traffic.

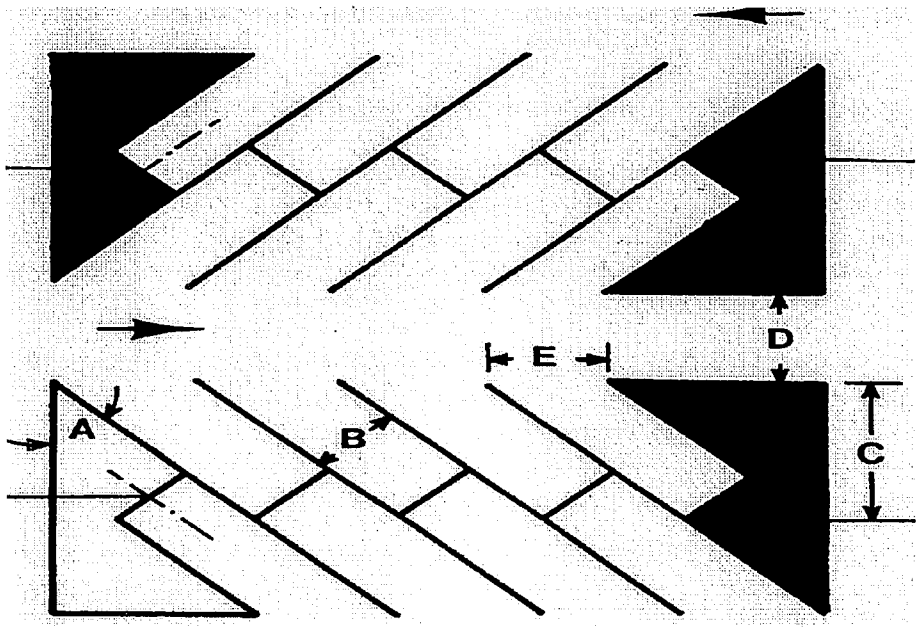
H. Driveways shall maintain minimum sight distance per the standards of Section 4.020 of this Ordinance.

I. The standards set forth in the table below shall be the minimum for parking lots approved under this Ordinance (all figures are in feet except as noted). The letters in the first row of the table correspond to the letters in the following diagram.

TABLE 4.060-1
OFF-STREET PARKING DESIGN STANDARDS

A	B	C	D	E
parking angle degree	stall width	stall to curb (19' long stall)	aisle width	curb length per car
0	8.5	8.5	12.0	23.0
45	8.5	19.4	12.0	12.0
60	8.5	20.0	15.0	9.8
75	8.5	19.6	24.0*	8.8
90	8.5	19.0	24.0*	8.5

*Two-way circulation



SECTION 4.070. SIGN LIMITATIONS AND REGULATIONS. In addition to sign limitations and regulations set forth in a specific zone, the following limitations and regulations shall apply to any sign hereafter erected, moved or structurally altered within the jurisdiction of the County. In addition to the standards and limitations set forth in this Ordinance, signs shall be installed in accordance with applicable regulations of state and federal agencies. No sign will hereafter be erected, moved or structurally altered without being in conformity with the provisions of this Ordinance. Official traffic control signs and instruments of the state, county or municipality are exempt from all provisions of this Ordinance.

A. All outdoor advertising signs shall be in compliance with the provisions of this Ordinance and the provisions of ORS Chapter 377 when applicable.

B. No outdoor advertising sign permitted by ORS Chapter 377 shall be erected within 300 feet of a residential dwelling without written consent of the owner and/or occupant of said dwelling.

C. No sign shall be placed so as to interfere with visibility or effectiveness of any permanent traffic control device.

D. No sign shall be placed so as to impede the sight distance triangle at any access point or intersection as specified in Section 4.020 of this Ordinance.

E. No sign shall cause glare, distraction or other driving hazards within a street or road right-of-way.

F. No sign shall shine directly upon a residential dwelling or otherwise create a nuisance.

G. In addition to the limitations on signs as provided by (1) through (5) above, additional sign restrictions may be required as determined by the Planning Commission in approving conditional uses, as provided by Article 6.

H. Signs erected along Scenic Byways or other roads with similar designations must meet applicable criteria for sign placement.

I. Residents may request specific cautionary signage for individual resident(s) to be installed within County right-of-way. All costs including materials, installation, maintenance, and removal, shall be borne by the requestor, and shall otherwise conform with Morrow County Policy M-43674.

J. Installation of Regulatory Signs in Public Right-of-Way. Developers are to install street name, posted speed, and other traffic control signage required for private developments, per applicable standards from Morrow County and the Manual on Uniform Traffic Control Devices (MUTCD). 4

SECTION 4.080. AUTHORIZATION OF SIMILAR USES. A use that is similar to a use provided for in a zone may be allowed in that zone with Planning Commission Approval unless:

A. It is specifically provided for in another zone, or

B. It is more similar to uses provided for in another zone.

SECTION 4.090. GENERAL PROVISIONS REGARDING ACCESSORY USES. An accessory use shall comply with all requirements for a principal use, except as this ordinance specifically allows to the contrary, and shall comply with the following limitations:

A. A side yard or rear yard may be reduced to three feet for an accessory structure erected more than 65 feet from a front lot line, provided the structure is detached from other buildings by five feet or more and does not exceed a height of one story nor an area of 450 square feet.

B. Boats and trailers, travel trailers, pick-up campers or coaches, motorized dwellings, and similar recreational equipment may be stored on a lot but not used as an accessory use in any zone provided that:

1. In a residential zone, parking or storage in a front yard or in a side yard abutting a street other than an alley shall be permitted only on a driveway.
2. Parking or storage shall be at least three feet from an interior side lot line.

SECTION 4.100. PROJECTIONS FROM BUILDINGS. Architectural features such as cornices, eaves, canopies, sunshades, gutters, chimneys and flues shall not project more than three (3) feet into a required yard, provided that the projection is not closer than three (3) feet to a property line.

SECTION 4.110. MINIMUM STANDARDS FOR A MANUFACTURED HOME ON INDIVIDUAL LOTS AS A SINGLE-FAMILY DWELLING. A manufactured home permitted as a single-family dwelling on an individual lot shall be in compliance with the following standards and regulations as a minimum. In such cases when the standards set forth in a specific zone are more restrictive, the more restrictive standards shall govern.

A. The manufactured home shall be a 14-foot wide or double wide unit and shall contain at least 660 square feet of space as determined by measurement of the exterior dimensions of the unit exclusive of any trailer hitch device.

B. The manufactured home unit shall be manufactured after June 15, 1976, and bear the Oregon Department of Commerce 'Insignia of Compliance' or a manufactured home manufactured prior to said date if certified to comply with such standards. All pre-owned and pre-occupied units (i.e. used) shall be inspected by a certified Building Official prior to installation and occupancy to insure compliance with applicable standards required for the 'Insignia of Compliance' and to insure that such units are in such a condition as to not be detrimental to the public health, safety and general welfare or to adjoining properties.

C. The manufactured home shall be placed upon and securely anchored to a foundation having permanence and strength equal to that provided by a concrete or masonry block foundation, and such foundation shall be installed according to manufacturer's instructions approved by the State Department of Commerce.

D. The manufactured home shall have a continuous perimeter of skirting that shall be composed of the same material and finish as the exterior of the manufactured home or of brick, concrete or masonry block. Such skirting shall be secure against the entrance of animals, but there shall be provisions for ventilation and access to the space under the unit.

E. All plumbing, electric and gas service connections shall be made according to instructions approved by the State Department of Commerce.

F. All manufactured home accessory buildings and structures shall comply with state and local construction and installation standards. Manufactured home accessory structures include porches and steps, awnings, cabanas, carports, or any other structure or addition that depends in part on the mobile home for its structural support, or in any manner is immediately adjacent to or attached to the manufactured home. Such structures or additions shall not total more than 30% of the total living space of the manufactured home and such structures or additions combined. Roofing and siding materials shall be of similar material and color and complementary to the existing manufactured home unit. Ramadas shall not be permitted.

G. The owner of the property shall remove the foundation and all accessory structures and additions to the manufactured home and permanently disconnect sewer, water and other utilities if the manufactured home is removed from its foundation unless otherwise authorized by the County. In the event the owner fails to accomplish said work within 30-days from the day on which the manufactured home is moved from its foundation, the County may perform such work and place a lien against the property for the cost of such work. This condition shall not apply in the event that the manufactured home is replaced on the original foundation, or on the original foundation as modified, or by another approved manufactured home within 30-days of the original unit's removal. Said lien may be initiated by the County Court.

SECTION 4.120. MANUFACTURED OR MOBILE HOME AUTHORIZED AS A TEMPORARY RESIDENCE ON AN INDIVIDUAL LOT. A manufactured or mobile home may be authorized as a temporary residence on an individual lot and shall comply with the following additional provisions:

A. The home shall be occupied by the owner of the lot on which the home is located.

B. The home shall be placed upon a lot for which a building permit for a housing unit has been obtained.

C. The home shall be occupied only during a period in which satisfactory progress is being made toward the completion of the housing unit on the same site.

D. Electric, water and sewer utility connections shall be made to the mobile home.

E. The owner of the lot agrees to remove the home from the lot not later than eighteen months from the date on which the building permit for the housing unit is issued or not later than two months following the completion of the housing unit, whichever occurs first.

F. The owner of the lot agrees to remove all evidence that the manufactured or mobile home has been on the lot within thirty (30) days after the removal of the home.

G. The County Planning Director or designee may review permits issued under this section at any time and may revoke the permits when they are found to be not in compliance.

H. Any accessory manufactured or mobile home dwelling placed under a permit authorized by this section must be located as close as possible to the primary dwelling under construction. Unless there are physical limitations of the land, this should be within 100 feet of said dwelling.

SECTION 4.130. MANUFACTURED OR MOBILE HOME AUTHORIZED AS TEMPORARY RESIDENCE FOR CARE OF A RELATIVE IN CONJUNCTION WITH EXISTING RESIDENTIAL USE.

A. Purpose and intent. It is the intent of the temporary use permit section to provide a set of procedures and standards for temporary use of structures which, because of personal hardship needs require social consideration for temporary usage after demonstration of temporary need and a finding of no adverse impact to the welfare of adjacent properties and the community as a whole.

The provisions of this section are to apply when the proposed use does not qualify as a continuation of a nonconforming use, not permitted by right, nor permitted through the operations of other more pertinent procedures and provisions of this zoning ordinance. Provided however, temporary use permits are not to be construed, permitted nor utilized as a means to abrogate the intent, purpose or procedures of the County's Comprehensive Plan or Zoning Ordinance regulations.

No temporary permit shall be granted which would have the effect of creating a permanent zoning or result in a hardship when the use is not permitted to continue at the expiration of the permit periods. Further, no temporary permit may be granted which has the effect of conferring a special privilege for which other property within the same zone may not be equally eligible.

B. As a temporary use in every zone, the Commission may allow one accessory manufactured or mobile home dwelling complying with the standards of 4.140 except (a) and (c), and providing that no additions to the mobile home shall be permitted in conjunction with a primary dwelling with the following findings:

1. That an accessory dwelling is necessary to care for or provide custody of an elderly, mentally handicapped, or infirm relative who a medical doctor certifies is in need of this kind of care or custody.

2. Residential utilities and facilities can be provided. Septic feasibility is required prior to approval.

C. A temporary use permit granted under this section is void when the elderly, mentally handicapped, or infirm relative who is the subject of the permit moves to another residence or is absent from the residence for more than 120 days or leaves the residence with no likelihood of returning for continued residency of at least 30 days. Exception to the 120-day limit can be provided for because of extraordinary circumstances such as extended hospitalization.

D. Within 30 days of the permit becoming void or revoked, the accessory dwelling shall be removed by the owner of the real property unless otherwise approved by the Commission.

E. The County Planning Director or designee may review permits issued under this section at any time and may revoke permits when they are found to be not in compliance.

F. Any accessory dwelling placed under a permit authorized by this section must be located as close as possible to the primary dwelling. Unless there are physical limitations of the land this should be within 100 feet of the primary dwelling.

SECTION 4.140. MANUFACTURED OR MOBILE HOME AS A SECONDARY ACCESSORY FARM DWELLING. A manufactured or mobile home permitted as a secondary accessory farm dwelling or other farm use structure shall only be permitted in accordance with the following requirements:

A. The unit may only be occupied as a secondary farm accessory dwelling; i.e., there must exist on the subject property an owner-occupied primary conventional dwelling or a manufactured or mobile home complying with the conditions set forth in Section 4.110 of this ordinance, and there shall not be more than one such unit permitted for each 160 acres in the farm unit, and in the case of 4 or more units the mobile home park standards shall apply, except as approved by the Commission.

B. The occupant of the manufactured or mobile home shall be an employee of the owner or an immediate family member engaged in the farm operation.

C. The unit shall bear the Oregon Department of Commerce 'Insignia of Compliance' or be inspected for compliance with the standards required thereof.

D. The unit shall be considered a temporary installation; therefore permits of such units shall be renewable on an annual basis unless otherwise approved by the Commission.

E. The manufactured or mobile home shall contain at least 500 square feet of space as determined by measurement of the exterior's dimensions of the unit, exclusive of any trailer hitch device.

F. The manufactured or mobile home shall be placed on and securely anchored to a foundation having permanence and strength equal to that provided by a concrete or masonry block foundation, and such foundation shall be installed according to manufacturer's instruction approved by the State Department of Commerce.

G. All plumbing, electric and gas service connections shall be made according to instructions approved by the State Department of Commerce.

H. Additions or alterations to the manufactured or mobile home unit shall not exceed 15% of the square footage.

I. The manufactured or mobile home shall be provided with a water closet, lavatory, and bathtub or shower which are connected to running water and to an approved subsurface sewage disposal system, and which are located in a room or rooms which afford privacy to the occupant, and shall be provided with a kitchen area containing a sink with hot and cold running water.

J. The owner of the property shall remove the foundation and all accessory structures and permanently disconnect sewer, water and other utilities if the manufactured or mobile home is authorized by the County. In the event the owner fails to accomplish said work within 30-days from the date on which the manufactured or mobile home is moved from its foundation, the County may perform such work and place a lien against the property for the cost of such work. This condition shall not apply in the event that the manufactured or mobile home is replaced on the original foundation, or on the original foundation as modified, or by another approved mobile home within 30-days of the original unit's removal, unless otherwise approved by the County. Such lien may be initiated by the County Court.

4.150 TEMPORARY USE OF A TRAVEL TRAILER. The temporary use of a travel trailer and/or motor home as a residence may be permitted only as a temporary residence during construction of a permanent residence. The use requires authorization on the Zoning Permit for the permanent residence. The duration or occupancy of the temporary residence may not exceed six (6) months. (One extension may be permitted if due diligence and progress is demonstrated, for a period not to exceed six (6) months.) The use of the travel trailer as a temporary residence shall cease within two weeks of issuance of an occupancy permit for the permanent dwelling. MC-C-1-99

SECTION 4.160 STANDARDS FOR TRANSPORTATION IMPROVEMENTS. The intent of these provisions is to provide clear directions and guidelines when considering installation of transportation facilities in Morrow County. Although some zone designations may address certain uses listed below, these provisions generally apply to all zones in the County. Thus, except where otherwise specifically regulated by this ordinance, the following improvements are permitted outright:

1. Normal operation, maintenance, repair, and preservation of existing transportation facilities (roadways, bridges, etc.).

2. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way.

3. Projects specifically identified in the Transportation System Plan as not requiring further land use regulation.

4. Landscaping as part of a transportation facility.

5. Emergency measures necessary for the safety and protection of property.

6. Acquisition of the right-of-way for public roads, highways, and other transportation improvements designated in the Transportation System Plan except those that are located in exclusive farm use or forest zones.

7. Construction of a street or road as part of an approved subdivision or land partition approved consistent with the applicable land division ordinance.

8. Establishment or continuation of no spray zones on private property.

9. Cattle guards to be installed per Morrow County Court Policy M-43673.

10. Pavement aprons to be installed at intersections of gravel roads or driveways with paved roads per Morrow County Court Resolution R-29-2000.

11. Any excavation within Morrow County right-of-way shall conform to Morrow County Ordinance MC-PW-1-81, the Road and Street Excavation Ordinance.

B. Uses Permitted by Conditional Use Permit.

1. Construction, major reconstruction, or widening of highways, roads, bridges, or other transportation projects that are not designed and constructed as part of a subdivision or planned development shall comply with the Transportation System Plan and applicable standards, and shall address the following criteria. For State projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria:

    a. The project is designed to be compatible with existing land use patterns, noise generation, safety, and zoning.

    b. The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.

    c. The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.

    d. The project includes provision for bicycle and pedestrian circulation as consistent with the Transportation Element of the Comprehensive Plan and other requirements of this Ordinance.

2. Construction of rest areas, weigh stations, temporary aggregate storage, and aggregate processing sites.

3. If review under this Section indicates that the use or activity is inconsistent with the Transportation Element of the Comprehensive Plan, the procedure for a plan amendment shall be undertaken prior to or in conjunction with the conditional use permit review.

C. Time Limitation on Transportation-Related Conditional Use Permits. Authorization of a conditional use permit shall be void after a period specified by the applicant as reasonable and necessary based on season, right-of-way acquisition, and other pertinent factors. This period shall not exceed three years. (MC-C-8-98)

D. Private Streets Outside an Urban Growth Boundary. All private streets providing access from a public roadway to a proposed land division shall meet the following standards:

1. Have a minimum sight distance in compliance with adopted County Standards at any intersection with a public road. Additional sight distance or advance warning signage or other devices may be required where known safety hazards exist.

2. For each private street, there shall be a legal recorded document which includes:

    a. A legal description of the proposed easement;

    b. Ownership of the street;

    c. Use rights; and

    d. A maintenance and construction agreement which includes Fire Marshal approved street specifications and turn around area (if required) and the allocation and/or method of determining liability for maintenance.

3. Where drainage conditions require it, a private street shall be ditched in conformance with the County Road Standards.

4. Private streets which access public or County roads shall be located, designed and constructed (within the public right-of-way) in accordance with adopted standards for County roads.

5. Prior to establishing a private driveway or a private street, the owner shall obtain an access permit for access to the intersecting public road. As a condition of granting access to a public road, the County may require the applicant to clean the ditch serving the parcel and remove sight obstructing vegetation in the vicinity of the access.

SECTION 4.165 SITE PLAN REVIEW

Site Plan Review is a non-discretionary or "ministerial" review conducted without a public hearing by the County Planning Director or designee. Site Plan Review is for less complex developments and land uses that do not require site development or conditional use review and approval through a public hearing.

A. Purpose. The purpose of Site Plan Review (ministerial review) is based on clear and objective standards and ensures compliance with the basic development standards of the land use district, such as building setbacks, lot coverage, maximum building height, and similar provisions. Site Plan review also addresses conformity to floodplain regulations, consistency with the Transportation System Plan, and other standards identified below.

B. Pre-application review. Prior to filing its application for site plan review, the applicant shall confer with the County Planning Director or designee, who shall identify and explain the relevant review procedures and standards.

C. Applicability. Site Plan Review shall be required for all land use actions requiring a Zoning Permit as defined in Section 1.050 of this Ordinance. The approval shall lapse, and a new application shall be required, if a building permit has not been issued within one year of Site Review approval, or if development of the site is in violation of the approved plan or other applicable codes.

D. Review Criteria.

1. The lot area shall be adequate to meet the needs of the establishment.
2. The proposed land use is permitted by the underlying land use district.
3. The land use, building/yard setback, lot area, lot dimension, density, lot coverage, building height and other applicable standards of the underlying land use district and any sub-district(s) are met.
4. Development in flood plains shall comply with Section 3.100 Flood Hazard Overlay Zone of the Ordinance.
5. Development in hazard areas identified in the Morrow County Comprehensive Plan shall safely accommodate and not exacerbate the hazard and shall not create new hazards.
6. Off-street parking and loading-unloading facilities shall be provided as required in Section 4.040 and 4.050 of the Morrow County Zoning Ordinance. Safe and convenient pedestrian access to off-street parking areas also shall be provided as applicable.
7. County transportation facilities shall be located, designed and constructed in accordance with the design and access standards in the Morrow County Transportation System Plan.
8. Site planning, including the siting of structures, roadways and utility easements, shall provide, wherever practicable, for the protection of trees eight inch caliper or greater measured four feet from ground level, with the exception of noxious or invasive species, such as Russian olive trees.
9. Development shall comply with Section 3.200 Significant Resources Overlay Zone or 3.300 Historic Buildings and Sites protecting inventoried significant natural and historic resources.
10. The applicant shall determine if compliance is required with Oregon Water Resources Department water quantity and/or Oregon Department of Environmental Quality water quality designations.
11. The applicant shall determine if previous Code Enforcement violations have been cleared as applicable.
12. The applicant shall determine the method of disposal for solid waste, with staff providing information to the applicant about recycling opportunities.
13. The applicant shall obtain the necessary access permit through the Public Works Department as required by Morrow County Resolution R-29-2000.

E. Submittal Requirements. A site plan shall be submitted including all of the following information except for specific items determined at the pre-application review not to be applicable. All site plans shall have dimensions clearly indicated. An applicant may provide the information on separate sheets, if necessary or desirable for clarity.

1. North arrow and scale.

2. Location of property boundaries, including adjacent public or private streets and rights of way.

3. Location of existing structures and natural features.

4. Areas affected by the proposed development with slopes in excess of 10 percent.

5. Location of utilities and facilities, or proposed locations (sewer, water, fire hydrants, septic system, storm water facilities, etc.).

6. Proposed landscaping.

7. Exterior lighting.

8. Circulation plan for vehicles, pedestrians, and bicyclists, including existing and proposed points of access and sidewalks.

9. Parking lot layout, with circulation plan and striping details.

10. Sign location and details.

F. Application Completeness/Request for Additional Information. The County Planning Director or designee shall determine the application to be complete based on the above standard criteria within 14 days of the application submittal. If the application is found to be incomplete or additional information is needed it may be requested from the applicant. A request for additional information beyond the standard review criteria cannot be used to rule an application incomplete.

G. Minimum Standards for Roadway Design Plans Submitted for County Review. Any transportation facility or transportation improvement to be constructed as part of a private development and subsequently dedicated to the County must first receive design approval by the Morrow County Public Works Department, based on applicable design criteria and the rationale for establishing the criteria to be provided by the County. Design approval shall also include all other pertinent issues related to roadway construction and operations, including but not limited to drainage, maintenance, serviceability, and pavement design. Street design plans submitted for County approval shall be stamped by a registered professional engineer with appropriate experience.

H. Conditions Requiring Variance Application. In the case of transportation improvement plans that do not meet the above minimum standards, the Morrow County Public Works Department

may work with the applicant to determine whether an alternate design standard is appropriate (design modification). Design modifications are reviewed and approved by Morrow County Public Works Department staff. If upon mutual agreement it is determined that an alternate design standard cannot be met, an application for a design variance will be required, subject to review and approval by the Morrow County Planning Commission.

SECTION 4.170 SITE DEVELOPMENT REVIEW (MC-C-1-02)

A. Purpose. The purposes of site development review are to encourage site planning in advance of development that is permitted under Morrow County's Comprehensive Plan and land use regulations; assure that development is supported with appropriate types and levels of transportation improvements and public facilities and services; and implement the Morrow County Comprehensive Plan and land use regulations with respect to development standards and policies.

B. Preapplication review. Prior to filing its application for site development review, the applicant shall confer with the Planning Director, who shall identify and explain the relevant review procedures and standards.

C. When required.

1. Site development review shall be required for all major developments in industrial and commercial zones. As used in this Section, a "major development" is an industrial development utilizing 100 or more acres of real property. When development is proposed in phases, site development review shall apply to each phase of the development, whether or not the phase meets the site development review threshold.

2. Site development review also shall apply when required by the Planning Commission as a condition of approval of a land use decision not otherwise subject to site development review; provided that, in a condition imposing such a requirement, the Planning Commission may waive one or more site development review information requirements and/or approval standards that the Planning Commission finds the application already has fulfilled or are not relevant or otherwise are not warranted.

3. No building permit shall be issued prior to site development review approval whenever site development review is required by this section. Site development review shall not alter the type and category of uses permitted in affected zoning districts.

4. As used in this Section, "development" means any man-made change to improved or unimproved real property in the County, including but not limited to construction or installation of a building or other structure; major site alterations such as those due to grading; paving; and improvements for use as parking. However, site development review shall not apply to any interior remodelling of any existing building or structure or any modification to an existing building or structure that does not substantially change its exterior appearance.

D. Plans required. A complete application for site development review shall be submitted. The application shall include the following plans and information:

1. A site plan or plans, drawn to scale, containing the following information:

   a. A vicinity map covering an area 250 feet from the boundary of the development site and showing general information about the location, dimensions and names of all existing and proposed streets, County roadways and state highways, access points on both sides of the road when applicable, sidewalks, bicycle routes, and easements and utility locations. The map also shall indicate distances to neighboring constructed access points, median openings (where applicable), traffic signals (where applicable), intersections, and other transportation features on all sides of the property.

   b. The site size, dimensions, and zoning, including dimensions and gross area of the lot(s) or parcel(s) and tax map and tax lot number(s) for the development site.

   c. Contour lines at two foot contour intervals for grades 0 to 10 percent, and five-foot intervals for grades over 10 percent.

   d. The location of the following hazard areas on and within 100 feet of the boundaries of the site:

      i. Areas indicated on National Flood Insurance Rate maps as being within the 100-year floodplain;

      ii. Areas subject to erosion as identified in the Morrow County Comprehensive Plan.

      iii. Other hazard areas identified in the Morrow County Comprehensive Plan.

   e. The location of inventoried significant natural resource areas on and within 100 feet of the boundaries of the site, including big game habitat areas, fish and riparian habitat areas, mineral and aggregate resource areas, significant natural areas, wetlands, water resources, and historic resources. As used in this Section, "significant inventoried" means a resource area identified as significant in Morrow County's acknowledged inventory of Goal 5 resource sites.

   f. The location, dimensions, and setback distances of all existing permanent structures, improvements and utilities on or within 25 feet of the site, and the current and proposed uses of the structures.

   g. The location, dimensions, square footage and setback distances of proposed structures, improvements, and utilities, and the proposed uses of the structures by square footage.

   h. The location, dimension and names, as appropriate, of all existing and proposed streets, other public ways, sidewalks and easements on and within the development site.

   i. All motor vehicle parking, circulation, loading and servicing areas.

   j. Site access points for automobiles and pedestrians.

   k. On-site pedestrian circulation.

l. Outdoor areas proposed as open space.

2. A landscaping plan, drawn to scale, showing the location and types of existing trees (eight inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacing of trees and plant materials to be planted on the site, the proposed types and locations of irrigation systems to maintain plant materials, and other pertinent landscape features.

3. Architectural elevations and floor plans for all proposed structures, drawn to scale, with elevations accurately reflected to grade.

4. A description of materials, referenced to UBC class codes, to be used on proposed structures.

5. An erosion control and grading plan.

6. A drainage plan, developed in accordance with County standards or with Oregon Department of Environmental Quality standards if no County standards have been adopted. The drainage plan shall identify the location of drainage patterns and drainage courses on and within 100 feet of the boundaries of the site.

7. An exterior lighting plan, drawn to scale, showing type, height, and lighting levels on and at the edge of the site.

8. A written statement identifying:

   a. The nature of the proposed use(s).

   b. Plans for the treatment and disposal of sewage and industrial wastes and any on-site disposal of wastes.

   c. Plans for handling traffic, noise, glare, air pollution, fire, or safety hazard.

9. The following technical reports:

   a. For developments expected to generate 400 or more vehicle trips on a single day, a traffic report, prepared by a licensed traffic engineer, demonstrating the ability of affected transportation facilities including highways, roads and intersections to accommodate the anticipated amount of traffic that would be generated by the proposed development over 20 years. The report shall identify existing traffic conditions and the safety and capacity improvements that are needed to accommodate the anticipated traffic, including facility reconstructions, modifications or widenings, additional travel or passing lanes, intersection or interchange improvements, realignments, channelization improvements, or other needed facility improvements, including possible new transportation facilities. The analysis shall demonstrate consistency with the applicable performance standards of the affected facilities. The Morrow County Transportation System Plan provides the applicable standards for

county transportation facilities. The Oregon Highway Plan provides the applicable standards for state transportation facilities.

When a traffic management plan is required by the Morrow County Transportation System Plan, the application shall not be deemed complete until the applicant has filed with the Planning Director a traffic management plan (TMP) including transportation system management (TSM) and transportation demand management (TDM) measures that have been coordinated with and address the reasonable concerns of affected transportation providers (e.g., Morrow County, affected cities, Oregon Department of Transportation, Federal Highway Administration) and traffic safety and emergency service providers (e.g. County sheriff, State Police, fire district, ambulance). The TMP shall be prepared by a licensed traffic engineer with established experience in the type of event for which the TMP is being developed. Unless otherwise agreed to by affected local governments or agencies, the costs of paying for necessary transportation improvements and implementation of the TMP shall be borne by the developer or its successors.

The TMP shall include, but not be limited to: ingress and egress from parking areas; deployment of personnel at ramps, intersections and highway locations; plans for rerouting of traffic in the event of accident or other cause of traffic delay; coordination with state police, County sheriff and emergency service providers; use of temporary signage, reader boards and similar visual aids; estimates of numbers and types of personnel to be employed; and other appropriate information.

b. If located within 5000 feet of a runway or approach surface of a public use airport, a technical report explaining how the development is compatible with customary aviation-related activities, including airport takeoffs and landings. The report shall explain how the proposed uses, including measures to minimize conflicts, do not: cause emissions of smoke, dust or steam that would obscure visibility within airport approach surfaces; project light directly onto existing airport runways or taxiways; or interfere with airport radio, radiotelephone, television and electrical transmissions.

10. Within 14 working days following receipt of a site development review application, the Planning Director may waive the submission of information for specific provisions of this Section or may require information in addition to that required by a specific provision of this Section, as follows:

a. The Planning Director may waive the submission of information for a specific requirement upon determination either that specific information is not necessary to evaluate the application properly, or that a specific approval standard is not applicable to the application. If submission of information is waived, the Planning Director shall, in the staff recommendation, identify the waived requirement and briefly explain the reasons for the waiver.

b. The Planning Director may require information in addition to that required by a specific provision of this Section upon determination that the information is needed to evaluate the application properly and that the need can be justified on the basis of a special or unforeseen circumstance. If additional information is required, the Planning Director shall, in the decision, briefly explain the reasons for requiring the additional information.

E. Standards.

1. All development shall comply with the following standards:

a. Retaining walls shall be provided and designed consistent with Uniform Building Code requirements. Grading and contouring shall take place with particular attention to minimizing the possible adverse effects of grading and contouring on the natural vegetation and physical appearance of the site.

b. Development in flood plains shall not increase the flood plain elevation unless the area in which the rise will occur contains no structures and the owner of such property signs a written acceptance of any increase in the flood plain elevation. Development in hazard areas identified in the Morrow County Comprehensive Plan shall safely accommodate and not exacerbate the hazard and shall not create new hazards.

c. Drainage shall be provided in accordance with Oregon Department of Environmental Quality standards. The Planning Commission may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality.

d. Off-street parking and loading-unloading facilities shall be provided as required in Article IV of the Morrow County Zoning Ordinance. Safe and convenient pedestrian access to off-street parking areas also shall be provided.

e. County transportation facilities shall be located, designed and constructed in accordance with the design and access standards in the Morrow County Transportation System Plan.

f. Circulation provided by public streets and by private streets, accessways and maneuvering areas within the boundary of the site shall facilitate safe and convenient motor vehicle and pedestrian access. Access for emergency services (fire, ambulance and police) shall be provided consistent with the requirements of the Fire Marshal and emergency service providers.

g. Illumination resulting from outdoor lighting shall not exceed one foot-candle at the property line.

h. Site planning, including the siting of structures, roadways and utility easements, shall provide, wherever practicable, for the protection of trees eight inch caliper or greater measured four feet from ground level.

i. Development shall comply with applicable County regulations protecting inventoried significant natural and historic resources.

j. Development shall maintain continuous compliance with applicable federal, state and County air and water quality standards. Prior to issuance of a building permit, the Building Official may require submission of evidence of compliance with such standards from the applicable federal or state agencies or the receipt of the necessary permits for the development from these agencies.

k. Development shall be designed to comply with applicable Oregon Department of Environmental Quality noise standards.

l. Sewer, water and storm drainage facilities shall be adequate to serve the proposed or permitted level of development. For uses like a speedway that engage in activities that on occasion attract unusually large numbers of people to the site, the development may rely on temporary sewer (e.g., portapotties, lagoon storage) and water facilities to accommodate the excess demand. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. All facilities shall be designed to comply with applicable state and local standards.

m. Law enforcement, public safety and security measures shall be adequate to serve the proposed or permitted level of development. For land uses involving activities that may attract many thousands of visitors to a site at one time on an occasional or episodic basis, adequate safety, law enforcement and security measures may include, but are not limited to, the use of on-site security service personnel and availability of police, fire and emergency medical services. For such uses, the Planning Commission may require the applicant to develop a public safety and security plan, which shall be coordinated with appropriate local and state public safety providers.

n. The transportation system shall be adequate to accommodate the proposed or permitted level of development.

i. Rights-of-way and roadway and sidewalk improvements shall be provided consistent with applicable County or State design, access management and highway performance standards, including applicable Oregon Highway Plan standards. Access points to County roadways and state highways shall be properly placed in relation to sight distance, driveway spacing and other related considerations including opportunities for joint and cross access. Any application that involves access to or significantly impacts the state highway system shall be reviewed by the Oregon Department of Transportation. Such applications shall demonstrate compliance with the Oregon Highway Plan and shall be conditioned on state issuance of access permits where required.

ii. In determining the adequacy of the transportation system to accommodate the proposed development, consideration shall be given to the need for roadway reconstructions, modifications or widenings, additional travel or passing lanes, intersection or interchange improvements, road realignments, channelization improvements, or other needed roadway improvements, including possible new roads. Consideration also shall be given to the need for right-of-way improvements such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. For uses necessitating preparation of a transportation management plan, a decision approving a site development review application shall include a condition requiring implementation of the transportation system management measures and transportation demand management measures that are determined to be needed to accommodate the traffic generated by the development and to comply with the Oregon Highway

Plan. Unless otherwise agreed to by affected local governments or agencies or limited by constitutional constraints, the costs of paying for necessary transportation improvements and implementation of the traffic management plan shall be borne by the developer or its successors.

iii. Nothing in this or any other provision of this Chapter shall be construed to replace, alter or otherwise affect the applicability of the Transportation Planning Rule, OAR 660, Division 12, to any development or action that would otherwise be subject to that Rule.

o. Access and facilities for physically handicapped people shall be incorporated into the site and building design, consistent with applicable federal and state requirements.

p. Development located within 5000 feet of a runway or approach surface of a public use airport shall not cause emissions of smoke, dust or steam that would obscure visibility within airport approach surfaces; project light directly onto existing airport runways or taxiways; or interfere with airport radio, radiotelephone, television or electrical transmissions.

q. Uses and improvements, including all land uses and improvements, including but not limited to traffic management plans, proposed on exception lands shall be consistent with the acknowledged goal exceptions taken for those lands.

2. The Planning Commission may impose such conditions as deemed necessary to ensure compliance with these standards.

a. When a transportation management plan is required, the Planning Commission may impose conditions providing for monitoring and reporting on the effectiveness of the traffic management measures and providing opportunity for a hearing to consider modifications to the TMP if deemed appropriate by the Planning Commission following its implementation. Any hearing that is held to consider TMP modifications shall be noticed and processed in the manner set out in Section VI.A of this Chapter and shall include notice to the Oregon Department of Transportation and Federal Highway Administration.

b. Required road dedications and other exactions shall comply with constitutional limitations.

c. To ensure compliance with this Section, the Planning Commission may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the County's legal counsel.

F. Review and Enforcement.

1. Applications for site development review shall be reviewed by the Planning Commission in the manner provided by ORS Chapter 197 for land use decisions following review and recommendation by the Planning Director. Public notice and an opportunity for hearing shall be provided in the manner provided by ORS Chapter 197 for land use decisions.

a. In addition to the public notice described above, timely notice of public hearing also shall be mailed to ODOT and the Federal Highway Administration if the Planning Director determines that the use may impact state or federal transportation facilities, and to the Oregon Department of Aviation and Federal Aviation Administration if the use is located within 5000 feet of a runway or approach surface of a public use airport.

b. The decision of the Planning Commission may be appealed to the County Court in the manner provided in Article 9, Section 9.030 of the Morrow County Zoning Ordinance.

2. The County building official may issue a certificate of occupancy only after the Planning Director has determined that the improvements required by site development review approval have been completed, or a schedule for completion and a bond or other financial guarantee have been accepted by the County and by ODOT for required improvements to the state highway system.

a. Implementation of traffic management, public safety and/or security plans, when required, shall be made ongoing conditions of approval of the use, and failure to substantially comply with those plans may be a basis for the Planning Director or Building Official to suspend or revoke the occupancy permit and for the County, DLCD or ODOT (when a state Transportation Facility is affected) to petition a court of competent jurisdiction to issue a temporary restraining order and permanent injunction against further use of the property for the purposes approved in the site development review.

b. Prior to or concurrent with the suspension of any site development review permit, the County shall provide the permittee with notice and an opportunity to be heard in accordance with the process set out in Morrow County Ordinance No. MC-C-7-92.

G. Expiration and Extension of Permit.

1. A site development review permit shall expire automatically two (2) years from the date of issuance unless one of the following occurs first:

a. The development has commenced; or

b. An application for an extension is filed as provided in this section; or

c. The permit is appealed to a body of competent jurisdiction following final approval by the County, in which case the two-year period shall be tolled until a final, unappealed or unappealable decision is made by a court or other body of competent jurisdiction.

2. As used in subsection 1 of this Section, a development has "commenced" when:

a. The permit holder has physically altered the land or structure or changed the use thereof through actions such as preliminary grading for roads, driveways or building sites, installation of utilities, construction of required off-site improvements or construction of buildings, and

b. The alteration or change is directed toward completion of the development; and

c. The permit holder has spent at least $50,000 in expenditures related to completion of the development. Expenditures that could apply to various other uses of the land or structure shall be excluded including the cost of purchasing land.

d. The provisions of subsection 1 of this Section shall apply independently to each discrete phase of a phased development. The commencement requirement for a subsequent phase cannot be satisfied by commencement activities conducted under an approval for an earlier phase of the development.

3. If an extension is desired, the holder of the site development review permit must file an application for an extension prior to the expiration of the permit. The application shall be filed in writing with the Planning Director. A maximum of two extensions are permitted. Unless approved, the extension does not extend the expiration date. The Planning Director shall grant an initial two year extension upon the timely filing of the extension application. Following notice and hearing, the Planning Commission shall grant a second two-year extension only upon demonstration by the permit holder that:

a. In terms of time, labor or money the permit holder has been making a good faith effort to commence the development or has been precluded from doing so for reasons beyond the permit holder's reasonable control;
b. Commencement of the development is likely during the second two year extension; and
c. There has been no change in circumstance or the law likely to necessitate significant modification of the development approval or conditions of approval. (MC-C-1-02)

ARTICLE 8. DESIGN STANDARDS

SECTION 8.010. COMPLIANCE REQUIRED. Any land division, whether by Subdivision, creation of a street or other right-of-way, partitioning or planned unit development, shall be in compliance with the design standards set forth by this ordinance.

SECTION 8.020. STREETS.

A. General. The location, width and grade shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of land to be served by the street. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. Streets shall be designed and constructed in conformance with the basic cross-sections in the County TSP Update, with horizontal and vertical alignment geometry conforming to the latest version of applicable ODOT and/or AASHTO standards.

B. Design and Construction Approval. Any facility or improvement conditioned to be constructed as part of private development activity and subsequently dedicated to the County must first receive design approval by the Morrow County Public Works Department. Design approval shall include all other pertinent issues related to roadway construction and operations, including but not limited to drainage, maintenance, serviceability, and pavement design. Upon request of an applicant, the County shall provide applicable design criteria and the rationale for establishing the criteria. Street design plans submitted for County approval shall be stamped by a registered professional engineer with appropriate experience. The Public Works Department is responsible for providing regular inspections throughout construction, and performing final inspection upon completion and prior to acceptance of the improvement as public right-of-way. An equitable Plan Review and Construction Inspection fee shall be determined at the initiation of plan review and charged to the developer.

C. Minimum Right-of-Way and Roadway Width. Unless otherwise approved in the tentative plan, the street right-of-way and roadway surfacing widths shall not be less than the minimum width in feet set forth in the following table. Additional right-of-way may be necessary to conform to standards and specifications set forth in current AASHTO and/or ODOT design standards, and other applicable affected City standards and specifications.

Where conditions, particularly topography or the size and shape of land parcels, make it impractical to provide buildable lots, narrower right-of-way may be accepted ordinarily not less than 40 feet. Slope easements, while generally undesirable, may be required in extreme cases.

The Roadway Standards set forth in the following table shall be observed unless a variance has been obtained.

ROADWAY STANDARDS					
Road Classification	**Right of Way (ft)**	**Lane Width (ft)**	**Paved Shoulder Width (ft)**	**Pavement Width (ft)**	**Average Daily Traffic (ADT)**
Rural Access I*	60	9	1	20	100-200
Rural Access II*	60	9	1	20	50-100
Rural Collector I	60	12	3-4	30-32	300-500
Rural Collector II	60	12	2	28	200-300
Rural Collector III	60	12	1	26	100-200
Rural Arterial I	60	12	4-8	32-40	> 700
Rural Arterial II	60	12	3-6	32-40	300-700
Rural Gravel	60	11	n/a	n/a	n/a
* Rural Access 1 and Rural Access II differ in the surface type – Rural Access II is gravel.					

D. Reserve Strips. Reserve strips or street plugs controlling the access to streets will not be approved unless necessary for the protection of the public welfare or of substantial property rights and in these cases they may be required.

E. Alignment. All streets other than minor streets, as far as is practical, shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and, in no case, shall be less than 100 feet. The streets and roads shall be laid out so as to conform to the plat of subdivisions and maps of partitions already approved for adjoining property as to width, improvements, general direction, and in all other respects, unless the Planning Commission determines it is in the public interest to modify the street or road pattern. Streets and roads shall be laid out in such a way so as to connect to existing roads at the time of development or through extension at a future date by creating dead-end streets without turn-arounds.

F. Future Extension of Streets. Where necessary to give access to or permit a satisfactory future subdivision on adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without a turn-around. Reserve strips and street plugs may be required to preserve the objectives of street extensions. Streets and accessways are always required unless one or more of the following conditions exists:

1. Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands, or other bodies or water where a connection could not reasonably be provided;

2. Buildings or other existing development on adjacent lands physically precludes a connection now or in the future considering the potential for redevelopment; or

3. Where streets or accessways would violate provisions of leases, easements, covenants, restrictions, or other agreements existing as of May 1, 1995, which preclude a required street or accessway connection.

G. Intersection Angles. Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires a lesser angle. In no case shall the acute angle be less than 80 degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least 100 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least 50 feet of tangent adjacent to the intersection unless topography requires a lesser distance. The intersection of more than two streets at any one point will not be approved. Right-of-way lines at street intersections shall have a minimum corner radius of 15 feet.

H. Existing Streets. Whenever existing streets, adjacent to or within a tract, are of inadequate width, additional right-of-way shall be provided at the time of land division by the developer. During consideration of the tentative plan for a subdivision, the Planning Commission shall determine whether improvements are required to existing streets, either adjacent to or within the tract. They may require such improvements as a condition of approval of the tentative plan.

I. Half Streets. Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision or partition when in conformity with the other requirements of these regulations and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is divided. Whenever a half street is adjacent to a tract to be divided, the other half of the street shall be provided within such tract. Reserve strips and street plugs may be required to preserve the objectives of half streets.

J. Cul-de-Sac. A cul-de-sac, while not encouraged, may be used as part of a development plan, consistent with other provisions of this section (refer to Section 8.020.E). A cul-de-sac shall be as short as possible and shall have a maximum length of 400 feet and serve building sites for not more than 9 dwelling units unless approved otherwise by the Commission. A cul-de-sac shall terminate with a circular turn-around.

K. Street Names. Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street in the city or county. Street names and numbers shall conform to the established pattern in the affected city urban area, and shall be subject to the approval of the Planning Commission.

L. Installation of Regulatory Signs in County Road Right-of-Way. Developers are to install street name, posted speed, and other traffic control and/or regulatory signage required for private developments, per applicable standards of Morrow County and the Manual on Uniform Traffic Control Devices (MUTCD).

M. Private Signage within County Road Right-of-Way. Residents may request specific cautionary signage for individual resident(s) to be installed within County right-of-way. All costs including materials, installation, maintenance, and removal, shall be borne by the requestor.

N. Grades and Curves. Grades shall not exceed eight (8) percent on arterials, ten percent on collector streets or 12 percent on other streets except as otherwise provided for. Center line radii of curves shall not be less than 500 feet on arterials, 250 feet on collectors, or 100 feet on other streets and shall be on an even 10 feet. Where existing conditions, particularly topography, make it otherwise impractical to provide buildable sites, the Planning Commission may accept steeper grades and sharper curves as specifically provided for in current County Design Standards. In flat area, allowance shall be made for finished street grades having a minimum slope, preferably of at least 0.5 percent.

O. Streets Adjacent to Railroad Right-of-Way. Wherever the proposed land division contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of land between the streets and railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

P. Marginal Access Streets. Where a land division abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reserve frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.

Q. Alleys. Alleys shall be provided in commercial and industrial districts, unless other permanent provisions for access to off-street parking and loading facilities are approved by the Planning Commission.

R. Curbs. Curbs shall be required on all urban area streets unless otherwise approved by the County and affected City, and shall be installed by the developer in accordance with the standards set forth in current County Design and Construction Standards or other standards set forth by the affected City and County.

S. Proposed Corridors. For land adjacent to or containing a proposed corridor (see corridor map in the TSP), the Planning Commission may require the dedication of a suitable right-of-way that shall be provided at the time of land division.

T. Access Management. Applications for development with access onto state highways shall be provided to ODOT for review, to ensure consistency with adopted ODOT Access Management Standards shown below. These standards apply only to unsignalized access points. New traffic signals on state facilities shall meet signal

spacing standards in OAR 734-020 (desired minimum spacing for new traffic signals on state highways is at least 0.5 miles from the nearest existing or planned signal). For approval of a new traffic signal on a County facility as part of a condition of development approval, the applicant shall be required to show, through an analysis prepared by a qualified professional engineer registered in the State of Oregon, that the signal is warranted to improve traffic operations, address safety deficiencies, or a combination.

Access Management Standards for Morrow County non-Interstate Highways

Highway	Classification	Access Spacing Standards for Public or Private Unsignalized Access (ft) for Posted Speed Indicated (mph)				
		>55	50	40 & 45	30 & 35	<25
US 730, OR 74	Regional	990	830	750	600	450
OR 206, OR 207	District	700	550	500	400	400

Source: Oregon Administrative Rules Section 734-051 (2004)

Access within the influence area of existing or proposed state highway interchanges is regulated by standards in OAR 734-051, which are included as Appendix F of the 2005 Morrow County Transportation System Plan Update. These standards do not retroactively apply to interchanges existing prior to adoption of the 1999 Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these existing interchanges occurs. It is the goal at that time to meet the appropriate spacing standards, if possible, but, at the very least, to improve the current conditions by moving in the direction of the spacing standard.

Morrow County also requires an access permit for land use development proposing access onto a County road. Access permit requirements for land use development are outlined in Section 4.010 of the Morrow County Zoning Code, and development proposing access onto a County road is subject to access spacing standards specified in the table below.

RECOMMENDED ACCESS MANAGEMENT STANDARDS FOR COUNTY ROADS[a]				
	Intersection			
	Public Road		Private Drive	
Functional Classification	Type	Minimum Spacing	Type	Minimum Spacing
Rural Arterial	at-grade	600 ft	Left/right turns	300 ft
Rural Collector	at-grade	300 ft	Left/right turns	100 ft
Rural Local	at-grade	200 ft	Left/right turns	Access to each lot

a. For most roadways, at-grade crossings are appropriate. Also, allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the district office of ODOT and is subject to the access spacing standards in the previous table in this section.

Approval of a variance from the County access spacing standards is subject to the following requirements:

1. The granting of a variance for access management standards shall be in harmony with the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is employed.

2. Applicants for a variance from these standards must provide proof of unique or special conditions that make strict application of the provisions impractical. Applicants shall include proof that:

a. Indirect or restrict access cannot be obtained;

b. No engineering or construction solutions can be applied to mitigate the condition; and,

c. No alternative access is available from a street with a lower functional classification than the primary roadway.

3. No variance shall be granted where such hardship is self-created.

U. Corner Clearance. Corner clearance at intersections shall meet or exceed the minimum connection spacing requirements for that roadway. New connections shall not be permitted within the functional area of an intersection or exchange as defined by the connection spacing standards of this ordinance, unless no other reasonable access to the property is available. Where no other alternatives exist, the Morrow County Planning Department may allow construction of an access connection along the property line farthest from the intersection. In such cases, directional connections such as right-in/right-out, right-in only, or right-out only may be required.

V. Driveways. Driveways onto State highways shall be consistent with ODOT Access Management Standards. Driveways onto County facilities, which require an access permit from the Morrow County Department of Public Works, shall be consistent with County access management standards and meet the following standards.

All private access driveways shall meet the following standards. Those that do not meet these standards shall require an access variance.

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	10	24
Multi-Family Residential	24	30
Commercial	24	40
Industrial	30	40

Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view meeting County sight distance requirements. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

The length of driveways shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation.

For unpaved driveways connecting to paved roadways, a paved driveway apron must be provided per Morrow County Department of Public Works standards.

W. Easements and Legal Access. All lots must have access onto a public right-of-way. This may be provided via direct frontage onto an existing public road, a private roadway, or an easement. Minimum easement requirements to provide legal access shall be as follows:

1. 1000 feet or less, an easement width of 20 feet.

2. More than 1000 feet, an easement width of 40 feet.

3. Parcels where 3 or more lots share an access (current or potential), an easement of 60 feet.

X. Joint and Cross Access. Adjacent commercial or office properties classified as major traffic generators shall provide a cross access drive and pedestrian access to allow circulation between sites. These shall be established as a system wherever feasible including:

1. A continuous service drive consistent with access management standards.

2. Stub-outs or other design features to allow tie-ins to adjacent properties.

Pursuant to this section, property owners shall record an easement allowing joint or cross access between parcels, record an easement on the deed to dedicate access rights to the main roadway, and to close non-conforming existing driveways, and to record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

Y. Requirements for Phased Development Plans. In the interest of promoting unified access and circulation systems, development sites under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall be reviewed as a single property in relation to the access standards of this ordinance. This shall also apply to phased development plans.

Z. Nonconforming Access Features. Legal access in place as of the date of adoption that do not meet spacing and design standards shall be brought into compliance with applicable standards when new access permits are requested or when a change in land use or improvements occurs.

AA. Reverse Frontage. Lots that front on more than one street shall be required to locate motor vehicle access on the street with the lower functional classification.

AB. Shared Access. Subdivisions with frontage on the state highway system shall be designed into shared access points to and from the highway. If access to a lower classification street becomes available, then conversion to that access is encouraged, along with closing the state highway access.

AC. Connectivity. The street system of a proposed subdivision shall be designed to coordinate with existing, proposed, and planned streets outside of the subdivision as provided in this Section and in the local street plans of the TSP. Whenever a proposed development abuts unplatted land or a future development phase of the same development, street stubs shall be provided to provide access to abutting properties or to locally extend the street system into the surrounding area. All street stubs shall be provided with a temporary turn-around unless specifically exempted by the Public Works Director, and the restoration and extension of the street shall be the responsibility of any future developer of the abutting land. Minor collector and local residential access streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate traffic controls, such as traffic calming measures, are preferred means of discouraging through traffic.

AD. Private Streets Outside an Urban Growth Boundary. All private streets providing access from a public roadway to a proposed land division shall meet the following standards:

1. Have a minimum sight distance in compliance with adopted County Standards at any intersection with a public road. Additional sight distance or advance

warning signage or other devices may be required where known safety hazards exist.

2. For each private street, there shall be a legal recorded document which includes:

    a. A legal description of the proposed easement;

    b. Ownership of the street;

    c. Use rights; and

    d. A maintenance and construction agreement which includes Fire Marshal approved street specifications and turn around area (if required) and the allocation and/or method of determining liability for maintenance.

3. Where drainage conditions require it, a private street shall be ditched in conformance with the County Road Standards.

4. Private streets which access public or County roads shall be located, designed and constructed (within the public right-of-way) in accordance with adopted standards for County roads.

5. Prior to establishing a private driveway or a private street, the owner shall obtain an access permit for access to the intersecting public road. As a condition of granting access to a public road, the County may require the applicant to clean the ditch serving the parcel and remove sight obstructing vegetation in the vicinity of the access.

Appendix F
Interchange Influence Area Access Spacing Guidelines (Oregon Administrative Rules 734–015-0125)

Appendix F: Access Management Spacing Standards for Approaches in an Interchange Area

This appendix includes tables and illustrative graphics summarizing the State's adopted minimum spacing standards for accesses in the vicinity of freeway and expressway interchanges, which can be found in section 734-015-0125 of the Oregon Administrative Rules, or OAR. As shown below, the standards for two-lane and four-lane crossroads are similar. OAR sections 734-051-0115 through 0155 provide additional detail, including:

- How the standards are integrated with the development process.
- Conditions under which a deviation to spacing standards can be approved.
- The type of mitigation measures that may be required of applicants, in proportion to the impact of a proposed access that does not meet applicable spacing standards.
- The purpose and role of Access Management Plans, Access Management Plans for Interchanges, and Interchange Area Management Plans. The County could select to prepare one or more of these plans for the Tower Road and I-84/US 730 interchanges.

Table F-1
Minimum Spacing Standards Applicable to Freeway Interchanges with Two-Lane Crossroads
(OAR 734-051-0125)

Category of Mainline	Type of Area	Spacing Dimension			
		A	X	Y	Z
FREEWAY	Fully Developed Urban*	1 mile (1.6 km)	750 feet (230 m)	1320 feet (400 m)	750 feet (230 m)
	Urban	1 mile (1.6 km)	1320 feet (400 m)	1320 feet (400 m)	990 feet (300 m)
	Rural	2 miles (3.2 km)	1320 feet (400 m)	1320 feet (400 m)	1320 feet (400 m)

Notes: 1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersections may be placed between ramp terminals and the first major intersection.
3) No application shall be accepted where an approach would be aligned opposite a freeway or expressway ramp terminal (OAR 734-051-0070(4)(a)).
4) Use four-lane crossroad standards for urban and suburban locations that are documented to be widened in a Transportation System Plan or corridor plan.

A = Distance between the start and end of tapers of adjacent interchanges
X = Distance to the first approach on the right; right in/right out only
Y = Distance to first intersections where left turns are allowed
Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp
* Fully Developed Urban Interchange Management Area: Occurs when 85% or more of the parcels along the developable frontage area are developed at urban densities and many have driveways connecting to the crossroad. See definition in the 1999 Oregon Highway Plan at page 181.

Figure F-1: Measurement of Spacing Standards for Table F-1

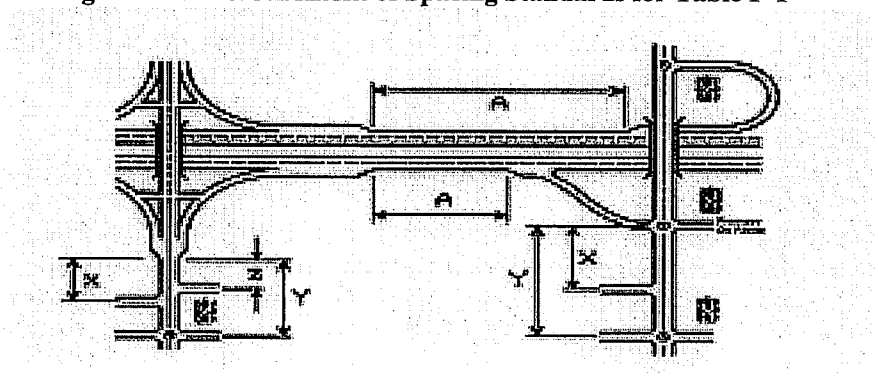


Table F-2
Minimum Spacing Standards Applicable to Freeway Interchanges with Multi-Lane Crossroads
(OAR 734-051-0125)

Category of Mainline	Type of Area	Spacing Dimension			
		A	X	Y	Z
FREEWAY	Fully Developed Urban*	1 mile (1.6 km)	750 feet (230 m)	1320 feet (400 m)	990 feet (300 m)
	Urban	1 mile (1.6 km)	1320 feet (400 m)	1320 feet (400 m)	1320 feet (400 m)
	Rural	2 miles (3.2 km)	1320 feet (400 m)	1320 feet (400 m)	1320 feet (400 m)

Notes: 1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersections may be placed between ramp terminals and the first major intersection.
3) No application shall be accepted where an approach would be aligned opposite a freeway or expressway ramp terminal (OAR 734-051-0070(4)(a)).

A = Distance between the start and end of tapers of adjacent interchanges
X = Distance to the first approach on the right; right in/right out only
Y = Distance to first intersections where left turns are allowed
Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp
* Fully Developed Urban Interchange Management Area: Occurs when 85% or more of the parcels along the developable frontage area are developed at urban densities and many have driveways connecting to the crossroad. See definition in the 1999 Oregon Highway Plan at page 181.

Figure F-2: Measurement of Spacing Standards for Table F-2

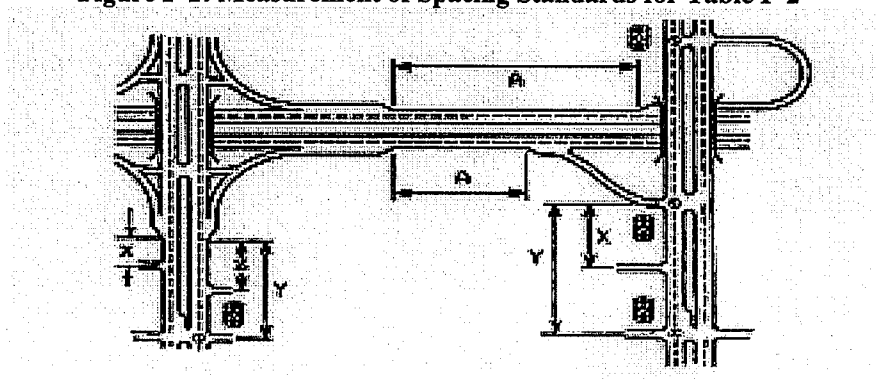


Table F-3
Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Two-Lane Crossroads
(OAR 734-051-0125)

Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimension				
			B	C	X	Y	Z
Expressways, Statewide, Regional and District Highways	Fully Developed Urban*	45 mph (70 kph)	2640 ft (800 m)	1 mile (1.6 km)	750 feet (230 m)	1320 feet (400 m)	750 feet (230 m)
	Urban	45 mph (70 kph)	2640 ft (800 m)	1 mile (1.6 km)	1320 feet (400 m)	1320 feet (400 m)	990 feet (300 m)
	Rural	55 mph (90 kph)	1 mile (1.6 km)	2 miles (3.2 km)	1320 feet (400 m)	1320 feet (400 m)	1320 feet (400 m)

Notes: 1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersections may be placed between ramp terminals and the first major intersection.
3) No application shall be accepted where an approach would be aligned opposite a freeway or expressway ramp terminal (OAR 734-051-0070(4)(a)).
4) Use four-lane crossroad standards for urban and suburban locations that are documented to be widened in a Transportation System Plan or corridor plan.
5) No at-grade intersections are allowed between interchanges less than 5 miles apart.

B = Distance between the start and end of tapers
C = Distance between nearest at-grade and ramp terminal intersections or the end/start of the taper section
X = Distance to the first approach on the right; right in/right out only
Y = Distance to first intersections where left turns are allowed
Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp
* Fully Developed Urban Interchange Management Area: Occurs when 85% or more of the parcels along the developable frontage area are developed at urban densities and many have driveways connecting to the crossroad. See definition in the 1999 Oregon Highway Plan at page 181.

Figure F-3: Measurement of Spacing Standards for Table F-3

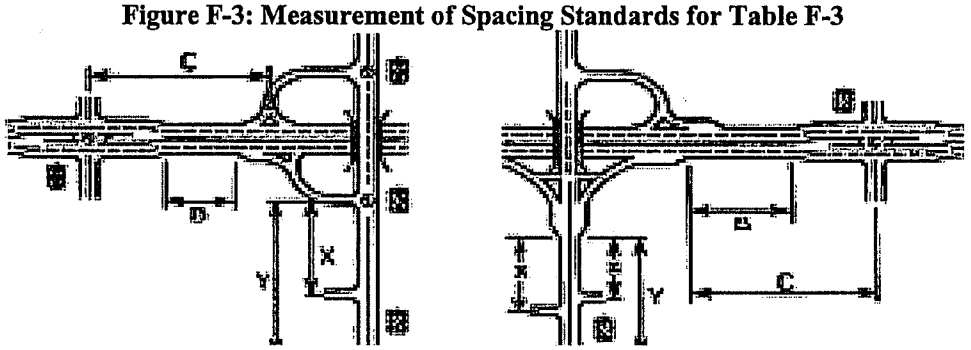


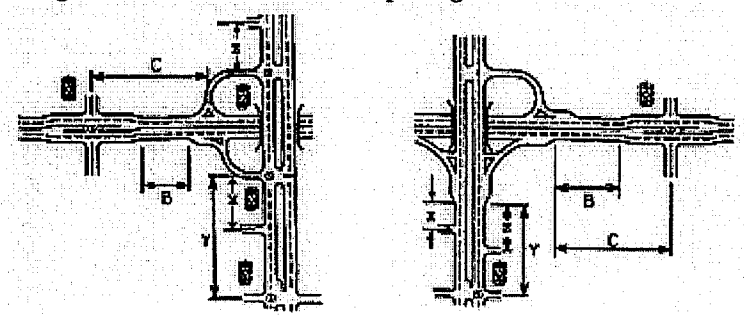
Table F-4
Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Multi-Lane Crossroads
(OAR 734-051-0125)

Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimension				
			B	C	X	Y	Z
Expressways, Statewide, Regional and District Highways	Fully Developed Urban*	45 mph (70 kph)	2640 ft (800 m)	1 mile (1.6 km)	750 feet (230 m)	1320 feet (400 m)	990 feet (300 m)
	Urban	45 mph (70 kph)	2640 ft (800 m)	1 mile (1.6 km)	1320 feet (400 m)	1320 feet (400 m)	1320 feet (400 m)
	Rural	55 mph (90 kph)	1 mile (1.6 km)	2 miles (3.2 km)	1320 feet (400 m)	1320 feet (400 m)	1320 feet (400 m)

Notes: 1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersections may be placed between ramp terminals and the first major intersection.
3) No application shall be accepted where an approach would be aligned opposite a freeway or expressway ramp terminal (OAR 734-051-0070(4)(a)).
4) Use four-lane crossroad standards for urban and suburban locations that are documented to be widened in a Transportation System Plan or corridor plan.
5) No at-grade intersections are allowed between interchanges less than 5 miles apart.

B = Distance between the start and end of tapers
C = Distance between nearest at-grade and ramp terminal intersections or the end/start of the taper section
X = Distance to the first approach on the right; right in/right out only
Y = Distance to first intersections where left turns are allowed
Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp
* Fully Developed Urban Interchange Management Area: Occurs when 85% or more of the parcels along the developable frontage area are developed at urban densities and many have driveways connecting to the crossroad. See definition in the 1999 Oregon Highway Plan at page 181.

Figure F-4: Measurement of Spacing Standards for Table F-4



ARTICLE 4. SUPPLEMENTARY PROVISIONS

SECTION 4.010. Access. Intent and Purpose: The intent of this ordinance is to manage access to land development while preserving the flow of traffic in terms of safety, capacity, functional classification, and level of service.

Major roadways, including highways, arterials, and collectors serve as the primary network for moving people and goods. These transportation corridors also provide access to businesses and homes and have served as the focus for commercial and residential development. If access points are not properly designed, these roadways will be unable to accommodate the needs of development and retain their primary transportation function. This ordinance balances the right of reasonable access to private property with the right of the citizens of Morrow County and the State of Oregon to safe and efficient travel.

This ordinance shall apply to all public roadways under the jurisdiction of Morrow County and to application for development for any property that abuts these roadways.

This ordinance is adopted to implement the land access and access management policies of Morrow County as set forth in the Transportation System Plan. Access shall be provided based upon the requirements below:

A. Minimum Lot Frontage Requirement. Every lot shall abut a street, other than an alley, for at least 50 feet, except on cul-de-sacs where the frontage may be reduced to 30 feet.

B. Access Permit Requirement. Where access to or construction on a county road is needed, an access permit or right-of-way permit from Morrow County Public Works department is required subject to the requirements in this Ordinance. Where access to a state highway is needed, an access permit from ODOT is required as part of the land use application. Where access is needed to a road managed by the Forest Service or other entity, an access permit or other authorization from the appropriate entity shall be required as part of the land use application.

C. Emergency Vehicle Access. It is the responsibility of the landowner to provide appropriate access for emergency vehicles at the time of development. A dead-end private street exceeding one hundred-fifty (150) feet in length shall have an adequate turn around facility approved by the appropriate Fire Marshal or, if the Fire Marshal fails to review the private street, approval by the Building Official or his designee.

D. Easements and Legal Access: All lots must have access onto a public right of way. This may be provided via direct frontage onto an existing public road, a private roadway, or an easement. Minimum easement requirements to provide legal access shall be as follows:

1. 1000' or less, a minimum easement width of 20'

2. More than 1000', a minimum easement width of 40'

3. Parcels where 3 or more lots share an access (current or potential), a minimum easement of 60'.

E. Access Spacing Requirements for Development Accessing State Highways. Applications for development with access onto state highways shall be provided to ODOT for review, to

ensure consistency with adopted ODOT Access Management Standards shown in Table 4.010-1. These standards apply only to unsignalized access points. Where a right of access exists, a property shall be allowed to have access onto a state highway at less than adopted access spacing requirements only if all the following conditions are met:

1. The property does not have reasonable access via an alternative to the state highway;
2. There are no other possible access options along the parcel's highway frontage; and
3. The access spacing standards cannot be accomplished.

When a proposed access onto a state highway does not meet the access spacing standards in Table 4.010-1, a deviation from standard will be considered by the ODOT Region Manager, subject to requirements in OAR 734-051-0135.

TABLE 4.010-1
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY
NON-INTERSTATE HIGHWAYS

		Access Spacing Standards for Public or Private Unsignalized Access (ft) for Posted Speed Indicated (mph)				
Highway	Classification	>55	50	40 & 45	30 & 35	<25
US 730, OR 74	Regional	990	830	750	600	450
OR 206, OR 207	District	700	550	500	400	400

REFERENCE: OREGON ADMINISTRATIVE RULES SECTION 734-051 (2004)

F. Access within the Influence Area of an Interchange Access within the influence area of existing or proposed state highway interchanges is regulated by standards in OAR 734-051, which are included as Appendix F of the 2005 Morrow County Transportation System Plan Update. These standards do not retroactively apply to interchanges existing prior to adoption of the 1999 Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these existing interchanges occurs. It is the goal at that time to meet the appropriate spacing standards, if possible, but, at the very least, to improve the current conditions by moving in the direction of the spacing standard.

G. Signalized Intersection Spacing on State Facilities. New traffic signals proposed for state facilities, whether the intersecting facility is a public or private road, shall meet the requirements for installation of a traffic signal on a state highway in OAR 734-020-0400. New traffic signals on state facilities must be approved by the State Traffic Engineer. For approval of a new traffic signal on a County facility as part of a condition of development approval, the applicant shall be required to show, through analysis prepared by a qualified professional engineer registered in the State of Oregon, that the signal is warranted to improve traffic operations, address safety deficiencies, or a combination, based upon traffic signal warrants in the current version of the *Manual on Uniform Traffic Control Devices*.

H. Access Spacing Requirements for Development Accessing County Facilities. All developments shall have legal access to a County or public road. Except for interim access as provided in Section 4.010 H [Interim Access], access onto any County road in the unincorporated or incorporated urban area shall be permitted only upon issuance of an access permit upon demonstration of compliance with the provisions of the County road standards and the standards of Section 4.010.

For County roadways designated as major collector or arterial in the Transportation System Plan, the standards in Table 4.010-2 apply for intersections created by a new public roadway, new private roadway or new private driveway. For County roadways designated as minor collectors or local access roads, intersections created by a new public roadway, new private roadway or new private driveway shall meet minimum County traffic safety and operational requirements, including sight distance, as determined by the County Engineer.

TABLE 4.010-2
ACCESS MANAGEMENT STANDARDS FOR MORROW COUNTY ROADWAYS

	Access Spacing Standards for Public or Private Access (ft)		
Classification	Public Roadway	Private Roadway	Private Driveway[a]
Arterial	600	600	300
Collector	300	300	100
Local	200	200	Access to each lot

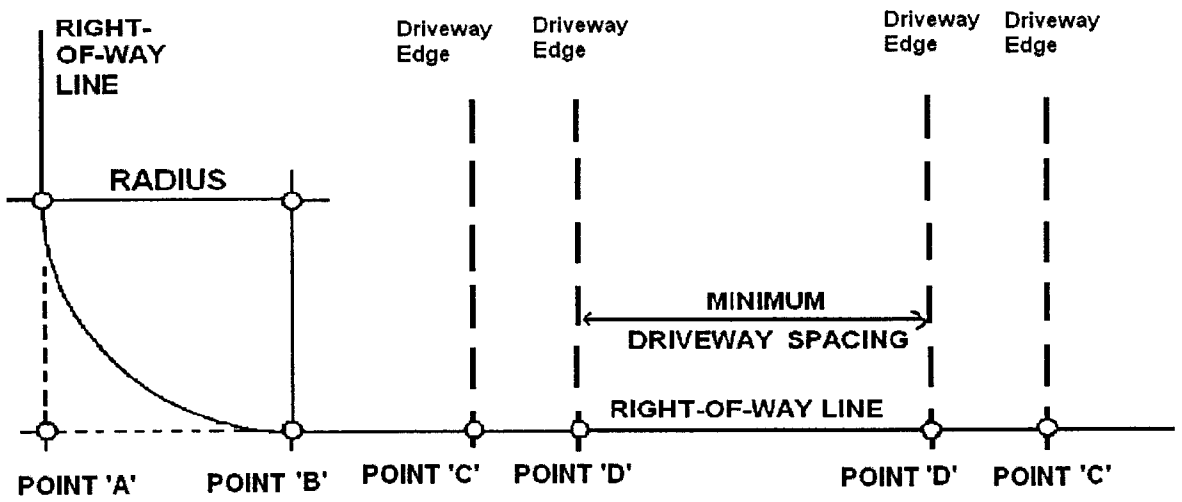
a. For most roadways, at-grade crossings are appropriate. Also, allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the district office of ODOT and is subject to the access spacing standards in Table 4.010-1 in this section.

No use will be permitted to have direct access to a street or road except as specified below, or as provided in Section 4.010.H (Interim Access). Access spacing shall be measured from existing or approved accesses on either side of a street or road. Measurements shall be made from easement or right-of-way line to easement or right-of-way line. (See following access diagram where R/W = Right-of-Way; P.I. = Point-of-Intersection where P.I. shall be located based upon a 90 degree angle of intersection between ultimate right-of-way lines, and 'C' and 'D' = each side of adjacent accesses to private property.

1. All minimum distances stated in the following sections shall be governed by sight distance requirements according to this Ordinance and applicable County Road Standards.
2. All minimum distances stated in the following sections shall be measured to the nearest easement line of the access or edge of travel lane of the access on both sides of the road.
3. The minimum curb radius shown in the diagram below (i.e., distance from Point "A" to Point "B") shall be 15 feet. In areas zoned for industrial uses, the minimum curb radius shall be 30 feet. At intersections between facilities classified as major collector, arterial or highway, any new or modified intersection shall be designed to accommodate a WB-50 Semitrailer Design Vehicle. If either route is designated by the County as a truck route, the intersection shall be designed to accommodate a WB-65 Interstate Semitrailer Design Vehicle. The curb alignment shall be designed

so that the design vehicle can complete a right turn without entering a lane used by opposing traffic.

4. All minimum distances between accesses shall be measured from existing or approved accesses on both sides of the road.
5. Minimum spacing between driveways shall be measured from Point "D" to Point "D" as shown below (i.e., the edges of adjacent driveways closest to each other).
6. In all instances, access points near an intersection with a Collector or Arterial shall be located beyond the influence of standing queues of the intersection in accordance with AASHTO standards. Additionally, access shall be located beyond the back of any left turn refuge either existing on the affected road or required to accommodate the proposed development. This requirement may result in an access spacing greater than one hundred (100) feet in the case of a collector, or 300 feet in the case of an arterial.
7. Access onto local roads will not be permitted within ten (10) feet of Point "B" as shown below. If no radius exists, access will not be permitted within twenty-five (25) feet of Point "A".
8. Access onto collector roads will not be permitted within fifty (50) feet of Point "B" as shown below. If no radius exists, access will not be permitted within sixty-five (65) feet of Point "A". Where a common or shared access is available it shall be used, provided that such use will not result in operational or safety problems. Minimum spacing between driveways shall be one-hundred (100) feet.
9. Direct access to an arterial will be permitted provided that Point 'C' of such access is more than three hundred (300) feet from any intersection Point 'A' or other access to that minor arterial.



I. Interim Access onto County Facilities. No development with sole access onto a County arterial or major collector shall be denied based only on an inability to provide an access that meets applicable access spacing standards. In such an event, the use may be issued an interim access permit which shall expire when access as required under this Ordinance becomes available. An interim access permit may be granted based upon the following:

1. The site is situated such that adequate access cannot otherwise be provided in accord with the access spacing requirements of this Code.

2. The interim access shall meet minimum County traffic safety and operational requirements, including sight distance.

3. Alternate access shall ***not*** be deemed adequate and connections to alternate access shall ***not*** be required if the resulting route of access would require a trip in excess of one (1) block or five-hundred (500) feet out of direction (whichever is less).

4. The property owner signs a consent to participate agreement for the formation of a Local Improvement District or similar financing mechanism for the primary purpose of constructing a public road or right-of-way providing access to the arterial or collector road; such access shall meet the minimum applicable County standard.

5. The property owner records an agreement to participate in any project that would consolidate access points where such project would not result in new or more severe traffic operation or safety problems.

6. The property owner records an agreement to abandon use of the existing private access way when an adequate alternative access becomes available.

SECTION 4.020. SIGHT DISTANCE. In all zones, adequate sight distance shall be maintained at the intersection of two roads (public or private), a road intersecting a private driveway, or a road crossing a railroad.

A. Sight Distance Requirements for New Accesses. It is the intent of this section to ensure that each new access point or each new lot or parcel created or development in the County will have a safe access to a public road, with the exception of development actions listed in Section 4.020.B. but are subject to improvements to maximize sight distance to the extent practicable by the County Operations Division through an Access Permit or Right-of-way Permit:

1. Existing access points that do not satisfy the sight distance standards and are on property included with a development action which will not add any additional vehicle trips to that access, are exempt from this Section. Improvements at these existing access points may be required of the applicant to maximize sight distance to the extent practicable through an Access Permit application.

2. The minimum intersectional sight distance shall be based on the vehicular speeds of the road. The vehicular speeds for the purpose of determining intersectional sight distance shall be the greater of the following, to be selected by the County Engineer or designee.

    a. Design Speed - A speed selected by a registered engineer (Oregon) for purposes of design and correlation of those features of a road, such as curvature, superelevation, and sight distance, upon which the safe operation of vehicles is dependent.

b. Posted Speed - That speed which has been established by the Oregon State Speed Control Board and is posted by the County.

c. Eighty-fifth Percentile Speed - That speed as certified by a registered engineer (Oregon) below which 85 percent of all traffic units travel, and above which 15 percent travel. The eighty-fifth percentile speed shall be measured at the point where the sight restriction occurs.

3. The intersectional sight distance shall:

   a. Be based on an eye height of 3.5 feet and an object height of 4.25 feet above the road; and

   b. Be assumed to be 10 feet from the near edge of pavement or the extended curb line or the near edge of the graveled surface of a gravel road to the front of a stopped vehicle.

4. Minimum intersectional sight distance shall be equal to ten (10) times the vehicular speed of the road such as in the table below.

INTERSECTIONAL SIGHT DISTANCE

MPH	DISTANCE ALONG CROSSROAD (FT)
25	250
30	300
35	350
40	400
45	450
50	500
55	550

5. Intersectional sight distance values shall conform to (3) above. For significant road improvement projects, the above intersectional standards shall be met in addition to the applicable AASHTO roadway sight distance standards.

6. In those instances where there are no access locations available to the site that meet or can meet the sight distance requirements, a written request for modification may be submitted to the County Engineer or designee. The request for modification of the sight distance requirements shall be subject to the following requirements:

   a. Submitted and certified by a registered engineer (Oregon);

   b. Nationally accepted specifications or standards are documented and referenced;

   c. Certification that the modification will not compromise safety or the intent of the County's transportation standards;

d. Agreement that the cost of any modifications agreed to must be borne by the applicant; and

e. Statement that there is no location available to provide an alternative access location which currently meets the sight distance requirements, or which can be altered to meet the sight distance requirements. Alterations needed to provide adequate sight distance include but are not limited to grading and the removal of vegetation. For the purpose of this subsection alternative access location means:

    i. Any location on the proposed development site which meets or can meet the sight distance requirements; or

    ii. Any location off the proposed development site which can provide access to the site by an existing access easement or through an access easement which will be provided to the site as part of the development application. Such an off-site access must be shown to meet or be able to meet sight distance requirements.

B. Accesses Exempt from Sight Distance Requirements. Accesses for the following development actions are exempt from the Sight Distance standards (Section 4.020.A), but are subject to improvements to maximize sight distance to the extent practicable by the County Operations Division through an Access Permit or Right-of-way Permit:

1. Replacement dwellings;

2. Nonbuildable parcels;

3. Applications for one dwelling on an existing vacant parcel;

4. Home Occupation applications in the EFU, FU, SF-40, FR-2 and RR-1 zones; or

5. Applications which will not add additional vehicle trips to an existing access which does not meet the sight distance standards.

SECTION 4.035 PERMIT REQUIREMENTS FOR LAND USE DEVELOPMENT. Except where otherwise noted, all proposed projects should meet the following Plot Plan Requirements as described in Table 4.035-1 below. A common threshold for a TIA (traffic impact analysis) applying to all types of development is 400 daily trips (e.g., 40 houses). Trip generation should be estimated using the current edition of ***Trip Generation*** by the Institute of Transportation Engineers, other similar published resources, or actual driveway counts of similar land uses. The County Planning Commission, County Planning Director or County Public Works Director or designee may require a TIA for any level of development. TIA requirements are described in the Appendix.

TABLE 4.035-1
PERMIT REQUIREMENTS BY TYPE OF LAND USE DEVELOPMENT

Permit Type	Plot Plan Requirements		Conditions				Review/Approval Type	
	Footprint (setbacks)	Access*	Transportation Improvements	DEQ Site Suitability	Parking	Sign	Review	Action
Zoning Permit								
Residential	Yes	Designated access.	Frontage improvements.	Yes	N/A	N/A	Staff	Bldg. permits Road approach permit
Commercial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Industrial	Yes	Legal access via r/w or easement.	Under 400 trips: Frontage improvements. Over 400 trips: TIA.		Yes	Yes	Staff	Bldg. permits Road approach permit
Farm Exempt	Yes	Yes	N/A	N/A	N/A	N/A	Staff	County issues a Farm Agriculture Bldg Exemption Certificate
Land Partition								
'o 3 Lots		Legal access via r/w or easement.	Frontage improvements.				Planning Comm.	Approval Road Approach permit
Subdivision								
4 to 39 lots		Legal access via r/w.	Frontage improvements.				Planning Comm.	Approval Road Approach Permit
40 or more lots		Legal access via r/w.	Frontage improvements, TIA.				Planning Comm.	Approval Road Approach Permit
Conditional Use Permit								
	Yes	Legal access via r/w or easement.	Under 400 trips: frontage improvements. Over 400 trips: TIA.		Review	Review	Planning Comm.	Approval, Bldg. permit Road Approach

*1000' or less, 20' easement; 1000' or more 40' easement;. 3 or more lots (current or potential), 60' easement.
r/w = Right-of-way.
TIA = Traffic Impact Analysis.
N/A = not applicable.

A. Consent to Participate Agreement Required. For those Local roads which are not improved in accordance with Morrow County Road Standards or maintained by the County, and which abut the property owner's proposed development or which do not abut the development but provide direct access to the development, the property owner shall sign a

consent to participate agreement for the potential formation of a local improvement district or other mechanism to improve and maintain these roads to County standards, per the Morrow County standard Consent to Participate Agreement. Applications for property line adjustments, nonbuildable parcels, temporary housing permits, land partitions in resource zones, and one dwelling on an existing vacant parcel, are not subject to this requirement.

For those Arterial and Collector roads which are not improved in accordance with Morrow County Road Standards and which abut the development site or those roads which do not abut the development site but provide access to the site, the property owner shall sign a consent to participate agreement for the potential formation of a local improvement district or other mechanism to improve the base facility of this road(s) to County standards, per the Morrow County standard Consent to Participate Agreement. Applications for property line adjustments, nonbuildable parcels, temporary housing permits, land partitions in resource zones, and one dwelling on an existing vacant parcel, are not subject to this requirement.

SECTION 4.040. OFF-STREET VEHICLE PARKING REQUIREMENTS. Because vehicle parking facilities can occupy large amounts of land, they must be planned and designed carefully to use the land efficiently while maintaining the visual character of the community. At the time of construction, reconstruction, or enlargement of a structure, or at the time a use is changed in any zone, off-street parking space shall be provided as follows unless greater requirements are otherwise established. When the requirements are based on the number of employees, the number counted shall be those working on the premises during the largest shift at peak season. Fractional space requirements shall be counted as a whole space. Off-street parking spaces may include spaces in garages, carports, parking lots, and/or driveways if vehicles are not parked in a vehicle travel lane (including emergency or fire access lanes), public right-of-way, pathway or landscape area. The County may allow credit for "on-street parking", as provided in Section 4.050. For uses not specified in Table 4.040-1, parking requirements shall be determined by the use in Table 4.040-1 found to be most similar in terms of parking needs.

TABLE 4.040-1
MINIMUM PARKING REQUIREMENTS

USE	MINIMUM VEHICLE PARKING REQUIREMENTS
A. Residential	
1. One, two, and three family dwelling	Two spaces per dwelling unit
2. Residential use containing four or more dwelling units	One and one-half spaces per dwelling unit
3. Rooming or boarding house	One space per guest room
B. Commercial Residential	
1. Hotel or Motel	One space per guest room, plus one space for the manager
C. Public and Institutional Uses	
1. Welfare or correctional institution	One space per six beds
2. Convalescent hospital, nursing home, sanitarium, rest home, home for the aged	One space per four beds
3. Hospital	Two spaces per bed
4. Church	One space per four seats at maximum occupancy
5. Library, reading room	One space per 400 gross square feet
6. Daycare, pre-school or kindergarten	Two spaces per FTE staff
7. Elementary or junior high school	One and one-half spaces per classroom or one space per four seats or eight feet of bench length in the auditorium or assembly room whichever is greater.
8. High school, college, commercial school for adults	One and one-half spaces per classroom plus one space for each 10 students the school is designed to accommodate, or one space for four seats or eight feet of bench length in the main auditorium or assembly room, whichever is greater.
9. Other auditorium or meeting room	One space per six seats or 12 feet of bench length, whichever is greater, or one space for each 75 gross square feet of assembly room not containing fixed seats.

TABLE 4.040-1 (cont'd.)
MINIMUM PARKING REQUIREMENTS

USE	MINIMUM VEHICLE PARKING REQUIREMENTS
D. Commercial Amusement	
1. Stadium, arena, theater	One space per four seats or eight feet of bench length, whichever is greater.
2. Bowling Alley	Five spaces per alley
3. Dance hall, skating rink	One space per 100 gross square feet
E. Commercial	
1. Retail store except as provided in subsection (f)(2) of this section	One space per 350 gross square feet
2. Service or repair shop, retail store handling exclusively bulky merchandise, such as automobiles and furniture	One space per 750 gross square feet
3. Bank, office (except medical and dental)	One space per 350 gross square feet
4. Medical and dental clinic	One space per 300 gross square feet
5. Eating or drinking establishment	One space per 100 gross square feet or one space per four seats, whichever is less.
6. Mortuaries	One space per six seats or eight feet of bench length in chapels
F. Industrial	
1. Storage warehouse, manufacturing establishment, rail or trucking freight terminal	One space per employee on the largest shift.
2. Wholesale establishment	One space per employee on the largest shift plus one space per 700 square feet of patron-serving area.

SECTION 4.045. BICYCLE PARKING REQUIREMENT.

This chapter also provides standards for bicycle parking, because children as well as adults need safe and adequate spaces to park their bicycles throughout the community. All uses subject to Design Review that are located within an Urban Growth Boundary shall provide bicycle parking in conformance with the following guidelines. Uses outside an Urban Growth Boundary are encouraged to provide bicycle parking based on these guidelines.

A. Number of Parking Spaces. A minimum of two bicycle parking spaces is recommended for each use with greater than 10 vehicle parking spaces. The following additional standards apply to uses within an Urban Growth Boundary, and are recommended for other areas of the County:

1. Multi-family residences: At least one sheltered bicycle space per four dwelling units, for uses of four or more units. Bicycle spaces may be located within a garage, storage shed, basement, utility room, or other similar area. If a residential development use has no such protected areas, bicycle parking spaces can be located under an eave, overhang or similar cover to be protected from rain and sun.

2. Parking Lots: At least one bicycle parking space for every ten vehicle spaces at commercial and public parking lots.
3. Schools: One bicycle parking space for every 10 vehicle spaces, at public or private elementary and middle schools. High schools should provide one bicycle space for every five students.
4. Colleges and trade schools: One bicycle space for every 10 motor vehicle spaces. At least half of the spaces should be sheltered under an eave, overhang or similar cover.
5. Multiple Uses: For buildings with multiple uses, such as a commercial building or mixed use development, one bicycle space for every 10 motor vehicle spaces is recommended.

B. Exemptions. This Section does not apply to single family, two-family, and three-family housing (attached, detached or manufactured housing), home occupations, agriculture and livestock uses, or other developments with fewer than 10 vehicle parking spaces.

C. Location and Design. Bicycle parking should be conveniently located no farther away than the closest parking space.

D. Visibility and Security. Bicycle parking should be visible to cyclists from street sidewalks or building entrances, so that it provides sufficient security from theft and damage.

E. Options for Storage. Bicycle parking requirements for long-term and employee parking can be met by providing a bicycle storage room, bicycle lockers, racks, or other secure storage space inside or outside of the building.

F. Lighting. Bicycle parking should be least as well lit as vehicle parking for security.

G. Hazards. Bicycle parking shall not impede or create a hazard to pedestrians. Parking areas shall be located so as to not conflict with vision clearance standards in Section 4.020.

SECTION 4.050. OFF-STREET PARKING AND LOADING. Buildings or structures to be built or substantially altered which receive and distribute materials and merchandise by trucks shall provide and maintain off-street loading berths in sufficient number and size to handle adequately the needs of the particular use. Off-street parking areas used to fulfill the requirements of this Ordinance shall not be used for loading and unloading operations except during periods of the day when not required to care for parking needs. General provisions are as follows:

A. The provisions and maintenance of off-street parking and loading space is a continuing obligation of the property owner. Should the owner or occupant of any lot or building change the use to which the lot or building is put, thereby increasing off-street parking and loading requirements, it shall be a violation of this Ordinance to begin or maintain such altered use until such time as the increased off-street parking or loading requirements are complied with.

B. Requirements for types of buildings and uses not specifically listed in this Ordinance shall be determined by the Planning Commission based upon the requirements for comparable use listed.

C. In the event multiple uses occupy a single structure or parcel of land, the total requirements for off-street parking shall be the sum of the requirements of each use computed separately.

D. Owners of two or more uses, or parcels of land may agree to utilize jointly the same parking and loading spaces when the hours of operation do not overlap, provided that satisfactory legal evidence is presented to the County in the form of deeds, leases, or contracts to establish the joint use.

E. Off-street parking spaces for dwellings shall be located on the same parcel with the dwelling. Other required parking spaces for residential uses shall be located not farther than 500 feet from the building or use they are required to serve, measured in a straight line from the building.

F. Required parking spaces shall be available for the parking of passenger automobiles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for the parking of trucks used in conducting the business or use.

G. Parking designated exclusively for people with disabilities shall be provided in conformance with the Americans with Disabilities Act.

H. The Director may, upon request, allow a reduction in the number of required off-street parking spaces in housing developments for elderly or disabled persons if such reduction is deemed appropriate after analysis of the size and location of the development, resident auto ownership, number of employees, possible future conversion to other residential uses and other similar relevant factors.

SECTION 4.060. DESIGN AND IMPROVEMENT STANDARDS - Parking Lots

A. Except for single-family and duplex dwellings, areas used for parking for more than two vehicles shall have durable and dustless surfaces adequately maintained.

B. Except for parking in connection with single-family and duplex dwellings, parking and loading areas adjacent to or within a residential zone or adjacent to a dwelling shall be designed to minimize disturbance to residents by the erection between the uses of a sight-obscuring fence or planted screen of not less than six (6) feet in height except where vision clearance is required.

C. Parking spaces along the outer boundaries of a parking lot shall maintain a minimum setback from the property line of five feet, unless a greater setback is specified for a structure in the zoning district, and shall be contained by a bumper rail or by a curb which is at least four inches high.

D. Artificial lighting which may be provided shall not shine or create glare in any residential zone or on any adjacent dwelling.

E. Access aisles shall be a minimum of 24 feet wide for two-way traffic. The minimum aisle width for emergency vehicle access (with one-way traffic) is 20 feet.

F. Except for single-family and duplex dwellings, groups of more than two parking spaces shall be so located and served by a driveway that their use will require no backing movements or other maneuvering within a street right-of-way other than an alley.

G. Service drives to off-street parking areas shall be a minimum of 24 feet wide for two-way traffic flow, and 20 feet wide for one-way traffic flow. The number of service drives shall be limited to the minimum that will accommodate anticipated traffic.

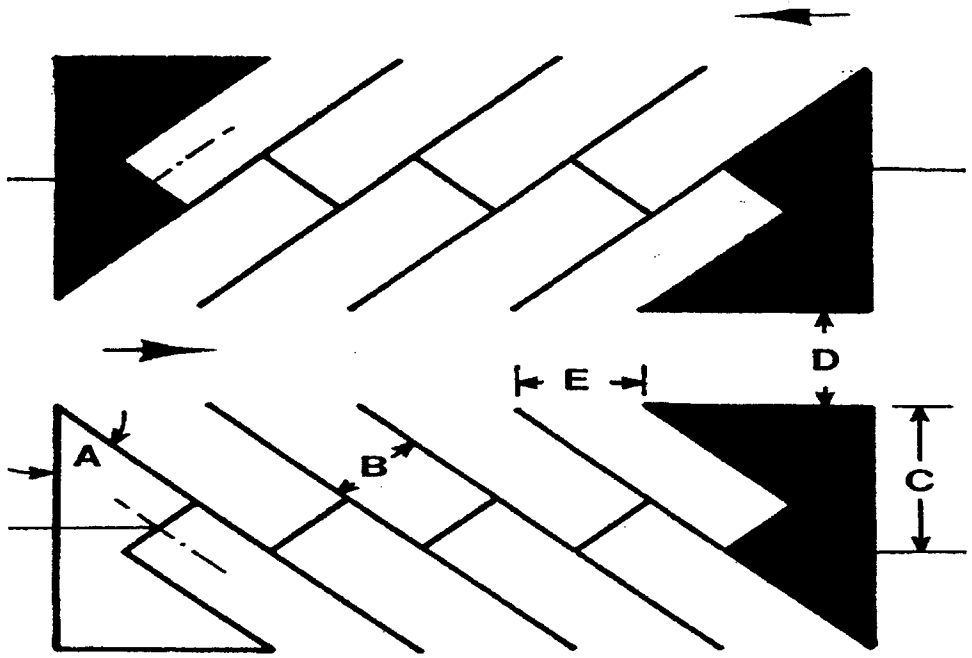
H. Driveways shall maintain minimum sight distance per the standards of Section 4.020 of this Ordinance.

I. The standards set forth in the table below shall be the minimum for parking lots approved under this Ordinance (all figures are in feet except as noted). The letters in the first row of the table correspond to the letters in the following diagram.

TABLE 4.060-1
OFF-STREET PARKING DESIGN STANDARDS

A	B	C	D	E
parking angle degree	stall width	stall to curb (19' long stall)	aisle width	curb length per car
0	8.5	8.5	12.0	23.0
45	8.5	19.4	12.0	12.0
60	8.5	20.0	15.0	9.8
75	8.5	19.6	24.0*	8.8
90	8.5	19.0	24.0*	8.5

*Two-way circulation



SECTION 4.070. SIGN LIMITATIONS AND REGULATIONS. In addition to sign limitations and regulations set forth in a specific zone, the following limitations and regulations shall apply to any sign hereafter erected, moved or structurally altered within the jurisdiction of the County. In addition to the standards and limitations set forth in this Ordinance, signs shall be installed in accordance with applicable regulations of state and federal agencies. No sign will hereafter be erected, moved or structurally altered without being in conformity with the provisions of this Ordinance. Official traffic control signs and instruments of the state, county or municipality are exempt from all provisions of this Ordinance.

A. All outdoor advertising signs shall be in compliance with the provisions of this Ordinance and the provisions of ORS Chapter 377 when applicable.

B. No outdoor advertising sign permitted by ORS Chapter 377 shall be erected within 300 feet of a residential dwelling without written consent of the owner and/or occupant of said dwelling.

C. No sign shall be placed so as to interfere with visibility or effectiveness of any permanent traffic control device.

D. No sign shall be placed so as to impede the sight distance triangle at any access point or intersection as specified in Section 4.020 of this Ordinance.

E. No sign shall cause glare, distraction or other driving hazards within a street or road right-of-way.

F. No sign shall shine directly upon a residential dwelling or otherwise create a nuisance.

G. In addition to the limitations on signs as provided by (1) through (5) above, additional sign restrictions may be required as determined by the Planning Commission in approving conditional uses, as provided by Article 6.

H. Signs erected along Scenic Byways or other roads with similar designations must meet applicable criteria for sign placement.

I. Residents may request specific cautionary signage for individual resident(s) to be installed within County right-of-way. All costs including materials, installation, maintenance, and removal, shall be borne by the requestor, and shall otherwise conform with Morrow County Policy M-43674.

J. Installation of Regulatory Signs in Public Right-of-Way. Developers are to install street name, posted speed, and other traffic control signage required for private developments, per applicable standards from Morrow County and the Manual on Uniform Traffic Control Devices (MUTCD).

SECTION 4.080. AUTHORIZATION OF SIMILAR USES. A use that is similar to a use provided for in a zone may be allowed in that zone with Planning Commission Approval unless:

A. It is specifically provided for in another zone, or

B. It is more similar to uses provided for in another zone.

SECTION 4.090. GENERAL PROVISIONS REGARDING ACCESSORY USES. An accessory use shall comply with all requirements for a principal use, except as this ordinance specifically allows to the contrary, and shall comply with the following limitations:

A. A side yard or rear yard may be reduced to three feet for an accessory structure erected more than 65 feet from a front lot line, provided the structure is detached from other buildings by five feet or more and does not exceed a height of one story nor an area of 450 square feet.

B. Boats and trailers, travel trailers, pick-up campers or coaches, motorized dwellings, and similar recreational equipment may be stored on a lot but not used as an accessory use in any zone provided that:

1. In a residential zone, parking or storage in a front yard or in a side yard abutting a street other than an alley shall be permitted only on a driveway.
2. Parking or storage shall be at least three feet from an interior side lot line.

SECTION 4.100. PROJECTIONS FROM BUILDINGS. Architectural features such as cornices, eaves, canopies, sunshades, gutters, chimneys and flues shall not project more than three (3) feet into a required yard, provided that the projection is not closer than three (3) feet to a property line.

SECTION 4.110. MINIMUM STANDARDS FOR A MANUFACTURED HOME ON INDIVIDUAL LOTS AS A SINGLE-FAMILY DWELLING. A manufactured home permitted as a single-family dwelling on an individual lot shall be in compliance with the following standards and regulations as a minimum. In such cases when the standards set forth in a specific zone are more restrictive, the more restrictive standards shall govern.

A. The manufactured home shall be a 14-foot wide or double wide unit and shall contain at least 660 square feet of space as determined by measurement of the exterior dimensions of the unit exclusive of any trailer hitch device.

B. The manufactured home unit shall be manufactured after June 15, 1976, and bear the Oregon Department of Commerce 'Insignia of Compliance' or a manufactured home manufactured prior to said date if certified to comply with such standards. All pre-owned and pre-occupied units (i.e. used) shall be inspected by a certified Building Official prior to installation and occupancy to insure compliance with applicable standards required for the 'Insignia of Compliance' and to insure that such units are in such a condition as to not be detrimental to the public health, safety and general welfare or to adjoining properties.

C. The manufactured home shall be placed upon and securely anchored to a foundation having permanence and strength equal to that provided by a concrete or masonry block

foundation, and such foundation shall be installed according to manufacturer's instructions approved by the State Department of Commerce.

D. The manufactured home shall have a continuous perimeter of skirting that shall be composed of the same material and finish as the exterior of the manufactured home or of brick, concrete or masonry block. Such skirting shall be secure against the entrance of animals, but there shall be provisions for ventilation and access to the space under the unit.

E. All plumbing, electric and gas service connections shall be made according to instructions approved by the State Department of Commerce.

F. All manufactured home accessory buildings and structures shall comply with state and local construction and installation standards. Manufactured home accessory structures include porches and steps, awnings, cabanas, carports, or any other structure or addition that depends in part on the mobile home for its structural support, or in any manner is immediately adjacent to or attached to the manufactured home. Such structures or additions shall not total more than 30% of the total living space of the manufactured home and such structures or additions combined. Roofing and siding materials shall be of similar material and color and complementary to the existing manufactured home unit. Ramadas shall not be permitted.

G. The owner of the property shall remove the foundation and all accessory structures and additions to the manufactured home and permanently disconnect sewer, water and other utilities if the manufactured home is removed from its foundation unless otherwise authorized by the County. In the event the owner fails to accomplish said work within 30-days from the day on which the manufactured home is moved from its foundation, the County may perform such work and place a lien against the property for the cost of such work. This condition shall not apply in the event that the manufactured home is replaced on the original foundation, or on the original foundation as modified, or by another approved manufactured home within 30-days of the original unit's removal. Said lien may be initiated by the County Court.

SECTION 4.120. MANUFACTURED OR MOBILE HOME AUTHORIZED AS A TEMPORARY RESIDENCE ON AN INDIVIDUAL LOT. A manufactured or mobile home may be authorized as a temporary residence on an individual lot and shall comply with the following additional provisions:

A. The home shall be occupied by the owner of the lot on which the home is located.

B. The home shall be placed upon a lot for which a building permit for a housing unit has been obtained.

C. The home shall be occupied only during a period in which satisfactory progress is being made toward the completion of the housing unit on the same site.

D. Electric, water and sewer utility connections shall be made to the mobile home.

E. The owner of the lot agrees to remove the home from the lot not later than eighteen months from the date on which the building permit for the housing unit is issued or not later than two months following the completion of the housing unit, whichever occurs first.

F. The owner of the lot agrees to remove all evidence that the manufactured or mobile home has been on the lot within thirty (30) days after the removal of the home.

G. The County Planning Director or designee may review permits issued under this section at any time and may revoke the permits when they are found to be not in compliance.

H. Any accessory manufactured or mobile home dwelling placed under a permit authorized by this section must be located as close as possible to the primary dwelling under construction. Unless there are physical limitations of the land, this should be within 100 feet of said dwelling.

SECTION 4.130. MANUFACTURED OR MOBILE HOME AUTHORIZED AS TEMPORARY RESIDENCE FOR CARE OF A RELATIVE IN CONJUNCTION WITH EXISTING RESIDENTIAL USE.

A. Purpose and intent. It is the intent of the temporary use permit section to provide a set of procedures and standards for temporary use of structures which, because of personal hardship needs require social consideration for temporary usage after demonstration of temporary need and a finding of no adverse impact to the welfare of adjacent properties and the community as a whole.

The provisions of this section are to apply when the proposed use does not qualify as a continuation of a nonconforming use, not permitted by right, nor permitted through the operations of other more pertinent procedures and provisions of this zoning ordinance. Provided however, temporary use permits are not to be construed, permitted nor utilized as a means to abrogate the intent, purpose or procedures of the County's Comprehensive Plan or Zoning Ordinance regulations.

No temporary permit shall be granted which would have the effect of creating a permanent zoning or result in a hardship when the use is not permitted to continue at the expiration of the permit periods. Further, no temporary permit may be granted which has the effect of conferring a special privilege for which other property within the same zone may not be equally eligible.

B. As a temporary use in every zone, the Commission may allow one accessory manufactured or mobile home dwelling complying with the standards of 4.140 except (a) and (c), and providing that no additions to the mobile home shall be permitted in conjunction with a primary dwelling with the following findings:

1. That an accessory dwelling is necessary to care for or provide custody of an elderly, mentally handicapped, or infirm relative who a medical doctor certifies is in need of this kind of care or custody.

2. Residential utilities and facilities can be provided. Septic feasibility is required prior to approval.

C. A temporary use permit granted under this section is void when the elderly, mentally handicapped, or infirm relative who is the subject of the permit moves to another residence or is absent from the residence for more than 120 days or leaves the residence with no likelihood of returning for continued residency of at least 30 days. Exception to the 120-day

limit can be provided for because of extraordinary circumstances such as extended hospitalization.

D. Within 30 days of the permit becoming void or revoked, the accessory dwelling shall be removed by the owner of the real property unless otherwise approved by the Commission.

E. The County Planning Director or designee may review permits issued under this section at any time and may revoke permits when they are found to be not in compliance.

F. Any accessory dwelling placed under a permit authorized by this section must be located as close as possible to the primary dwelling. Unless there are physical limitations of the land this should be within 100 feet of the primary dwelling.

SECTION 4.140. MANUFACTURED OR MOBILE HOME AS A SECONDARY ACCESSORY FARM DWELLING. A manufactured or mobile home permitted as a secondary accessory farm dwelling or other farm use structure shall only be permitted in accordance with the following requirements:

A. The unit may only be occupied as a secondary farm accessory dwelling; i.e., there must exist on the subject property an owner-occupied primary conventional dwelling or a manufactured or mobile home complying with the conditions set forth in Section 4.110 of this ordinance, and there shall not be more than one such unit permitted for each 160 acres in the farm unit, and in the case of 4 or more units the mobile home park standards shall apply, except as approved by the Commission.

B. The occupant of the manufactured or mobile home shall be an employee of the owner or an immediate family member engaged in the farm operation.

C. The unit shall bear the Oregon Department of Commerce 'Insignia of Compliance' or be inspected for compliance with the standards required thereof.

D. The unit shall be considered a temporary installation; therefore permits of such units shall be renewable on an annual basis unless otherwise approved by the Commission.

E. The manufactured or mobile home shall contain at least 500 square feet of space as determined by measurement of the exterior's dimensions of the unit, exclusive of any trailer hitch device.

F. The manufactured or mobile home shall be placed on and securely anchored to a foundation having permanence and strength equal to that provided by a concrete or masonry block foundation, and such foundation shall be installed according to manufacturer's instruction approved by the State Department of Commerce.

G. All plumbing, electric and gas service connections shall be made according to instructions approved by the State Department of Commerce.

H. Additions or alterations to the manufactured or mobile home unit shall not exceed 15% of the square footage.

I. The manufactured or mobile home shall be provided with a water closet, lavatory, and bathtub or shower which are connected to running water and to an approved subsurface

sewage disposal system, and which are located in a room or rooms which afford privacy to the occupant, and shall be provided with a kitchen area containing a sink with hot and cold running water.

J. The owner of the property shall remove the foundation and all accessory structures and permanently disconnect sewer, water and other utilities if the manufactured or mobile home is authorized by the County. In the event the owner fails to accomplish said work within 30-days from the date on which the manufactured or mobile home is moved from its foundation, the County may perform such work and place a lien against the property for the cost of such work. This condition shall not apply in the event that the manufactured or mobile home is replaced on the original foundation, or on the original foundation as modified, or by another approved mobile home within 30-days of the original unit's removal, unless otherwise approved by the County. Such lien may be initiated by the County Court.

4.150 TEMPORARY USE OF A TRAVEL TRAILER. The temporary use of a travel trailer and/or motor home as a residence may be permitted only as a temporary residence during construction of a permanent residence. The use requires authorization on the Zoning Permit for the permanent residence. The duration or occupancy of the temporary residence may not exceed six (6) months. (One extension may be permitted if due diligence and progress is demonstrated, for a period not to exceed six (6) months.) The use of the travel trailer as a temporary residence shall cease within two weeks of issuance of an occupancy permit for the permanent dwelling. MC-C-1-99

SECTION 4.160 STANDARDS FOR TRANSPORTATION IMPROVEMENTS. The intent of these provisions is to provide clear directions and guidelines when considering installation of transportation facilities in Morrow County. Although some zone designations may address certain uses listed below, these provisions generally apply to all zones in the County. Thus, except where otherwise specifically regulated by this ordinance, the following improvements are permitted outright:

1. Normal operation, maintenance, repair, and preservation of existing transportation facilities (roadways, bridges, etc.).

2. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way.

3. Projects specifically identified in the Transportation System Plan as not requiring further land use regulation.

4. Landscaping as part of a transportation facility.

5. Emergency measures necessary for the safety and protection of property.

6. Acquisition of the right-of-way for public roads, highways, and other transportation improvements designated in the Transportation System Plan except those that are located in exclusive farm use or forest zones.

7. Construction of a street or road as part of an approved subdivision or land partition approved consistent with the applicable land division ordinance.

8. Establishment or continuation of no spray zones on private property.

9. Cattle guards to be installed per Morrow County Court Policy M-43673.

10. Pavement aprons to be installed at intersections of gravel roads or driveways with paved roads per Morrow County Court Resolution R-29-2000.

11. Any excavation within Morrow County right-of-way shall conform to Morrow County Ordinance MC-PW-1-81, the Road and Street Excavation Ordinance.

B. Uses Permitted by Conditional Use Permit.

1. Construction, major reconstruction, or widening of highways, roads, bridges, or other transportation projects that are not designed and constructed as part of a subdivision or planned development shall comply with the Transportation System Plan and applicable standards, and shall address the following criteria. For State projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria:

    a. The project is designed to be compatible with existing land use patterns, noise generation, safety, and zoning.

    b. The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.

    c. The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.

    d. The project includes provision for bicycle and pedestrian circulation as consistent with the Transportation Element of the Comprehensive Plan and other requirements of this Ordinance.

2. Construction of rest areas, weigh stations, temporary aggregate storage, and aggregate processing sites.

3. If review under this Section indicates that the use or activity is inconsistent with the Transportation Element of the Comprehensive Plan, the procedure for a plan amendment shall be undertaken prior to or in conjunction with the conditional use permit review.

C. Time Limitation on Transportation-Related Conditional Use Permits. Authorization of a conditional use permit shall be void after a period specified by the applicant as reasonable and necessary based on season, right-of-way acquisition, and other pertinent factors. This period shall not exceed three years. (MC-C-8-98)

D. Private Streets Outside an Urban Growth Boundary. All private streets providing access from a public roadway to a proposed land division shall meet the following standards:

1. Have a minimum sight distance in compliance with adopted County Standards at any intersection with a public road. Additional sight distance or advance warning signage or other devices may be required where known safety hazards exist.

2. For each private street, there shall be a legal recorded document which includes:

    a. A legal description of the proposed easement;

    b. Ownership of the street;

    c. Use rights; and

    d. A maintenance and construction agreement which includes Fire Marshal approved street specifications and turn around area (if required) and the allocation and/or method of determining liability for maintenance.

3. Where drainage conditions require it, a private street shall be ditched in conformance with the County Road Standards.

4. Private streets which access public or County roads shall be located, designed and constructed (within the public right-of-way) in accordance with adopted standards for County roads.

5. Prior to establishing a private driveway or a private street, the owner shall obtain an access permit for access to the intersecting public road. As a condition of granting access to a public road, the County may require the applicant to clean the ditch serving the parcel and remove sight obstructing vegetation in the vicinity of the access.

SECTION 4.165 SITE PLAN REVIEW

Site Plan Review is a non-discretionary or "ministerial" review conducted without a public hearing by the County Planning Director or designee. Site Plan Review is for less complex developments and land uses that do not require site development or conditional use review and approval through a public hearing.

A. Purpose. The purpose of Site Plan Review (ministerial review) is based on clear and objective standards and ensures compliance with the basic development standards of the land use district, such as building setbacks, lot coverage, maximum building height, and similar provisions. Site Plan review also addresses conformity to floodplain regulations, consistency with the Transportation System Plan, and other standards identified below.

B. Pre-application review. Prior to filing its application for site plan review, the applicant shall confer with the County Planning Director or designee, who shall identify and explain the relevant review procedures and standards.

C. Applicability. Site Plan Review shall be required for all land use actions requiring a Zoning Permit as defined in Section 1.050 of this Ordinance. The approval shall lapse, and a new application shall be required, if a building permit has not been issued within one year of

Site Review approval, or if development of the site is in violation of the approved plan or other applicable codes.

D. Review Criteria.

1. The lot area shall be adequate to meet the needs of the establishment.
2. The proposed land use is permitted by the underlying land use district.
3. The land use, building/yard setback, lot area, lot dimension, density, lot coverage, building height and other applicable standards of the underlying land use district and any sub-district(s) are met.
4. Development in flood plains shall comply with Section 3.100 Flood Hazard Overlay Zone of the Ordinance.
5. Development in hazard areas identified in the Morrow County Comprehensive Plan shall safely accommodate and not exacerbate the hazard and shall not create new hazards.
6. Off-street parking and loading-unloading facilities shall be provided as required in Section 4.040 and 4.050 of the Morrow County Zoning Ordinance. Safe and convenient pedestrian access to off-street parking areas also shall be provided as applicable.
7. County transportation facilities shall be located, designed and constructed in accordance with the design and access standards in the Morrow County Transportation System Plan.
8. Site planning, including the siting of structures, roadways and utility easements, shall provide, wherever practicable, for the protection of trees eight inch caliper or greater measured four feet from ground level, with the exception of noxious or invasive species, such as Russian olive trees.
9. Development shall comply with Section 3.200 Significant Resources Overlay Zone or 3.300 Historic Buildings and Sites protecting inventoried significant natural and historic resources.
10. The applicant shall determine if compliance is required with Oregon Water Resources Department water quantity and/or Oregon Department of Environmental Quality water quality designations.
11. The applicant shall determine if previous Code Enforcement violations have been cleared as applicable.
12. The applicant shall determine the method of disposal for solid waste, with staff providing information to the applicant about recycling opportunities.
13. The applicant shall obtain the necessary access permit through the Public Works Department as required by Morrow County Resolution R-29-2000.

E. Submittal Requirements. A site plan shall be submitted including all of the following information except for specific items determined at the pre-application review not to be applicable. All site plans shall have dimensions clearly indicated. An applicant may provide the information on separate sheets, if necessary or desirable for clarity.

1. North arrow and scale.

2. Location of property boundaries, including adjacent public or private streets and rights of way.

3. Location of existing structures and natural features.

4. Areas affected by the proposed development with slopes in excess of 10 percent.

5. Location of utilities and facilities, or proposed locations (sewer, water, fire hydrants, septic system, storm water facilities, etc.).

6. Proposed landscaping.

7. Exterior lighting.

8. Circulation plan for vehicles, pedestrians, and bicyclists, including existing and proposed points of access and sidewalks.

9. Parking lot layout, with circulation plan and striping details.

10. Sign location and details.

F. Application Completeness/Request for Additional Information. The County Planning Director or designee shall determine the application to be complete based on the above standard criteria within 14 days of the application submittal. If the application is found to be incomplete or additional information is needed it may be requested from the applicant. A request for additional information beyond the standard review criteria cannot be used to rule an application incomplete.

G. Minimum Standards for Roadway Design Plans Submitted for County Review. Any transportation facility or transportation improvement to be constructed as part of a private development and subsequently dedicated to the County must first receive design approval by the Morrow County Public Works Department, based on applicable design criteria and the rationale for establishing the criteria to be provided by the County. Design approval shall also include all other pertinent issues related to roadway construction and operations, including but not limited to drainage, maintenance, serviceability, and pavement design. Street design plans submitted for County approval shall be stamped by a registered professional engineer with appropriate experience.

H. Conditions Requiring Variance Application. In the case of transportation improvement plans that do not meet the above minimum standards, the Morrow County Public Works Department may work with the applicant to determine whether an alternate design standard is appropriate (design modification). Design modifications are reviewed and approved by Morrow County Public Works Department staff. If upon mutual agreement it is determined that an alternate design standard cannot be met, an application for a design variance will be required, subject to review and approval by the Morrow County Planning Commission.

SECTION 4.170 SITE DEVELOPMENT REVIEW (MC-C-1-02)

A. Purpose. The purposes of site development review are to encourage site planning in advance of development that is permitted under Morrow County's Comprehensive Plan and land use regulations; assure that development is supported with appropriate types and levels of transportation improvements and public facilities and services; and implement the Morrow County Comprehensive Plan and land use regulations with respect to development standards and policies.

B. Preapplication review. Prior to filing its application for site development review, the applicant shall confer with the Planning Director, who shall identify and explain the relevant review procedures and standards.

C. When required.

1. Site development review shall be required for all major developments in industrial and commercial zones. As used in this Section, a "major development" is an industrial development utilizing 100 or more acres of real property. When development is proposed in phases, site development review shall apply to each phase of the development, whether or not the phase meets the site development review threshold.

2. Site development review also shall apply when required by the Planning Commission as a condition of approval of a land use decision not otherwise subject to site development review; provided that, in a condition imposing such a requirement, the Planning Commission may waive one or more site development review information requirements and/or approval standards that the Planning Commission finds the application already has fulfilled or are not relevant or otherwise are not warranted.

3. No building permit shall be issued prior to site development review approval whenever site development review is required by this section. Site development review shall not alter the type and category of uses permitted in affected zoning districts.

4. As used in this Section, "development" means any man-made change to improved or unimproved real property in the County, including but not limited to construction or installation of a building or other structure; major site alterations such as those due to grading; paving; and improvements for use as parking. However, site development review shall not apply to any interior remodelling of any existing building or structure or any modification to an existing building or structure that does not substantially change its exterior appearance.

D. Plans required. A complete application for site development review shall be submitted. The application shall include the following plans and information:

1. A site plan or plans, drawn to scale, containing the following information:

a. A vicinity map covering an area 250 feet from the boundary of the development site and showing general information about the location, dimensions and names of all existing and proposed streets, County roadways and state highways, access points on both sides of the road when applicable, sidewalks, bicycle routes, and easements and utility locations. The map also shall indicate distances to neighboring constructed

access points, median openings (where applicable), traffic signals (where applicable), intersections, and other transportation features on all sides of the property.

b. The site size, dimensions, and zoning, including dimensions and gross area of the lot(s) or parcel(s) and tax map and tax lot number(s) for the development site.

c. Contour lines at two foot contour intervals for grades 0 to 10 percent, and five-foot intervals for grades over 10 percent.

d. The location of the following hazard areas on and within 100 feet of the boundaries of the site:

i. Areas indicated on National Flood Insurance Rate maps as being within the 100-year floodplain;

ii. Areas subject to erosion as identified in the Morrow County Comprehensive Plan.

iii. Other hazard areas identified in the Morrow County Comprehensive Plan.

e. The location of inventoried significant natural resource areas on and within 100 feet of the boundaries of the site, including big game habitat areas, fish and riparian habitat areas, mineral and aggregate resource areas, significant natural areas, wetlands, water resources, and historic resources. As used in this Section, "significant inventoried" means a resource area identified as significant in Morrow County's acknowledged inventory of Goal 5 resource sites.

f. The location, dimensions, and setback distances of all existing permanent structures, improvements and utilities on or within 25 feet of the site, and the current and proposed uses of the structures.

g. The location, dimensions, square footage and setback distances of proposed structures, improvements, and utilities, and the proposed uses of the structures by square footage.

h. The location, dimension and names, as appropriate, of all existing and proposed streets, other public ways, sidewalks and easements on and within the development site.

i. All motor vehicle parking, circulation, loading and servicing areas.

j. Site access points for automobiles and pedestrians.

k. On-site pedestrian circulation.

l. Outdoor areas proposed as open space.

2. A landscaping plan, drawn to scale, showing the location and types of existing trees (eight inches or greater in caliper measured four feet above ground level) and vegetation proposed to be removed and to be retained on the site, the location and design of landscaped areas, the varieties, sizes and spacing of trees and plant materials to be

planted on the site, the proposed types and locations of irrigation systems to maintain plant materials, and other pertinent landscape features.

3. Architectural elevations and floor plans for all proposed structures, drawn to scale, with elevations accurately reflected to grade.

4. A description of materials, referenced to UBC class codes, to be used on proposed structures.

5. An erosion control and grading plan.

6. A drainage plan, developed in accordance with County standards or with Oregon Department of Environmental Quality standards if no County standards have been adopted. The drainage plan shall identify the location of drainage patterns and drainage courses on and within 100 feet of the boundaries of the site.

7. An exterior lighting plan, drawn to scale, showing type, height, and lighting levels on and at the edge of the site.

8. A written statement identifying:

   a. The nature of the proposed use(s).

   b. Plans for the treatment and disposal of sewage and industrial wastes and any on-site disposal of wastes.

   c. Plans for handling traffic, noise, glare, air pollution, fire, or safety hazard.

9. The following technical reports:

   a. For developments expected to generate 400 or more vehicle trips on a single day, a traffic report, prepared by a licensed traffic engineer, demonstrating the ability of affected transportation facilities including highways, roads and intersections to accommodate the anticipated amount of traffic that would be generated by the proposed development over 20 years. The report shall identify existing traffic conditions and the safety and capacity improvements that are needed to accommodate the anticipated traffic, including facility reconstructions, modifications or widenings, additional travel or passing lanes, intersection or interchange improvements, realignments, channelization improvements, or other needed facility improvements, including possible new transportation facilities. The analysis shall demonstrate consistency with the applicable performance standards of the affected facilities. The Morrow County Transportation System Plan provides the applicable standards for county transportation facilities. The Oregon Highway Plan provides the applicable standards for state transportation facilities.

   When a traffic management plan is required by the Morrow County Transportation System Plan, the application shall not be deemed complete until the applicant has filed with the Planning Director a traffic management plan (TMP) including transportation system management (TSM) and transportation demand management (TDM) measures that have been coordinated with and address the reasonable concerns of affected transportation providers (e.g., Morrow County, affected cities, Oregon Department of

Transportation, Federal Highway Administration) and traffic safety and emergency service providers (e.g. County sheriff, State Police, fire district, ambulance). The TMP shall be prepared by a licensed traffic engineer with established experience in the type of event for which the TMP is being developed. Unless otherwise agreed to by affected local governments or agencies, the costs of paying for necessary transportation improvements and implementation of the TMP shall be borne by the developer or its successors.

The TMP shall include, but not be limited to: ingress and egress from parking areas; deployment of personnel at ramps, intersections and highway locations; plans for rerouting of traffic in the event of accident or other cause of traffic delay; coordination with state police, County sheriff and emergency service providers; use of temporary signage, reader boards and similar visual aids; estimates of numbers and types of personnel to be employed; and other appropriate information.

b. If located within 5000 feet of a runway or approach surface of a public use airport, a technical report explaining how the development is compatible with customary aviation-related activities, including airport takeoffs and landings. The report shall explain how the proposed uses, including measures to minimize conflicts, do not: cause emissions of smoke, dust or steam that would obscure visibility within airport approach surfaces; project light directly onto existing airport runways or taxiways; or interfere with airport radio, radiotelephone, television and electrical transmissions.

10. Within 14 working days following receipt of a site development review application, the Planning Director may waive the submission of information for specific provisions of this Section or may require information in addition to that required by a specific provision of this Section, as follows:

a. The Planning Director may waive the submission of information for a specific requirement upon determination either that specific information is not necessary to evaluate the application properly, or that a specific approval standard is not applicable to the application. If submission of information is waived, the Planning Director shall, in the staff recommendation, identify the waived requirement and briefly explain the reasons for the waiver.

b. The Planning Director may require information in addition to that required by a specific provision of this Section upon determination that the information is needed to evaluate the application properly and that the need can be justified on the basis of a special or unforeseen circumstance. If additional information is required, the Planning Director shall, in the decision, briefly explain the reasons for requiring the additional information.

E. Standards.

1. All development shall comply with the following standards:

a. Retaining walls shall be provided and designed consistent with Uniform Building Code requirements. Grading and contouring shall take place with particular attention to minimizing the possible adverse effects of grading and contouring on the natural vegetation and physical appearance of the site.

b. Development in flood plains shall not increase the flood plain elevation unless the area in which the rise will occur contains no structures and the owner of such property signs a written acceptance of any increase in the flood plain elevation. Development in hazard areas identified in the Morrow County Comprehensive Plan shall safely accommodate and not exacerbate the hazard and shall not create new hazards.

c. Drainage shall be provided in accordance with Oregon Department of Environmental Quality standards. The Planning Commission may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality.

d. Off-street parking and loading-unloading facilities shall be provided as required in Article IV of the Morrow County Zoning Ordinance. Safe and convenient pedestrian access to off-street parking areas also shall be provided.

e. County transportation facilities shall be located, designed and constructed in accordance with the design and access standards in the Morrow County Transportation System Plan.

f. Circulation provided by public streets and by private streets, accessways and maneuvering areas within the boundary of the site shall facilitate safe and convenient motor vehicle and pedestrian access. Access for emergency services (fire, ambulance and police) shall be provided consistent with the requirements of the Fire Marshal and emergency service providers.

g. Illumination resulting from outdoor lighting shall not exceed one foot-candle at the property line.

h. Site planning, including the siting of structures, roadways and utility easements, shall provide, wherever practicable, for the protection of trees eight inch caliper or greater measured four feet from ground level.

i. Development shall comply with applicable County regulations protecting inventoried significant natural and historic resources.

j. Development shall maintain continuous compliance with applicable federal, state and County air and water quality standards. Prior to issuance of a building permit, the Building Official may require submission of evidence of compliance with such standards from the applicable federal or state agencies or the receipt of the necessary permits for the development from these agencies.

k. Development shall be designed to comply with applicable Oregon Department of Environmental Quality noise standards.

l. Sewer, water and storm drainage facilities shall be adequate to serve the proposed or permitted level of development. For uses like a speedway that engage in activities that on occasion attract unusually large numbers of people to the site, the development may rely on temporary sewer (e.g., portapotties, lagoon storage) and water facilities to accommodate the excess demand. The applicant shall demonstrate that adequate facilities and services are presently available or can be made available concurrent with development. All facilities shall be designed to comply with applicable state and local standards.

m. Law enforcement, public safety and security measures shall be adequate to serve the proposed or permitted level of development. For land uses involving activities that may attract many thousands of visitors to a site at one time on an occasional or episodic basis, adequate safety, law enforcement and security measures may include, but are not limited to, the use of on-site security service personnel and availability of police, fire and emergency medical services. For such uses, the Planning Commission may require the applicant to develop a public safety and security plan, which shall be coordinated with appropriate local and state public safety providers.

n. The transportation system shall be adequate to accommodate the proposed or permitted level of development.

i. Rights-of-way and roadway and sidewalk improvements shall be provided consistent with applicable County or State design, access management and highway performance standards, including applicable Oregon Highway Plan standards. Access points to County roadways and state highways shall be properly placed in relation to sight distance, driveway spacing and other related considerations including opportunities for joint and cross access. Any application that involves access to or significantly impacts the state highway system shall be reviewed by the Oregon Department of Transportation. Such applications shall demonstrate compliance with the Oregon Highway Plan and shall be conditioned on state issuance of access permits where required.

ii. In determining the adequacy of the transportation system to accommodate the proposed development, consideration shall be given to the need for roadway reconstructions, modifications or widenings, additional travel or passing lanes, intersection or interchange improvements, road realignments, channelization improvements, or other needed roadway improvements, including possible new roads. Consideration also shall be given to the need for right-of-way improvements such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation. For uses necessitating preparation of a transportation management plan, a decision approving a site development review application shall include a condition requiring implementation of the transportation system management measures and transportation demand management measures that are determined to be needed to accommodate the traffic generated by the development and to comply with the Oregon Highway Plan. Unless otherwise agreed to by affected local governments or agencies or limited by constitutional constraints, the costs of paying for necessary transportation improvements and implementation of the traffic management plan shall be borne by the developer or its successors.

iii. Nothing in this or any other provision of this Chapter shall be construed to replace, alter or otherwise affect the applicability of the Transportation Planning Rule, OAR 660, Division 12, to any development or action that would otherwise be subject to that Rule.

o. Access and facilities for physically handicapped people shall be incorporated into the site and building design, consistent with applicable federal and state requirements.

p. Development located within 5000 feet of a runway or approach surface of a public use airport shall not cause emissions of smoke, dust or steam that would obscure visibility within airport approach surfaces; project light directly onto existing airport runways or taxiways; or interfere with airport radio, radiotelephone, television or electrical transmissions.

q. Uses and improvements, including all land uses and improvements, including but not limited to traffic management plans, proposed on exception lands shall be consistent with the acknowledged goal exceptions taken for those lands.

2. The Planning Commission may impose such conditions as deemed necessary to ensure compliance with these standards.

a. When a transportation management plan is required, the Planning Commission may impose conditions providing for monitoring and reporting on the effectiveness of the traffic management measures and providing opportunity for a hearing to consider modifications to the TMP if deemed appropriate by the Planning Commission following its implementation. Any hearing that is held to consider TMP modifications shall be noticed and processed in the manner set out in Section VI.A of this Chapter and shall include notice to the Oregon Department of Transportation and Federal Highway Administration.

b. Required road dedications and other exactions shall comply with constitutional limitations.

c. To ensure compliance with this Section, the Planning Commission may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the County's legal counsel.

F. Review and Enforcement.

1. Applications for site development review shall be reviewed by the Planning Commission in the manner provided by ORS Chapter 197 for land use decisions following review and recommendation by the Planning Director. Public notice and an opportunity for hearing shall be provided in the manner provided by ORS Chapter 197 for land use decisions.

a. In addition to the public notice described above, timely notice of public hearing also shall be mailed to ODOT and the Federal Highway Administration if the Planning Director determines that the use may impact state or federal transportation facilities, and to the Oregon Department of Aviation and Federal Aviation Administration if the use is located within 5000 feet of a runway or approach surface of a public use airport.

b. The decision of the Planning Commission may be appealed to the County Court in the manner provided in Article 9, Section 9.030 of the Morrow County Zoning Ordinance.

2. The County building official may issue a certificate of occupancy only after the Planning Director has determined that the improvements required by site development review

approval have been completed, or a schedule for completion and a bond or other financial guarantee have been accepted by the County and by ODOT for required improvements to the state highway system.

a. Implementation of traffic management, public safety and/or security plans, when required, shall be made ongoing conditions of approval of the use, and failure to substantially comply with those plans may be a basis for the Planning Director or Building Official to suspend or revoke the occupancy permit and for the County, DLCD or ODOT (when a state Transportation Facility is affected) to petition a court of competent jurisdiction to issue a temporary restraining order and permanent injunction against further use of the property for the purposes approved in the site development review.

b. Prior to or concurrent with the suspension of any site development review permit, the County shall provide the permittee with notice and an opportunity to be heard in accordance with the process set out in Morrow County Ordinance No. MC-C-7-92.

G. Expiration and Extension of Permit.

1. A site development review permit shall expire automatically two (2) years from the date of issuance unless one of the following occurs first:

a. The development has commenced; or

b. An application for an extension is filed as provided in this section; or

c. The permit is appealed to a body of competent jurisdiction following final approval by the County, in which case the two-year period shall be tolled until a final, unappealed or unappealable decision is made by a court or other body of competent jurisdiction.

2. As used in subsection 1 of this Section, a development has "commenced" when:

a. The permit holder has physically altered the land or structure or changed the use thereof through actions such as preliminary grading for roads, driveways or building sites, installation of utilities, construction of required off-site improvements or construction of buildings, and

b. The alteration or change is directed toward completion of the development; and

c. The permit holder has spent at least $50,000 in expenditures related to completion of the development. Expenditures that could apply to various other uses of the land or structure shall be excluded including the cost of purchasing land.

d. The provisions of subsection 1 of this Section shall apply independently to each discrete phase of a phased development. The commencement requirement for a subsequent phase cannot be satisfied by commencement activities conducted under an approval for an earlier phase of the development.

3. If an extension is desired, the holder of the site development review permit must file an application for an extension prior to the expiration of the permit. The application shall be filed in writing with the Planning Director. A maximum of two extensions are permitted.

Unless approved, the extension does not extend the expiration date. The Planning Director shall grant an initial two year extension upon the timely filing of the extension application. Following notice and hearing, the Planning Commission shall grant a second two-year extension only upon demonstration by the permit holder that:

a. In terms of time, labor or money the permit holder has been making a good faith effort to commence the development or has been precluded from doing so for reasons beyond the permit holder's reasonable control;
b. Commencement of the development is likely during the second two year extension; and
c. There has been no change in circumstance or the law likely to necessitate significant modification of the development approval or conditions of approval. (MC-C-1-02)

ARTICLE 10. GENERAL PROVISIONS

SECTION 10.010. INTERPRETATION. Where the conditions imposed by a provision of this Ordinance are less restrictive than comparable conditions imposed by any other provisions which are more restrictive, the more restrictive shall govern.

SECTION 10.020. SEVERABILITY. The provisions of this Ordinance are severable. If any section, sentence, clause, or phrase of this Ordinance is adjudged by a court of competent jurisdiction to be invalid, the decision shall not effect the validity of the remaining portions of the Ordinance.

SECTION 10.030. REMEDIES. In case a building or other structure is, or is proposed to be, located, constructed, maintained, repaired, altered, or used, or any land is or is proposed to be used in violation of this Ordinance, the County Court or a person whose interest in real property in the county is or may be affected by the violation, may, in addition to other remedies provided by law, institute injunction, mandamus, abatement, or other appropriate proceedings to prevent, temporarily or permanently enjoin, abate, or remove the unlawful location, construction, maintenance, repair, alteration or use. When a temporary restraining order is granted in a suit instituted by a person who is not exempt from furnishing bonds or undertakings under state law, the person shall furnish undertaking as provided in ORS 32.010 to 32.060.

SECTION 10.040. VIOLATION DECLARED A NUISANCE. The location, erection, construction, maintenance, repair, alteration or use of a building or structure or the subdivision, other partitioning, or other use of land, in violation of this Ordinance is declared a nuisance.

SECTION 10.050. CRIMINAL PENALTIES.

A. The location, erection, construction, maintenance, repair, alteration or use of a building or structure or the subdivision, other partitioning or other use of land, in violation of this Ordinance is punishable upon conviction by a fine of not more than $500 for a noncontinuing offence and a fine of not more than $1,000 for a continuing offence.

B. Each and every day in which a location, erection, maintenance, repair, alteration or use of a building or structure or the subdivision, other partitioning or other use of land, in violation of this Ordinance continues is a separate offence.

SECTION 10.060. REPEAL. All previous Morrow County Zoning Ordinances, whether permanent, interim or special purpose, and all amendments thereto are hereby repealed.

SECTION 10.070. REPEAL OF ORDINANCES AS AFFECTING EXISTING LIABILITIES. The repeal of any ordinance shall not have the effect to release or extinguish any penalty, forfeiture, or liability incurred under such ordinance, unless a provision of this ordinance shall so expressly provide, and such ordinance repealed shall be treated as still remaining in force for the purpose of sustaining any proper action or prosecution for the enforcement of such penalty, forfeiture, or liability, and for the purpose of a person or persons who violated this repealed ordinance or a part thereof prior to the effective date of this Ordinance.

SECTION 10.080. ENACTMENT This Ordinance was adopted by the Morrow County Court on November 7, 2001, and became effective 90 days after adoption. (MC-C-3-01) Article 4 in its entirety and Article 10 Section 10.080 are amended by the 2005 Transportation System Plan Update and readopted on July 13, 2005, and shall become effective 10 days after the date of this adoption by the Morrow County Court, or July 23, 2005. (MC-02-05)

MORROW COUNTY SUBDIVISION ORDINANCE

I N D E X

COUNTY ORDINANCE NO. MC-C-3-01, AMENDED BY MC-02-05

MORROW COUNTY, OREGON

AN ORDINANCE PROVIDING SUBDIVISION, PARTITIONING, AND OTHER LAND DEVELOPMENT STANDARDS AND PROCEDURES WITHIN THE COUNTY OF MORROW, STATE OF OREGON.

THE COUNTY OF MORROW, OREGON, ORDAINS AS FOLLOWS:

ARTICLE I. INTRODUCTORY PROVISIONS

Chapters 92 and 215, this ordinance sets forth the minimum standards governing the approval of land development, including subdivision and partitionings, as necessary to carry out the County Comprehensive Plan and to promote the public health, safety and general welfare. The purpose of these provisions and regulations are to:

A. Encourage well-planned subdivision and partition development to the end that good livable neighborhoods with all needed amenities and community facilities may be created.

B. Encourage development in harmony with the natural environment and within resource carrying capacities.

C. Safeguard the interest of the public, the applicant and the future lot owner.

D. Improve land records and boundary monumentation.

E. Ensure equitable processing of subdivision plats and partitioning plans, and accomplish to the greatest extent possible the goals and objectives of the Comprehensive Plan for Morrow County.

F. Provide for orderly and efficient urban development, and to coordinate development with public facilities and service plans and capabilities.

G. Provide for preservation of farm and forest lands, and the resource based economy of the County.

No person may subdivide or partition land within Morrow County except in accordance with ORS Chapter 92 and the provisions of this ordinance.

SECTION 1.020. INTERPRETATION. The provisions of this ordinance shall be construed to effect the purposes set forth in Section 1.010 of this ordinance. These provisions are declared to be the minimum requirements fulfilling such objectives, and the county may impose additional requirements deemed necessary to promote the health, safety and general welfare, and to carry out the Comprehensive Plan of the area. Where conditions

set forth herein are less restrictive than comparative condition imposed by any other provision of this ordinance, by provisions of any other local ordinance, resolution or regulation, or by provisions of state statute or administrative regulation, the more restrictive shall govern.

SECTION 1.030. REPEALER. The following ordinance is applicable to said urban area, together with all amendments thereto, is hereby repealed: County Ordinance No.

SECTION 1.040. REPEAL OF ORDINANCES AS AFFECTING EXISTING LIABILITIES. The repeal of any ordinance by this ordinance shall not have the effect to release or extinguish any penalty, forfeiture, or liability incurred under such ordinance repealed shall be treated as still remaining in force for the purpose of sustaining any proper action or prosecution for the enforcement of such penalty, forfeiture, or liability, and for the purpose of authorizing the accusation, prosecution, conviction and punishment of a person or a part thereof prior to the effect date of this ordinance.

SECTION 1.060. CONSTRUCTION AND TERMINOLOGY.

A. Construction. Words used in the present tense include the future tense, words used in the singular include the plural, and words used in the plural include the singular; the word "shall" is mandatory, the word "may" permissive; and the masculine word shall include the feminine and neuter.

B. Terminology. The word "County" shall mean the County of Morrow, State of Oregon. The words "County Court" and "Court" shall mean the County Court of Morrow County. The words "Planning Commission" and "Commission" shall mean the County Planning Commission of the County of Morrow duly appointed by the County Court. The words "Planning Director", "County Roadmaster", "Assessor", "County Sanitarian", "County Surveyor", "County Clerk", and "Tax Collector" as applicable shall mean the Planning Director, Roadmaster, Sanitarian, Surveyor, County Clerk, Tax Collector, and Assessor of the County of Morrow, as applicable.

SECTION 1.070. DEFINITIONS. As used in this ordinance the following words and phrases shall mean:

A. Access. The right to cross between public and private property allowing pedestrians and vehicles to enter and leave property.

B. Access Management. The provision of improvements, signals, and/or the regulation of access to adjacent property while preserving the flow of traffic in terms of safety, capacity, and speed.

C. Accessway. A walkway that provides the pedestrian and bicycle passage either between streets or from a street to a building or other destination such as a school, park, or transit stop. Accessways generally include a walkway and land on either side of the

walkway, often in the form of an easement or right-of-way, to provide clearance and separation between the walkway and adjacent uses.

D. Bicycle Facilities. A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities and all bikeways.

E. Bikeways. Any road, path, or way that is in some manner specifically open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are shared with other modes. The five types of bikeways are:

1. Multi-use path: A paved 10 to 12 foot wide way that is physically separated from motorized traffic; typically shared with pedestrians, skaters, and other non-motorized users.

2. Bike Lane: A 4 to 6 foot wide portion of the roadway that has been designated by permanent stripping and pavement markings for the exclusive use of bicycles.

3. Shoulder Bikeway: The paved shoulder of a roadway that is 4 feet or wider, typically shared with pedestrians in rural areas.

4. Shared Roadway: A travel lane that is shared by bicyclists and motor vehicles.

5. Multi-use trails: An unpaved path that accommodates all-terrain bicycles, typically shared with pedestrians.

F. Block. An area of land within a subdivision which area may be entirely bounded on all sides by streets or highways (except alleyways), railroad right-of-way, unsubdivided land or water courses.

G. Community Water Supply System. A domestic water supply source or distribution system which serves more than three single residences or other users for the purpose of supplying water for household uses, but is neither a municipal water supply system nor a public utility water supply system.

H. Contiguous Land. Parcels of land under the same ownership which abut each other.

I. Corner Clearance. The distance from an intersection of a public or private road to the nearest public or private access connection, measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way.

J. Cross-Section. A profile of the ground surface perpendicular to the center line of a street, stream, or valley bottom.

K. Developer. Means any person, corporation, partnership or other legal entity who creates or proposes to create a land development, and includes any agent of a developer so duly authorized.

L. Driveways. A private vehicle access way or point of entry from a public or private road.

M. Easement. A grant of the right to use a parcel of land for specific purposes, where ownership of the land is not transferred.

N. Fire Break. A break in the ground cover fuels as specified by the Fire Protection Agency involved or Commission.

O. Flood Hazard Area. The relatively flat area or low-lands adjoining the channel of a river stream or watercourse, or lake reservoir, which has been or may be covered by a Base Flood.

P. Frontage. All property fronting on one side of a street and measured along the street line, between intersecting and intercepting streets or between a street and right-of-way, waterway, end of a dead-end or city boundary.

Q. Functional Area (Intersection). That area beyond the physical intersection of two roads that comprises decision and maneuver distance, plus any required vehicle storage length.

R. Functional Classification. A system used to group public roadways into classes according to their purpose in moving vehicles and providing access.

S. Interest. Includes a lot or parcel, and a share, undivided interest or a membership which includes the right to occupy the land overnight, the lessee's interest may be renewed under the terms of the lease for a total period more than three years. "Interest" does not include any interest in a condominium as that term is denied in ORS Chapter 91 or any security interest under a land sales contract, trust deed or mortgage.

T. Joint Access. A driveway connecting two or more contiguous sites to the public street system.

U. Lot. A unit of land that is created by a subdivision of land, and is intended as a unit for disposition, transfer or ownership or interest, or for development.

1. Lot Area. The total horizontal net area within the lot lines of a lot to mean that square footage of a lot that is free from public and private road right-of-ways or easements.

2. Lot, Corner. A lot abutting on two or more streets, other than alleyways, at their intersection; provided the angle of intersection does not exceed 135 degrees.

3. Lot Depth. The average horizontal distance between the front and rear lot lines.

4. Lot, Flag. A lot not meeting minimum frontage requirements and where access to the public road is by a narrow, private right-of-way.

5. Lot Line. The property line bounding a lot.

6. Lot Line, Front. The lot line separating the lot from a street other than an alley, and in the case of a corner lot, the shortest lot line along a street other than an alley.

7. Lot Line, Rear. The lot line which is opposite and most distant from the front lot line. In the case of an irregular, triangular or other odd-shaped lot, a line 10 feet in length within the lot, parallel to, and at a maximum distance from the front lot line.

8. Lot Line, Side. Any lot other than that of a front or rear lot line bounding a lot.

9. Lot, Through or Double Frontage. A lot having frontage on two parallel or approximately parallel streets other than alleys.

10. Lot Width. The average horizontal distance between the side lot lines, measured at right angles to the lot depth at a point midway between the front and rear lot lines.

V. Map. A final diagram, drawing, or other writing concerning a major partition.

W. Municipal Water Supply System. A domestic water supply source and distribution system owned and operated by a city or a county or owned and operated by a special district or other public corporation which has independent tax levying powers to support the system.

X. Owner. The owner of the title to real property or the authorized agent thereof, or the contract purchaser of real property, of record as shown on the last available complete county tax assessment roll or county recorder's records.

Y. Parcel. A unit of land that is created by partitioning of land.

Z. Partition Land. To divide an area or tract of land into two or three parcels within a calendar year when such area or tract of land exists as a unit or contiguous units of land under single ownership at the beginning of such year. "Partition land" does not include any adjustment of a lot line by the relocation of a common boundary where an additional parcel is not reduced below the minimum lot size established by any applicable zoning ordinance. "Partition land" does not include the sale of a lot in a recorded subdivision, even though the lot may have been acquired prior to the sale with other contiguous lots or property by a single owner; "partition land" does not include divisions of land resulting from lien foreclosures, foreclosure of recorded contracts for the sale of real property and divisions of land resulting from the creation of cemetery lots.

1. Major Partition. A partition which includes the creation of a road or street. A private road or way exceeding 100-feet in length shall be defined as a street.

2. Minor Partition. A partition where each parcel created has frontage on and access immediately to an existing road or street, i.e. a partition that does not include the creation of a street.

AA. Pedestrian Facilities. A general term denoting improvements made to accommodate or encourage walking, including sidewalks, accessways, crosswalks, ramps, paths, and trails.

BB. Person. A natural person, firm, partnership, association, social or fraternal organization, corporation, trust, estate, receiver, syndicate, branch of government, or any group or combination acting as a unit.

CC. Plat. A final map, diagram, drawing, replat or other writing containing all the descriptions, locations, specifications, dedications, provisions and information concerning a subdivision.

DD. Right-of-Way. The area between the boundary lines of a street, road or other easement.

EE. Road or Street. A public or private way that is created to provide ingress or egress for persons to one or more lots, parcels, area or tracts of land, excluding a private way that is created to provide ingress or egress to such land for forestry, mining or agricultural purposes.

1. Alley. A narrow street through a block primarily for vehicular service access to the back or side properties abutting on another street.

2. Arterial. A street of considerable continuity which is primarily a traffic artery for intercommunication among large areas, as identified in the County's Transportation System Plan.

3. Bicycle Route. A right-of-way for bicycle traffic.

4. Collector. A street supplementary to the arterial street and a means of intercommunication between this system and smaller areas; used to some extent for through traffic and to some extent for access to abutting properties. Collector streets are identified in the County's Transportation System Plan

5. Cul-de-sac (dead end street). A short street having one end open to traffic and being terminated by a vehicle turn-around.

6. Half Street. A portion of the width of a street, usually along the edge of a subdivision, where the remaining portion of the street could be provided in another subdivision.

7. Marginal Access Street. A minor street parallel and adjacent to a major arterial street providing access to abutting properties, but protected from through traffic.

8. Local Street. A street intended primarily for access to abutting properties, and identified in the County's Transportation System Plan.

9. Stubbed Street. A street having only one outlet for vehicular traffic and which is intended to be extended or continued to serve future subdivisions or developments on adjacent lands.

FF. Roadway. That portion of a street or road right-of-way developed for vehicular traffic.

GG. Rural/Commercial Activity Center. A Rural/Commercial Activity Center consists primarily of commercial or industrial uses providing goods and services to surrounding rural area or to persons traveling through the area, but also includes some dwellings.

HH. Subdivided Lands and Subdivision. Improved or unimproved land or lands divided, or created into interests or sold under an agreement to be subsequently divided or created into interests, for the purpose of sale or lease, whether immediate or future, into 11 or more undivided interests or four or more interests. "Subdivided land" does not include the sale of a lot in a recorded subdivision or an approved partition even though the seller of the lot may have owned other contiguous lots or property prior to the sale; said lot however must be sold as platted and recorded.

II. Subdivider. Any person who causes land to be subdivided into a subdivision for himself or for others, or who undertakes to develop a subdivision, but does not include a public agency or officer authorized by law to make subdivisions.

JJ. Use. The purpose for which land or a structure is designed, arranged, or intended, or for which it is occupied or maintained.

KK. Walkway. A hard surfaced area intended and suitable for pedestrians, including sidewalks and the surfaced portions of accessways.

ARTICLE 2 SUBDIVISION REQUIREMENTS AND SUBDIVISION REVIEW COMMITTEE

SECTION 2.010. SCOPE OF REGULATION. Before a plat of any subdivision or the map of any partition may be made and recorded, the person proposing the subdivision or the partition or his authorized agent or representative shall make an application in writing to the county for approval of the proposed subdivision or the proposed partition in accordance with the requirements and procedures established by this ordinance.

SECTION 2.020. MINIMUM STANDARDS. No proposed subdivision or partition shall be approved unless said subdivision or partition complies with the Comprehensive Plan for Morrow County and an affected city, the applicable zoning, and the requirements and standards set forth in this ordinance and ORS Chapter 92.

SECTION 2.030. SUBDIVISION REVIEW COMMITTEE. There is hereby established a Subdivision Review Committee to review all tentative subdivision and partition plans and make recommendations to the Planning Commission. The Committee shall consist of the following members as applicable to the County and an affected City.

A. County Planning Director (who will be chairman)

B. Affected City Representative

C. County Surveyor

D. County Roadmaster and affected City Street Supt.

E. Police – County and affected City

F. Fire Protection Representative

G. County Extension Agent

H. Public Utility Representative(s)

I. Irrigation District Representative or Watermaster

J. Affected School District Representative

K. Oregon State Department of Transportation District 12 (optional and ex-officio)

L. Postal Department (optional and ex-officio)

M. Other State and Federal Agencies (optional and ex-officio)

SECTION 2.040. DUTIES OF COMMITTEE. It shall be the duty of the Committee to examine all tentative subdivision and partition plans and make recommendations to the Planning Commission.

SECTION 2.050. SUBDIVISION CONFERENCE. The Planning Director shall schedule a meeting with the Subdivision Review Committee and the subdivider or his authorized agent and surveyor.

SECTION 2.060. COMMITTEE REVIEW FACTORS. In review of proposed subdivisions and partitions, the committee shall consider the following factors:

A. Preliminary plat requirements.

B. Conformance to Zoning and Comprehensive Plan.

C. Possible adverse effects on the development by natural hazards.

D. Quantity and quality of existing or proposed water supply.

E. Adequacy of the existing or proposed sewage disposal system to support the projected population.

F. Adequacy of public services to serve the increase in population to be created by the development; including schools, police and fire protection, health facilities, highway and arterial and collector road networks, parks, etc.

G. Possible conflicts with adjoining property.

H. Protective covenants, deeds or restrictions.

I. Conformance with policies and provisions of local and State regulations.

J. Marketable title or other interest contracted.

K. Agreement or by-laws to provide for management, construction, maintenance or services proposed.

L. Effects of the subdivision for continuity of public services and access to adjoining lands.

ARTICLE 3. TENTATIVE PLAN

SECTION 3.010. APPLICATION SUBMISSION. Any person proposing a subdivision, or his authorized agent or representative, shall include with an application for a subdivision a Tentative Plan as set forth in Sections 3.040 through 3.080 for the proposed subdivision, together with improvement plans and other supplementary material as may be required, and shall submit 10 copies of said plan together with all required accompanying material to the Planning Department. A Tentative Plan for a subdivision shall be accompanied by an application for a subdivision as provided by the Planning Department, together with the appropriate filing fee, required supplemental material and subdivision application form, and thereof officially received by the Planning Department.

SECTION 3.015. REVIEW FOR COMPLETENESS. The Planning Department shall determine whether the application is complete and shall inform the applicant within 30 days of the application date whether additional information is required. The applicant has 180 days within which to submit the requested information or the applicant may, in writing, refuse to submit additional information, whereupon the application shall be considered complete for review. The Planning Department shall arrange for a meeting of the Subdivision Review Committee and Planning Commission for review of the tentative plan when the application has been found to be complete.

SECTION 3.020. REQUIRED FINDINGS FOR APPROVAL. The Commission shall not approve a Tentative Plan for a proposed subdivision unless the Commission finds, in addition to other requirements and standards set forth in this ordinance, that the subdivision as proposed or modifies will satisfy the intent of this ordinance relating to subdivision development, the intent and requirements of the applicable zoning regulations, will be in compliance with the Comprehensive Plan, and the standards set forth in this Article; such findings shall include the following:

A. The subdivision is an effective, efficient and unified treatment of the development possibilities on the project site while remaining consistent with the Comprehensive Plan relative to orderly development and land use patterns in the area, and provides for the preservation of natural features and resources such as natural vegetation, and special terrain feature.

B. The subdivision will be compatible with the area surrounding the project site, and will not create an excessive demand on public facilities and services required to serve the development.

C. That there will not be any adverse impact on natural resource quality and public service and facilities.

SECTION 3.040. TENTATIVE PLAN REQUIRED. The Tentative Plan for a subdivision shall be prepared and submitted in compliance with the provision of Sections 3.050 through 3.080 of this Article.

SECTION 3.050. SCALE OF TENTATIVE PLAN. The Tentative Plan of a proposed subdivision shall be drawn on a sheet of 18 by 24 inches in size or a multiple thereof at a scale of one (1) inch equals 50 feet for subdivision up to 10 acre size, one (1) inch equals 100 feet for subdivisions up to 50 acre size, one (1) inch equals 200 feet for subdivision up to 100 acre in size, and for subdivision of more than 100 acres in size a scale not greater than one (1) inch equals 400 feet; or multiples thereof as approved by the Planning Department.

SECTION 3.060. INFORMATION REQUIREMENTS. The following information shall be shown on the Tentative Subdivision Plan or provided in accompanying materials. No Tentative Plan submittal shall be considered "complete" unless all such information is provided.

A. General Information Required

1. Proposed name of the subdivision

2. Names, addresses and phone numbers of the owner of record and subdivider, authorized agents or representatives, surveyor, and any assumed business names filed or to be filed with the Corporation Commissioner by the owner or subdivider which will be used in connection with the subdivision.

3. Date of preparation, north point, scale and gross area of the proposed subdivision.

4. Appropriate identification of the drawing as a Tentative Plan for a subdivision.

5. Location and tract designation sufficient to define its location and boundaries, and a legal description of the tract boundaries in relation to existing plats and streets.

B. Information Concerning Existing Conditions.

1. Location, names and widths of existing improved and unimproved streets and roads within and adjacent to the proposed subdivision.

2. Location of any existing features such as section lines, section corners, city and special district boundary lines and survey monuments.

3. Location of existing structures, irrigation canals and ditches, pipelines, waterways, and railroads, and natural features such as rock outcroppings, marshes, wooded areas and natural hazards.

4. Location and direction of watercourses, and the location of area subject to erosion, high water tables and flood hazards.

5. Location, width and use or purpose of any existing easement or right-of-way within and adjacent to the proposed subdivision.

6. Existing sewer lines, water mains, culverts, and underground and overhead utilities within and adjacent to the proposed subdivision, together with pipe sizes, grades and locations.

7. Contour lines related to some established bench mark or other engineering acceptable datum and having minimum intervals of two feet for slopes of less than five percent, five feet for slopes of five to fifteen percent, ten feet for slopes of fifteen percent, and twenty feet for slopes greater than twenty percent.

C. Information Concerning Proposed Subdivisions.

1. Location, names, width, typical improvements, cross sections, approximate grades, curve radii and length of all proposed streets, and the relationship to all existing and projected streets.

2. Location, width and purpose of all proposed easements or right-of-ways and relationship to all existing easements or right-of-ways.

3. Location of at least one temporary bench mark within proposed subdivision boundary.

4. Location, approximate area and dimension of each lot, and proposed lot and block numbers.

5. Location, approximate area and dimensions of any lot or area proposed for public use, the use proposed and plans for improvements or development thereof.

6. Proposed use, location, approximate area and dimensions of any lot which is intended for non-residential use.

7. An outline of the area proposed for partial recording of a final plat if phased development and recording is contemplated or proposed. If the proposed subdivision pertains to only a portion of the tract owned or controlled by the subdivider, the Planning Commission may require a tentative plan for streets and utilities in the unsubdivided portion.

8. Source, method, and preliminary plans for domestic and other water supplies, sewage disposal, solid waste disposal and all utilities.

9. Description and location of any proposed community facilities.

10. Storm water and other drainage facility plans.

11. Solar protection statement.

SECTION 3.070. MASTER DEVELOPMENT PLAN. An overall "Master Development Plan" shall be submitted for all developments of more than 100 parcels or for all developments planning to utilize phase or unit development. The Master Development Plan shall include, but not be limited to, the following elements:

A. Overall development plan, including phase or unit sequences.

B. Schedule of improvements initiation and completion.

C. Overall transportation and traffic pattern Plan, including a Traffic Impact Analysis (TIA) completed by a certified engineer. If the property frontage includes a state highway, the TIA must meet ODOT Traffic Impact Study requirements.

D. Sales program timetable projection.

E. Development plans of any common elements or facilities.

F. Financing plan for all improvements.

G. If the proposed subdivision is determined to have a possible impact upon adjacent lands or lands within the general vicinity, the Planning Commission may require a potential street development pattern for adjoining lands to be submitted together with the Tentative Plan as part of the Master Development Plan for the subject subdivision.

SECTION 3.080. SUPPLEMENTAL INFORMATION REQUIRED. The following information shall be submitted with the Tentative Plan for a subdivision. If such information cannot be shown practically o the Tentative Plan of a proposed subdivision, it shall be submitted on separate documents accompanying the plan at the time of filing.

A. Proposed deed restriction or protective covenants, if such is proposed to be utilized for the proposed subdivision.

B. Certified statement from each serving utility company proposed to serve the proposed subdivision as set forth in the Tentative Plan, and the conditions of such service shall be set forth.

C. Proposed fire protection system for the proposed subdivision and written review thereof by the appropriate serving fire protection agency.

D. Title or Subdivision Guarantee Report from a licensed title company stating the record owner(s) of the land proposed to be subdivided and setting forth all encumbrances relative to the subject property.

E. Reasons and justifications for any variances requested to the provisions of this ordinance or any other applicable ordinance or regulation.

SECTION 3.090. APPROVAL OF TENTATIVE SUBDIVISION PLAN.

A. Tentative Plan Review. The Planning Commission shall, within 45 days from the first regular Commission meeting following the determination that a Tentative Subdivision Plan is complete, review the Tentative Plan and all reports and recommendations of appropriate officials and agencies. The Commission may approve, modify, or disapprove the Tentative Plan for the proposed subdivision, and shall set forth Findings for said decision. The Planning Commission shall make its decision at a public hearing with notice and procedures as specified in Article 9 of the Development Ordinance.

B. Tentative Plan Approval. Approval or disapproval of the Tentative Plan by the Commission shall be final unless the decision is appealed to the County Court. The County Court may review the Planning Commission's decision on its own motion. County Court review shall be conducted in accordance with Article 12 of this ordinance, and failure to do so within the required time limit shall be deemed to indicate acceptance of the Planning Commission's decision.

C. Tentative Plan Approval Relative to Final Plat. Approval of the Tentative Plan shall not constitute final acceptance of the plat of the proposed subdivision for recording; however, approval of such Tentative Plan shall be binding upon the County for preparation of the plat.

D. Commission Report. The decision of the Planning Commission shall be set forth in writing in a formal report and, in the case of approval, be noted on three copies of the Tentative Plan, including references to any attached documents describing conditions of approval. One copy of the appropriate material shall be sent to the subdivider, one copy sent to the affected city or the County Court, and one copy shall be retained by the Planning Commission. Such action shall be completed within ten days of Commission decision.

SECTION 3.100. SPECIFIC APPROVAL REQUIREMENTS. In addition to the requirements set forth by the provision of this ordinance and applicable local and State regulations, specific requirements for preliminary plat approval are as follows:

A. No Tentative Plan of a subdivision shall be approved which bears a name using a word which is the same as, similar to or pronounced the same as a word in the name of any other subdivision in the same county, except for the words "town", "city", "place", "court", "addition", or similar words, unless the land platted is contiguous to and platted by the same party that platted the subdivision bearing that name or unless the party that platted the subdivision bearing that name. All plats must continue the Lot and Block numbers of the plat of the same name, last filed.

B. No Tentative Plan for a proposed subdivision shall be approved unless:

1. The streets and roads are laid out so as to conform to the plats of subdivisions and maps of partitions already approved for adjoining property as to width, improvements, general direction and in all other respects, unless the Planning Commission determines it is in the public interest to modify the street or road pattern.

2. Streets and roads to be held for private use are approved by the Commission and are clearly indicated to the Tentative Plan and all reservations or restrictions relating to such private streets and roads are set forth thereon; such as ownership and maintenance responsibilities.

3. The Tentative Plan complies with the Comprehensive Plan and zoning.

C. Approval or denial shall take into consideration the Subdivision Review Committees' recommendations and the factors listed in 2.060 of this ordinance.

D. A review and formal recommendation has been provided for by the affected city if located within the Urban Growth Boundary thereof, or as otherwise set for by the applicable Urban Growth Boundary management agreement.

SECTION 3.110. RESUBMISSION OF DENIED TENTATIVE PLANS. If the Tentative Plan for a subdivision is denied, resubmittal thereof shall not be accepted by the County for a period of six months after the date of the final action denying said plan. Re-submission shall require the applicant to consider all items for which the prior denial was based, and the resubmission shall be accompanied by a new filing fee.

ARTICLE 4. FINAL PLAT

SECTION 4.010. SUBMISSION OF FINAL PLAT.

A. Filing Time Period Requirements. Within twelve (12) months after the date of approval of the Tentative Plan for a subdivision, the subdivider shall prepare and submit a final plat that is in conformance with the Tentative Plan as approved. The subdivider shall submit the original drawing, five prints, and any supplementary information required by this ordinance and the Planning Commission and the "check list" provided by the Planning Department. If the subdivider fails to proceed with the subdivision before the expiration of the twelve (12) month period following the approval of the Tentative Plan, the plan approval shall be declared void and the subdivider must submit a new plan together with the appropriate filing fee if he wishes to proceed with the development.

B. Time Period Extension. The Planning Commission may, upon submittal of a formal request for a time extension and justification therefor by the subdivider, grant a 90-day extension to the twelve (12) month time period set forth in Section 4.010 (1) of this ordinance.

SECTION 4.020. FORM OF FINAL PLAT. The final plat shall be submitted in the form prescribed by the State Statute and this ordinance.

A. All plats subdividing any tracts of land in the County, and dedications of streets or roads or public parks and squares and other writings made part of such plats offered for record shall be made in black India ink, upon material that is 18 inches by 24 inches in size, that is suitable for binding and copying purposes, and that has such characteristics of strength and permanency as may be required by the County. Th plat shall be of such a scale, and the lettering of the approvals thereof, and of the dedication and affidavit of the surveyor, shall be of such a size or type as will be clearly legible, but no part shall come nearer any edge of the sheet than one inch. The plat may be placed on as many sheets as necessary, but a face sheet and an index page shall be included for plats placed upon two or more sheets. Plat material may be placed on both sides of a sheet.

SECTION 4.030. REQUIREMENTS OF SURVEY AND PLAT OF SUBDIVISION. No subdivider shall submit a plat of a subdivision for record, until all the requirements for the survey and the plat of the subdivision have been met.

A. The survey of the plat of the subdivision shall be of such accuracy that the error of closure shall not exceed one foot in 4,000 feet.

B. The survey and plat of the subdivision shall be made by a surveyor who is a licensed land surveyor.

C. The plat of a subdivision shall be of such scale that all survey and mathematical information, and all other details may be clearly and legibly shown thereon. Each lot

shall be numbered and each block shall be lettered or numbered. The length of all boundaries of each lot shall be shown, each street shall be named.

D. The locations of descriptions of all monuments shall be clearly recorded upon all plats and the proper course and distances of all boundary lines shall be shown.

SECTION 4.040. MONUMENTATION REQUIREMENTS.

A. The initial point of all subdivision plats shall be marked with a monument conforming to the following specifications. This monument shall be a galvanized iron pipe, two inch inside diameter, not less than thirty inches long, with a brass cap no less than 2 inches in diameter, solidly and permanently secured in position either with a substantial, non-corrosive rivet or a solid-metal weld. The bottom of the pipe shall end in a welded footplate or be split and flared to a minimum holding width of six inches to anchor the monument when set in the ground. Any galvanization destroyed during threading, cutting, flaring or welding must be retreated against rust. The monument shall be set with the top at finished grade elevation and the subdivision name, year of establishment, and registration number of the registered engineer or registered number of the registered land surveyor, establishing same, clearly marked with steel dyes on the brass cap. The location of the monument shall be noted with reference to a known corner established by the United States survey.

B. The intersection of all streets and roads and all points on the exterior boundary where the boundary line changes direction shall be marked with monuments either of stone, concrete, galvanized iron pipe, or iron or steel rods.

C. All lot corners except lot corners of cemetery lots shall be marked with monuments of either galvanized iron pipe not less than one-half inch in diameter or iron steel rods not less than one-half inch in least dimension and two feet long.

D. Points shall be plainly and permanently marked upon monuments so that measurements may be taken to them within one-tenth of a foot.

E. All monuments for the exterior boundaries of a subdivision shall be marked and such monuments shall be referenced on the plat of the subdivision before the plat of the subdivision is offered for approval by the county and for recording. However, interior monuments for the subdivision need not be set prior to the approval and recording of the plat of the subdivision if the engineer or land surveyor performing the survey work certifies that the interior monuments will be set on or before a specified date as provided in Subsection (2) of Section 4.050 of this ordinance.

SECTION 4.050. MARKING INTERIOR MONUMENTS AFTER RECORDING.

A. If the interior monuments for a subdivision are to be marked on or before a specified date after the approval and recording of the plate of the subdivision, the person subdividing the land shall furnish, prior to approval and recording of the plat, to the

governing body of the county, a bond or cash deposit in an amount equal to 110 percent of the estimated cost of performing the work for the interior monumentation.

B. If the person subdividing any land within the county has complied with subsection A of this Section, the surveyor may prepare the plat of the monuments referenced thereof as submitted for recording. There shall be attached to any such plat the affidavit of the surveyor that the interior monuments for the subdivision will be marked on or before a specified date in accordance with Section 4.040 of this ordinance and applicable State Statutes and referenced on the plat for the subdivision as approved by the county.

C. After the interior monuments for a subdivision have been marked as provided in an affidavit submitted under subsection B of this Section, the surveyor performing such work shall:

1. Within five days after completion of such work, notify the person subdividing the land involved an the County; and

2. Reference such monuments on an exact copy of the subdivision plat as previously approved and recorded; and

3. Upon approval of such plat copy under ORS Chapter 92.100, file such plat copy with the county recording officer and the city recording officer with whom the plat of the subdivision was previously recorded.

D. At the time the person subdividing the land described in subsection (1) of this Section pays the surveyor for performing the interior monumentation work and notifies the county of such payment, the county, within three months after such notice, shall release the bond or return the cash deposit upon finding that such payment has been made.

SECTION 4.060. INFORMATION ON PLAT. In addition to that required for the Tentative Plan or otherwise specified by law, the following information shall be shown on the plat.

A. Survey Reference. Reference points of existing surveys identified, related to the plat by distances and bearing and referenced to a filed book or map as follows:

1. Stakes, monuments or other evidence found on the ground and used to determine the boundaries of the subdivision.

2. Adjoining corners of adjoining subdivision.

3. Other monuments found or established in making the survey of the subdivision or required to be installed by provisions of the ordinance.

B. Boundary Street. The exact location and width of the street easements intercepting the boundary of the tract.

C. Boundary Lines. Tract, block, and lot boundary lines and street right-of-way and center lines, with dimensions, bearings, or deflection angles, water lines for any creek or other body of water. Tract boundaries and street bearings shall be shown to the nearest 30 seconds with basis of bearings. Distances shall be shown to the nearest 0.01 feet. No ditto marks shall be used.

D. Streets. The width of the portion of streets being dedicated and with the width of existing right-of-way. For streets on curvature, curve data shall be based on the street center line. In addition to the center line dimensions, the radius and central angle shall be indicated together with the long chord distance and bearing.

E. Easements. Easements denoted by fine dotted lines, clearly identified and, if already of record, their recorded reference. If an easement is not definitely located of record, a statement of the easement shall be given. The width of the easement, its length and bearing, and sufficient ties to locate the easement with respect to the map, it shall be properly referenced in the owner's certificates of dedications.

F. Lot Numbers. Lot numbers beginning with the number "1" and numbered consecutively in each block. Pursuant to the applicable county or affected city addressing system, the address of each lot shall be shown on the plat.

G. Block numbers. Block numbers beginning with the omission or duplication throughout the subdivision. The numbers shall be solid, or of sufficient size and thickness to stand out and so placed as not to obliterate and disfigure. Block numbers in an addition to a subdivision of the same name shall be a continuation of the numbering in the original subdivision.

H. Public Lands. Identification of land to be dedicated for any purpose, public or private, to distinguish it from lots intended for sale.

I. Building Setback Lines. Building setback lines, if any, are to be made a part of the subdivision restrictions.

J. Certificates. The following certificates are required and shall be combined where appropriate:

1. A certificate signed and acknowledged as above, all parties having record title interest in the land consenting to the preparation and recording of the plat.

2. A certificate signed and acknowledged as above, dedicating all land intended for public use, except land which is intended for the exclusive use of lot owners in the subdivision, their licenses, visitors, tenants and servants.

3. A certificate with the seal of and signed by the surveyor responsible for the survey and final map.

4. A certificate for execution by the affected City Public Works Superintendent or other City Representative and/or County Roadmaster.

5. A certificate for execution by the chairman of the Planning Commission.

6. A certificate for the execution by the County Planning Director.

7. A certificate for execution by the County Tax Collector.

8. A certificate for execution by the County Assessor.

9. A certificate for execution by the Irrigation District where applicable.

10. A certificate for approval for execution by the County Court.

11. All plans, plats or replats of subdivisions located within the boundaries of an irrigation district, drainage district, water control district, district improvement company, or similar service district shall be submitted to the board of directors of the district or company and its approval thereof shall be endorsed thereon by the board before approval of such plan, plat, or replat of any subdivision by the governing body of the county. Except, that if a subdivider is unable to obtain action or approval of any district or company within 45 days, the subdivider shall notify the governing body in writing and thereafter the governing body shall serve notice on that district or company by certified mail advising the district or company that any objections to the plan, plat, or replat must be filed with the governing body in writing within 20 days and failure of the district or company to respond shall be considered by the governing body as approval of such plan, plat or replat and the governing body shall endorse, act and the body may thereafter approve such plan, plat or replat without the approval of such district or company endorsed thereon.

K. Other certificates required by State regulations.

SECTION 4.070. SUPPLEMENTAL INFORMATION WITH PLAT. The following data shall accompany the plat:

A. Title Report. A preliminary title report issued by a title insurance company in the name of the owner of the land, showing all parties whose consent is necessary and their evidence of a clear and marketable title.

B. Survey Data Sheets. Sheets and drawings showing the following:

1. Traverse data including the coordinates of the boundary of the subdivision and ties to section corners and donation land claim corners, and showing the error of closure, if any. A survey control work sheet may be substituted for this item.

2. The computation of distances, angles and courses shown of the plat.

3. Ties to existing monuments, proposed monuments, adjacent subdivision, street corners and state highway stationing.

C. Deed Restrictions. A copy of any deed restrictions applicable to the subdivision.

D. Homeowner's Association. A copy of any homeowner's association agreements proposed or required for the subdivision.

E. Dedications. A copy of any dedication requiring separate documents, specific reference to parks, playgrounds, etc.

F. Taxes. A list of all taxes and assessments on the tract which have become a lien on the tract.

G. County Court Certificate. A certificate by the County Court that the subdivider has complied with requirements of Section 8.010 and 8.020 on improvement guarantee.

H. Improvement. If grading, and/or street improvements, and/or sewer, and/or water facilities are required as the conditions of approval of the final plat, the following shall be required to be submitted with the final plat:

1. Cross sections of the proposed streets, showing width of roadways, types of surfacing, curb locations, width and location of sidewalks.

2. Plans and profiles of proposed water distribution system showing pipe sizes and location of valves and fire hydrants.

3. Plans and profiles of proposed water distribution system showing pipe sizes and location of valves and fire hydrants.

4. Specification for the construction of all proposed utilities.

5. Grading plans and specifications as required for areas other than streets and ways.

6. Planting plans and specifications for street trees and other plantings in public area.

I. Access Permits. Where access is to be a county road or state highway the necessary access permits shall be obtained prior to final plat review.

SECTION 4.080. TECHNICAL PLAT REVIEW.

A. Ordinance Check. Upon receipt by the Planning Department, the plat and other data shall be reviewed by the County Surveyor, affected City Public Works Superintendent, County Roadmaster, and the County Planning Director who shall examine them to

determine that the subdivision as shown is substantially the same as it appeared on the approved preliminary plan, and there has been compliance with provisions of the law of this ordinance.

B. Field Check. The County Roadmaster, County Surveyor, County Planning Director and affected City Public Works Superintendent may make such checks in the field as are desirable to verify that the map is sufficiently correct on the ground and the Roadmaster or Superintendent or representative thereof may enter the property for this purpose.

C. Corrections. If the County Roadmaster, County Surveyor, affected City Public Works Superintendent and County Planning Director determine that full conformity has not been made, the subdivider shall be advised thereby of the changes or additions that must be made and the subdivider shall be afforded a reasonable opportunity to make the changes or additions.

SECTION 4.090. APPROVAL OF THE FINAL PLAT.

A. If the Planning Director does not approve the plat, it shall advise the subdivider of the changes or additions that must be made and shall afford him an opportunity to make corrections. If the Planning Director determines that the plat conforms to all requirements it shall give its approval, provided supplemental documents and provision for required improvements are satisfactory. Approval shall be indicated by the signature of the Planning Director. The Planning Director may refer any final plat to the Planning Commission for review, if the final plat does not substantially conform to the approved tentative plan or if any other conditions warrant review. Approval of the plat does not constitute or affect an acceptance by the public of the dedication of any street or other easement shown on the plat; nor does such approval constitute final approval, said authority for final approval being vested with the County Court.

B. No plat of a proposed subdivision shall be approved unless:

1. Streets and roads for public use are to be dedicated without any reservation nor restriction other than reversionary right upon vacation or restriction other than reversionary right upon vacation of any such street or road and easement for public utilities.

2. Streets and roads held for private use and indicated on the tentative plan of such subdivision have been approved by the county.

3. The plat or map contains provision for the dedication to the public of all common improvements, including but not limited to streets, roads, parks, sewage disposal and water supply systems; the dedication of which was made a condition of the approval of the tentative plan for the subdivision or the partition.

4. Explanation of all common improvements required as conditions of approval of the tentative plan of the subdivision will be recorded and referenced on the final plat or map.

C. No plat of a subdivision shall be approved by the county unless the county has received and accepted:

1. A certification by a municipally-owned domestic water supply system or by the owner of a privately owned domestic water supply system, subject to regulation by the Public Utility Commissioner of Oregon, that water will be available to the lot line of each and every lot depicted in the proposed plat; or

2. A bond, contract, or other assurance by the subdivider to the county that a domestic water supply system will be installed by or on behalf of the subdivider to the lot line of each and every lot depicted in the proposed plat; and the amount of any such bond, contract or other assurance by the subdivider shall be determined by a registered professional engineer, subject to any change in such amount as determined necessary by the county; or

3. In lieu of paragraphs 1 and 2 of this subsection, a statement that no domestic water supply facility will be provided to the purchaser of any lot depicted in the proposed plat, even though a domestic water supply source may exist. A copy of any such statement, signed by the subdivider and endorsed by the county, shall be filed by the subdivider with the final plat.

D. No plat of a subdivision shall be approved by the county unless the county has received and accepted:

1. A certification by a municipally-owned sewage disposal system or by the owner of a privately owned sewage disposal system that is subject to regulation by the Public Utility Commissioner of Oregon that a sewage disposal system will be available to the lot line of each and every lot depicted in the proposed plat; or

2. A bond, contract or other assurance by the subdivider to the county that a sewage disposal system will be installed by or on behalf of the subdivider to the lot line of each and every lot depicted on the proposed plat; and the amount of such bond, contract or other assurance shall be determined by a registered professional engineer, subject to any change in such amount as the county considers necessary; or

3. In lieu of paragraphs (1) and (2) of this subsection, a statement that no sewage disposal facility will be provided to the purchaser of any lot depicted in the proposed plat, where the Department of Environmental Quality has approved the proposed method on an individual lot-by-lot basis or an alternative method of sewage disposal. A copy of any such statement, signed by the subdivider and endorsed by the county shall be filed by the subdivider with the final plat. The subdivider shall deliver a copy of the statement to each prospective purchaser of a lot in the subdivision at or

prior to the signing by the purchaser of the first written agreement for the sale of the lot. The subdivider shall take a signed receipt from the purchaser upon delivery of such a statement.

G. No plat of a subdivision shall be approved by the county unless the county has received and accepted:

1. A final plat which is in compliance with the tentative plan approval and all conditions thereof.

2. A certification that all required and proposed improvements and repairs to existing public facilities damaged in the development have been completed or a proposed bond, contract or other assurance by the county and/or county District Attorney specifying the period within which required improvements and repairs shall be completed.

3. The plate complies with the county and affected City Comprehensive Plan and with any applicable zoning regulations and any ordinance or regulation applicable to the proposed subdivision or improvement thereof that are then in effect in the county.

SECTION 4.100. FINAL PLAT APPROVAL. Following approval, the final plat shall, without delay, be submitted to the County Court for final approval of the plat, supplemental documents, improvement and repair completions or assurances thereof. Such submittal shall occur within 45 days of approval.

SECTION 4.110. RECORDING OF PLAT. A subdivider shall, without delay, submit the plat for signatures of other public officials required by law. Approval of the plat shall be null and void if the plat is not recorded within 45 days after the date of approval of the governing body has been obtained. After obtaining all required approvals and signatures, the subdivider shall file the plat and an exact copy thereof in the County Clerk's office and the affected City Recorder's office.

A. No plat shall be recorded unless all ad valorem taxes and all special assessments, fees, or other charges required by law to be placed upon the tax roll, have been paid which have become a lien upon the subdivision or which will become a lien during the calendar year.

B. At the time of filing such plat, the person offering it for filing shall also file with the County Recording officer, an exact copy thereof, made with black India ink or photocopy upon good quality of linen tracing cloth or any other suitable drafting material having the same or better transparency. The engineer or surveyor who made the plat shall make an affidavit to indicate that the photocopy or tracing is an exact copy of the plat. The copy filed with the County Recording officer shall be certified by him to be an exact copy and then shall be filed in the archives of the County, and be preserved by filing without folding. The subdivider shall provide, without cost, prints

from such copy to the County Assessor, affected City Recorder and County Planning Department.

ARTICLE 5. LAND PARTITIONING

SECTION 5.010. APPLICABILITY OF REGULATIONS. All land partitioning within the County shall be approved by the County Planning Commission, County Planning Director, and/or a designated official thereof. Said approvals shall be granted in accordance with the provisions of this ordinance and more particularly this Article.

SECTION 5.020. FILING PROCEDURES AND REQUIREMENTS. Any persons proposing a land partitioning, or his authorized agent or representative, shall prepare and submit five (5) copies of the Tentative Plan for the proposed partitioning together with an application for partitioning and the appropriate filing fee to the Planning Department at least 30 21 days prior to the Commission meeting at which consideration is desired, except as set forth in this Article.

A. The Tentative Plan of a proposed partitioning shall be drawn on a sheet 18 by 24 inches in size or a multiple thereof at a scale of one (1) inch equals 50 feet for a partitioning up to 50 acres in size, one (1) inch equals 200 feet for a partitioning of more than 100 acres in size, a scale not greater than one (1) inch equals 400 feet; or as otherwise approved by the County Planning Director and/or Surveyor.

B. The Tentative Plan for partitioning, when submitted, shall include the following:

1. A vicinity map locating the proposed partitioning in relation to adjacent subdivisions, roadways and adjoining land use and ownership patterns.

2. A plan of the proposed partitioning showing tract boundaries and dimensions, the area of each tract or parcel and the names, right-of-way widths, and improvement standards of existing roads.

3. Names and addresses of the land owner, the partitioner, a mortgagee if applicable, and the land surveyor employed or to be employed to make necessary surveys and prepare the legal descriptions of each parcel to be created.

4. A statement regarding contemplated water supply, sewage disposal, solid waste disposal, fire protection, access, etc.

5. North point, scale and date of map, and property by tax lot, section, township and range.

6. Statement regarding past, present and intended use of the parcel(s) to be created, or the use for which the parcel(s) are to be created.

SECTION 5.030. REQUIREMENTS FOR APPROVAL. No application for partitioning shall be approved unless the following requirements are met:

A. Proposal is in compliance with the County and affected City Comprehensive Plan and applicable Zoning.

B. Each parcel is suited for the use intended or offered; including, but not limited to, sewage disposal approval and guaranteed access.

C. All required public service and facilities are available and adequate or are proposed to be provided by the partitioner.

D. Proposal will not have any identifiable adverse impacts on adjoining or area land uses, public services and facilities, and natural resource carrying capacities.

E. An approved water rights diversion plan as applicable.

F. Flag lots will not be permitted when the results would be to increase the number of properties requiring direct and individual access from a State Highway or other arterial. Flag lots may be permitted to achieve planning objectives under the following conditions:

1. When flag lot driveways are separated by at least twice the minimum frontage distance.

2. The driveway must meet driveway standards described in Article 8, Section 8.020.Q.

3. That the flag lots are less than 10 percent of the total number of building sites, or three lots or more, whichever is greater.

4. The lot meets the minimum lot area of the zoning district, without including the driveway.

5. Only one flag lot shall be permitted per private right-of-way or access easement.

G. The depth of any lot shall not exceed 4 times its width (3 times its width in urban areas) unless there is a topographical or environmental constraint or man-made feature such as a railroad line.

H. The commission shall deny an application for partitioning when it appears to the Commission that the partitioning is part of a plan or scheme to create more than three (3) parcels without going through subdivision, or is part of a development pattern having the effect of creating more than three (3) parcels without subdividing.

SECTION 5.040. ADDITIONAL FACTORS TO BE CONSIDERED. In addition to the requirements set forth in Section 5.030, the following factors may be considered for approval or disapproval of an application for land partitioning:

A, Placement and availability of utilities.

B. Safety from fire, flood and other natural hazards.

C. Adequate provision of public facilities and services.

D. Possible effects on natural, scenic and historical resources.

E. Need for onsite or offsite improvements.

F. Need for additional setback, screening, landscaping and other requirements relative to the protection of adjoining and area land uses.

SECTION 5.050. IMPROVEMENT REQUIREMENTS. In the approval of a land partition the need for street and other improvements shall be considered and such may be required as a condition of approval, as may be required for a subdivision under the provisions of this Ordinance.

SECTION 5.060. COMMISSION APPROVAL. Within 45 days from the first regular Planning Commission meeting follow submission of an application for a land partitioning, the Planning Commission shall review the plans and application submitted, and shall either approve or deny the application. If no such action is taken within said 45-day period the subject application shall be deemed approved as submitted and it shall be the duty of the Planning Director to certify the approval.

SECTION 5.070. FINAL PLAT MAP FOR PARTITIONING. Following Commission approval of the Tentative Plan for a proposed partitioning, the person proposing the subject partitioning shall prepare and submitted to the Planning Department the final plat map for the subject partitioning. The survey shall be prepared by a licensed Oregon land surveyor and comply with all requirements of ORS Chapter 92. Such filing shall be completed within one year from the date of the Commission action or the approval of the partitioning shall expire and said approval shall be declared null and void. The final plat map shall be prepared in accordance with the following requirements, two (2) copies thereof submitted to the Planning Director for approval, and the original recorded in the office of the County Clerk following approval by the County Planning Director. Copies of said final map shall be provided by the partitioner without cost to the County Assessor, County Surveyor and County Planning Director.

A. Final Plat Map Requirements:

1. Shall be drawn to the same scale as required for the Tentative Plan or as otherwise approved by the Commissioner.

2. Name of owner, developer, and land surveyor shall be shown on the map.

3. Date, scale, north point, legal description of parcel(s), boundaries, and a tie by actual survey to a section or donation land claim corner.

4. Parcel boundary lines, with dimensions and bearings; bearings shall be to the nearest second and distances to the nearest 0.01 feet. The area of each parcel shall be shown.

5. An affidavit by the land surveyor having surveyed the land involved in the partitioning and certifying that all parcels have been surveyed and monumented as required for lots within a subdivision.

6. A certification of any public dedication.

7. A guarantee of proposed or required improvements.

8. A certification of approval for execution by the County Planning Director.

B. Approval Requirements. No final map for land partitioning shall be approved by the Planning Director unless all of the following requirements are met:

1. The final map is in strict conformance with the Tentative Plan approved by the Commission and conditions thereof have been met or guaranteed.

2. The final map is in strict conformance with the requirements set forth in Subsection A of this Section or as otherwise approved by the Commission or as otherwise set forth in the Article.

3. Access is guaranteed to each parcel.

4. Each parcel is approved for subsurface sewage disposal if applicable to the intended or offered use.

5. All required public utilities are available.

6. A guarantee of all proposed or required improvements has been submitted and approved or such improvements completed and approved as set forth by the Commission.

C. Parcels created in excess of 80 acres do not need to be shown on a partition plat. (MC-C-1-00)

SECTION 5.080. APPEAL PROCEDURE. An appeal of a decision or requirement of the Planning Commission, Planning Commission Secretary, or the Planning Department relative to a land partitioning shall be made in accordance with the provisions of Article 12 of this Ordinance.

SECTION 5.090. SPECIAL PARTITIONING REGULATIONS.

A. The partitioning of a tract of land in which not more than one (1) parcel is created and said parcel is being transferred to a public or semi-public agency for the purpose of a road, railroad, or canal right-of-way may be approved by the Planning Department and no filing fee shall be required. No survey is required unless otherwise ordered by the Commission.

B. The partitioning of land by the adjustment of a lot line by the relocation of a common boundary where an additional parcel is not created and where the existing parcel reduced in size by the adjustment is not reduced by more than 5% of the total area and not reduced below the minimum lot size established by the applicable zoning provided that the common boundary involved is relocated an equal distance in its entirety, and that there are no dwellings or other structures located within the area involved in the adjustment, may be approved by the Planning Department. No survey shall be required.

SECTION 5.100. PARTITIONING FOR FINANCIAL PURPOSES.

A. Upon application to the Planning Director, said person may grant a special permit authorizing creation of a security interest or leasehold in a parcel of land.

B. Permits issued under the authority of this section shall be subject to the following limitations and restrictions:

1. A parcel possessed by a person under the terms of a lease or a security interest, and the remaining parcels, must remain in the legal use that the parcels were at the time the interest become possessory; except the parcel(s) may be put into agricultural use; but in no case may an additional structure or security interest, be added to any parcel by the authority of the permit authorized in Subsection (1) of this Section. In order to establish uses other than agriculture or to erect structures, not a part of the security interest, including farm accessory structures, the owner of the parcel must secure a land partitioning approval as otherwise required by this Ordinance and this Article.

2. The permit authorized in Subsection A of this Section shall only be valid for the time of the lease or the life of the security interest; except when there is a default and foreclosure, the permit shall only be valid until a land partitioning permit is granted or the parcels are once again rejoined in a contiguous unit of land under the same ownership.

3. At the end of the life of the security interest, if there is no default or foreclosure, or in the case of leaseholds at the end of the lease, the parcels shall be rejoined into a contiguous unit of land under one ownership and, if possible, shall be reunited or combined into a single tax lot. The owner of the property shall be in violation of this ordinance if he has not, within 30 days of the permit becoming void, made written

application to the County Assessor for the combination of the parcels into a single tax lot.

C. No permit may be issued under this section until the applicant, the owners of the subject property, and the holder of the security or lease interest sign a statement indicating that all parties understand the limits being placed upon the permit.

D. The permit issued under this section shall be immediately void if the owner of the property attempts any transfer of the subject parcels, except as provided by the terms of the permit.

E. The partitioning permit authorized by this section shall only be granted if the applicant certifies and the Planning Director finds that:

1. The intended partitioning is temporary and not created for the purpose of evasion of the requirements of this ordinance, other ordinances or regulations or State Statute and administrative rules adopted pursuant thereto.

2. The partitioning will not result in the need for additional roads or other access, except for access to a use for which the subject use is collateral of the financial partitioning.

3. A partitioning map as required and approved by the Planning Director is provided. No survey shall be required.

4. The partitioning will not result in the need for additional public improvements on services.

SECTION 5.110. LAND PARTITIONING IN NON EFU-ZONES WITHIN AN URBAN GROWTH BOUNDARY.

A. An application for a land partitioning involving land that is located within an Urban Growth Boundary shall be submitted to the Planning Department. Such applications may be approved or denied by the Planning Commission pursuant to the provisions of this ordinance, this article, and more specifically this section. No land partitioning application submitted under this section may be approved by the Commission unless in compliance with the following criteria:

1. The partitioning is in compliance with the Comprehensive Plan and applicable policies thereof.

2. The partitioning and intended use of each parcel is in compliance with the applicable zoning.

3. Each parcel is suited for the use intended or offered and that for any use requiring sewage disposal that provisions for such are approved.

4. Access is guaranteed to each parcel.

5. All required public services and facilities are available and adequate, or are proposed to be provided by the applicant a guarantee to such is provided.

6. Proposal will not have adverse impacts on adjoining or area land uses, public services and facilities and natural resource carrying capacities.

7. The final map is prepared and submitted in compliance with Section 5.060 of this Article.

SECTION 5.120. LAND PARTITIONING FOR FARM USE.

A. An application for a land partitioning creating not more than two (2) parcels, none of which are less than 160-acres and are to be used exclusively for farm use shall be submitted to the Planning Department. Such application may be approved or denied pursuant to the provisions of this ordinance, this article, and more specifically this section, and provisions of ORS 215.263-215.265.

SECTION 5.140. PARTITIONING FOR COMMERCIAL OR INDUSTRIAL USE.

A. An application for a land partitioning whereby all proposed parcels are to be used exclusively for commercial or industrial use in accordance with an approved Tentative Plan and in compliance with the applicable zoning shall be submitted to the Planning Director. Such applications may be approved or denied by the Planning Commission pursuant to the provision of this ordinance, this article, and more specifically as in compliance with an existing Commission approved Commercial or Industrial Tentative Plan.

B. An application for a land partitioning submitted pursuant to this section shall not be approved by the Planning Director unless said person finds that:

1. The partitioning and intended parcel use is in compliance with the Comprehensive Plan and applicable Zoning.

2. Access is provided and guaranteed to each parcel.

3. All required public services and facilities are provided or available to each parcel.

4. If part of a Commission Approved Commercial or Industrial Tentative Plan, that compliance therewith is evident.

5. All required improvements are completed or guaranteed.

C. The partitioning of land exclusively for commercial or industrial use by the adjustment of a lot line by the relocation of a common boundary where an additional parcel is not created, and where the existing parcel reduced in size by the adjustment is not reduced below a minimum of 20,000 square feet, and provided that the common boundary is relocated an equal distance in its entirety, may be approved or denied by the Planning Director.

SECTION 5.150. EXCEPTIONS.

A. Parcel Size Exceptions. Whereas land sections in the County are commonly affected by survey adjustment, requirements relative to parcel sizes shall be considered as standard metes and bounds land section divisions; i.e. 160, 80, 40, 20, etc.; parcel sizes may, therefore, be reasonably smaller than set forth by regulation if an acreage reduction is due to a survey adjustment.

B. Survey Requirement Exception. The survey requirements set forth for land partitionings may be exempted for any parcel which is legally definable by a standard metes and bounds description and larger than 80 acres in size, when authorized by ORS Chapter 92.

SECTION 5.160. SPECIAL PROVISIONS.

A. Access Requirements. No Tentative Plan application for land partitioning will be considered or put on meeting agendas prior to the applicant providing proof of guaranteed access as required to each parcel created. The proof must show that each parcel has an easement sufficient for continued ingress and egress to a public, county or state highway or has a deeded access way. In addition, the applicant must prove that the governmental authority in charge of the county or state highway has approved a residential access onto the highway.

B. Sewage Disposal Feasibility. No Tentative Plan application for land partitioning will be considered or put on meeting agendas prior to the applicant providing proof of sewage disposal feasibility for every parcel proposed to have an area less than 40 acres.

C. Improvements in Partitionings. The same improvements may be required for a partitioning as required of a subdivision, and if so required shall be installed to serve each building site of a partition by the applicant.

ARTICLE 6. PLANNED UNIT DEVELOPMENT

SECTION 6.010. AUTHORIZATION. When a Planned Unit Development has been authorized pursuant to applicable zoning regulations, such a development may be approved by the county in accordance with the provisions of this article and this ordinance.

SECTION 6.020. APPLICABILITY OF REGULATIONS. The requirements for a planned unit development set forth in this article are in addition to the requirements set forth for a standard subdivision in this ordinance.

SECTION 6.030. PURPOSE FOR PLANNED UNIT DEVELOPMENT REGULATIONS. The planned unit development authorization serves to encourage developing as one project tracts of land that are sufficiently large to allow a site design for a group of structures. Deviation from specific site development standards is allowable as long as the general purposes for the standards are achieved and the general provisions of this ordinance and applicable zoning regulations are observed. The planned unit development approach is appropriate if it maintains compatibility with the surrounding area and creates and attractive, healthful, efficient and stable environment. It should either promote a harmonious variety or grouping of uses, or utilize the economy of shared services and facilities. It is further the purpose of authorizing planned unit development to take into account the following:

A. Advances in technology and design.

B. Recognition and resolution of problems created by increasing population density.

C. A comprehensive development equal to or better than that resulting from traditional lot-by-lot land use development, in which the design of the overall unit permits increased freedom in the placements and uses of buildings and the location of open spaces, circulation facilities, off-street parking areas and other facilities.

D. The potential site characterized by special or limiting features of geography, topography, size or shape, natural or historic resources.

E. The height and bulk characteristics of buildings can vary as long as the ratio of site area to dwelling units and openness of the site will be in harmony with the area in which the proposed development is located.

F. Provision of housing and related land uses at maximum economic efficiency for the community, buyer and seller.

G. Provision of a living environment with aesthetic qualities, common open space and recreation areas, and energy efficient access to needed services and facilities.

SECTION 6.040. REQUIRED FINDINGS FOR APPROVAL. The county shall approve a planned unit development only if it finds that the planned unit development will

satisfy the intent of this ordinance relating to standard subdivision development, the intent of applicable zoning regulations and the standards of this article, including the following:

A. The planned unit development is an effective and unified treatment of the development possibilities on the project site while remaining consistent with the Comprehensive Plan and making appropriate provisions for the reservation of natural features such as natural vegetation and special terrain features.

B. The planned unit development will be compatible with the area surrounding the project site and with no greater demand on public facilities and services than other authorized uses for the land.

SECTION 6.050. PLANNED UNIT DEVELOPMENT SITE SIZE. No PUDs or subdivisions for nonfarm or nonforest purposes shall be allowed on land zoned EFU and FU unless an exception is taken to the applicable resource goal under the Statewide Planning Goals. Any such development that creates new urban development or rural land an exception to Statewide Planning Goals 11 and 14 shall be required. Consistent with OAR 660, Division 14.

SECTION 6.060. DIMENSIONAL AND BULK STANDARDS.

A. The minimum lot area, width, frontage and yard requirements otherwise applying to individual buildings in the zone in which a planned unit development is proposed do not apply within a planned unit development.

B. If the spacing between main buildings is not equivalent to the spacing which would be required between buildings similarly developed under this ordinance and applicable zoning on separate parcels, other design features shall provide light ventilation and other characteristics equivalent to that obtained from the spacing standards.

C. Buildings, off-street parking and loading facilities, open space, landscaping and screening shall provide protection outside the boundary lines of the development comparable to that otherwise required of development in the applicable zone.

D. The maximum building height shall, in no event, exceed those building heights prescribed in the zone in which the planned unit development is proposed except that greater height may be approved if surrounding open space within the planned unit development, building setbacks and other design features are used to avoid any adverse impact due to the greater height on other uses within and outside the development and on any solar energy collection systems.

E. The building coverage for any planned unit development shall not exceed 40 percent of the land area being developed exclusive of public and private streets.

F. Common open space and other such amenities, exclusive of streets, shall constitute at least 30% of the total land area of the development.

SECTION 6.070. PROJECT DENSITY. The project density standards set forth hereinafter are in reference to the number of dwelling units or other potential population measures per acre after public or private street right-of-way has been excluded.

A. The planned unit development may result in a density in excess of the density otherwise permitted within the zone in which the planned unit development is to be constructed hereinafter as set forth.

1. For an approved scheme of open space, a maximum increase in density of five percent if the space is to be continuously maintained undeveloped and a maximum increase of ten percent if the space is to be continuously maintained and developed.

2. For distinctiveness and excellence in siting, design and landscaping that will provide unusual enhancement to the general area, a maximum increase in density of ten percent.

B. If the Planning Commission finds that any of the following conditions would be created by an increase in density permitted by this section, it may either prohibit any increase in density or limit the increase in density by the amount deemed necessary to avoid the creation of any of these conditions:

1. Inconvenient or unsafe access to the planned unit development or adjoining developments.

2. Traffic congestion in the streets which adjoin the planned unit development to the overall street system in the area of the development.

3. An excessive burden on sewage, water supply, parks, recreational areas, schools or other public facilities which serve or are proposed to serve the planned unit development.

SECTION 6.080. COMMON OPEN SPACE.

A. No open area may be accepted as common open space within a planned unit development unless it meets the following requirements:

1. The location, shape, size and character of the common open space are suitable for the planned development.

2. The common open space is for amenity or recreational purposes and the uses authorized are appropriate to the scale and character of the planned unit development, considering its size, density, expected population, topography and the number and type of dwellings provided.

3. Common open space will be suitably improved for its intended use, except that common open space containing natural features worthy of preservation may be left unimproved. The buildings, structures and improvements to be permitted in the common open space are appropriate to the uses which are authorized for the common open space.

4. The development schedule which is part of the development plan coordinates the improvement of the common open space and the construction of buildings and other structures in the common open space with the construction of residential dwellings in the planned unit development.

5. If buildings, structures or other improvements are to be made in the common open space, the developer provides a bond or other adequate and approved assurance that the buildings, structures and improvements will be completed within a specified period of time. The county shall release the bond and other assurances when the buildings, structures and other improvements have been completed according to the development plan.

B. Land shown of the final development plan as common open space shall be conveyed under on eof the following options:

1. To a public agency which agrees to accept such conveyance and to maintain the common open space and any buildings, structures or other improvements which have been placed on it. Unless such common open space and improvements thereof are of such scale to provide a public benefit outside the subject development and such open space and improvements are publicly dedicated to the appropriate public agency, said agency shall not accept the conveyance set forth by this provision without establishing by agreement with the developer an appropriate service and maintenance fee on an annual basis. Such requirement is deemed necessary to preclude general tax monies being expended for the benefit of a single development.

2. To an association of owners or tenants, created as a non profit corporation under the laws of the state, which shall adopt and impose articles of incorporation and bylaws and adopt and impose a declaration of covenants and restrictions on the common open space that is acceptable to and approved by the city a providing for the continuing care of the space. Such an association shall be formed and continued for the purpose of maintaining the common open space and all improvements. Such provisions shall be set forth as a part of each sale, lease or rental contract or deed involving any lot, parcel, facility, component or interest in the subject development.

C. No common open space may be put to a use not specified in the final development plan unless the final plan is first amended to permit the use. However, no change of use may be authorized as a waiver of any of the covenants limiting the use of common open space area, and all rights to enforce these covenants against any use are expressly reserved.

D. If the common open space is not conveyed to a public agency, the covenants governing the use, improvements and maintenance of the common open space shall authorize the county to enforce their provisions.

E. Bicycle and Pedestrian Circulation. Bicycle and pedestrian circulation plans shall be included in Planned Unit Development Applications. If appropriate, the Planning Commission may require the installation of bicycle and/or pedestrian facilities, as provided in Section 9.030 of the Morrow County Subdivision Code.

SECTION 6.090. ACCESSORY USES IN A PLANNED UNIT DEVELOPMENT. In addition to the accessory uses of the primary uses authorized, accessory uses approved as a part of a planned unit development may include the following:

A. Golf Course.

B. Private park, lake or waterway.

C. Recreation area, building, clubhouse or social hall.

D. Other accessory structures which the Planning Commission finds are designed to serve primarily the residents of the planned unit development, and are compatible to the design and other uses of the planned unit development.

E. Any commercial use permitted as a component of a planned unit development shall be limited to those types of commercial uses specifically designed to serve the development zone and shall be subject to the following conditions:

1. Each such use shall be wholly enclosed within a building; no outside storage shall be permitted.

2. The total of such uses shall not exceed more than three percent of the total land area of the development, and no commercial use including buildings and parking shall exceed more than 70 percent of the land area designed therefor.

3. No such use or assemblage of such use shall generate more than 100 auto trips daily per acre, or one auto trip daily per dwelling unit in the development, whichever is greater.

SECTION 6.100. APPLICATION SUBMISSION. An applicant shall include with an application for a planned unit development either an Outline Plan or a Tentative Development Plan as described in Section 6.120. Except as otherwise set forth in this article the procedure for review and approval of a planned unit development is the same as set forth for a standard subdivision in this ordinance. An application for a planned unit development shall be accompanied by the appropriate filing fee.

SECTION 6.110. OUTLINE DEVELOPMENT PLAN. If an Outline Development Plan is prepared and submitted with the application for a planned unit development, it shall include both maps and written statements as set forth in this section. The information shall deal with enough of the area surrounding the proposed planned unit development to demonstrate the relationship of the planned unit development to adjoining uses, both existing and allowable under applicable zoning.

A. The maps which are part of the outline plan may be in general schematic form, but to scale, and shall contain the following information:

1. The existing topographic character of the land.

2. Existing and proposed land uses and the approximate location of buildings and other structures.

3. The character and approximate density of the proposed buildings.

4. The approximate location of the collector streets.

5. Public uses, including schools, parks, playgrounds and other public open spaces or facilities.

6. Common open spaces and a description of the proposed use of these spaces.

7. Landscaping plans.

8. Irrigation plans and design.

B. Written, signed statements which are part of the outline development plan shall contain the following information.

1. An explanation of the character of the planned unit development and the manner in which it has been planned to take advantage of the planned unit development regulations.

2. A statement of the present ownership of all the land included within the planned unit development.

3. A general indication of the expected schedule of development and improvements.

C. Planning Commission approval of the outline development plan shall constitute only a provisional approval of the planned unit development contingent upon the approval of the preliminary development plan.

SECTION 6.120. TENTATIVE DEVELOPMENT PLAN. A tentative development plan shall be prepared and submitted by the applicant for a planned unit development and shall include the following information:

A. A map to scale showing street systems, lot or partition lines and other divisions of land for management, use or allocation purposes.

B. Areas proposed to be conveyed, dedicated or reserved for public streets, parks, parkways, playgrounds, school sites, public buildings and similar public and semi-public uses and facilities.

C. A plot plan for each building site and common open space area, showing the location of buildings, structures and other improvements and indicating the open spaces around buildings and structures.

D. Elevation and perspective drawings of proposed structures, including floor plans of proposed structures.

E. A development schedule indicating:

1. The approximate date when construction of the project can be expected to begin.

2. The stages in which the project will be built and the approximate date when construction of each stage can be expected to begin.

3. The anticipated rate of development.

4. The approximate dates when each stage in the development will be completed.

5. The area, location and degree of development of common open space that will be provided at each stage.

F. Agreements, provisions or covenants which govern the use, maintenance and continued protection of the planned unit development and any of its common open space areas.

G. The following plans and diagrams, insofar as the reviewing body finds that the planned unit development creates special problems of traffic, parking, landscaping or economic feasibility:

1. An off-street parking and loading plan.

2. A circulation diagram indicating proposed movement of vehicles, goods and pedestrians without the planned unit development and to and from thoroughfares. Any special engineering features and traffic regulation devices needed to facilitate or insure the safety of this circulation pattern shall be shown.

3. A landscaping and tree plan.

4. An economic feasibility report or market analysis.

SECTION 6.130. SEPARATE APPROVAL OF THE TENTATIVE DEVELOPMENT PLAN.

A. If an outline development plan has been submitted and the planned unit development has been provisionally approved based on the information in the outline development plan, the applicant shall file the tentative development plan with the Planning Commission within six months following the provisional approval of the outline development plan. The Planning Commission shall give notice and provide an opportunity to be heard to each of the following:

1. A person who is on record as having appeared at the hearing on the outline development plan.

2. A person who has indicated in writing a desire to be notified.

3. Other persons who may have an interest.

B. The Commission, having previously provisionally approved the proposed planned unit development, shall then either reapprove, disapprove, or reapprove with modifications the planned unit development based on the tentative development plan.

C. If an outline development plan has been submitted and approved, a tentative development plan may be submitted in stages. If a tentative development plan covering at least 30 percent of the area of the outline development plan has not been submitted within six months following the provisional approval of the planned unit development, then the provisional approval of the planned unit development by the Planning Commission shall terminate unless, for good cause, the Planning Commission extend for three months the period for filing of the tentative development plan.

D. If the Planning Commission finds evidence of a material deviation from the approved tentative development plan, the Planning Commission shall advise the applicant to submit application for amendment of the planned unit development. An amendment shall be considered in the same manner as an original application and shall be accompanied by the appropriate filing fee.

SECTION 6.150. CONTROL OF THE DEVELOPMENT AFTER COMPLETION. The final development plan shall continue to control the planned unit development after it is finished and the following shall apply:

A. The county, in issuing a certificate of completion of the planned unit development, shall note the issuance on the recorded final development plan.

B. After the certificate of completion has been issued, the use of the land and the construction, modification or alteration of a building shall be governed by the approved final development plan.

C. After the certificate of completion has been issued, no change shall be made in development contrary to the approved final development plan without approval of an amendment to the plan except as follows:

1. Minor modifications of existing buildings or structures may be authorized by the Planning Commission if they are consistent with the purposes and intent of the final plan and do not increase the cubic footage of a building or structure.

2. A building or structure that is totally or substantially destroyed may be reconstructed without approval of an amended planned unit development if it is compliance with the purpose and intent of the final development plan.

D. An amendment to a completed planned unit development may be approved if it is required for the continued success of the planned unit development, if it is appropriate because of changes in conditions that have occurred since the final development plan was approved or because there have been changes in the development policy of the community as reflected by the county and affected city Comprehensive Plan or related land use regulations.

E. No modification or amendment of a completed planned unit development is to be considered as a waiver of the covenants against any charge permitted by this section are expressly reserved.

SECTION 6.160. AUTHORIZATION TO APPROVE OR DISAPPROVE PLANNED UNIT DEVELOPMENTS. A planned unit development as set forth in this ordinance shall be approved, modified, disapproved or amended in accordance with the standards and procedures of this article, this ordinance and other applicable rules and regulations. In judging whether or not a planned unit development proposal shall be approved or disapproved the Planning Commission shall weigh its appropriateness and desirability or the public convenience or necessity to be served against any adverse conditions that would result from authorizing the particular development at the location proposed and, to approve such development, shall find that the following criteria are either met, can be met by observance of conditions, or are not applicable.

A. The proposal will be consistent with the county and affected city Comprehensive Plan and the objectives of the zoning ordinance and other applicable policies of the affected city and county.

B. The location, size, design, and operating characteristics under the proposal will have minimal adverse impact on the livability, value or appropriate development of abutting properties and the surrounding area.

C. The location and design of the site and structures for the proposal will be as attractive as the nature of the use and its setting warrants.

D. A proposal will preserve environmental assets of particular interest to the community.

E. The applicant has a bona fide intent and capability to develop and use the land as proposed and has no inappropriate purpose for submitting the proposal, such as to artificially alter property values for speculative purposes.

SECTION 6.170. PLACING CONDITIONS ON A PLANNED UNIT DEVELOPMENT. In approving a new planned unit development or the amendment of an existing planned unit development, the Planning Commission may impose, in addition to those standards and requirements expressly specified by this ordinance, additional conditions which it finds necessary to avoid a detrimental environmental impact and to otherwise protect the community as a whole. These conditions may include but are not limited to the following:

A. Establishing a special yard or other open space or lot area or dimension.

B. Limiting the height, size or location of a building or other structure.

C. Designating the size, number, location and nature of vehicle access points.

D. Increasing the amount of street dedication, roadway width or improvements within the street right-of-way.

E. Designating the size, location, screening, drainage, surfacing or other improvements of a parking area or truck loading area.

F. Limiting or otherwise designating the number, size, location, height and lighting of signs.

G. Limiting the location and intensity of outdoor lighting and requiring shielding.

H. Requiring diking, screening, landscaping or another facility to protect adjacent or nearby property and designating standards for its installation and maintenance.

I. Designating the size, height, location and materials for a fence.

J. Protecting and preserving existing trees, vegetation, water resources, wildlife habitat or any other significant natural resources.

SECTION 6.180. PROCEDURE FOR TAKING ACTION ON A PLANNED UNIT DEVELOPMENT. The procedure for taking action on a planned unit development proposal shall be as follows:

A. Any person proposing a planned unit development, or his authorized agent or representative, may initiate an application for a planned unit development as set forth in Section 3.010 and 6.100 of this ordinance.

B. Prior to submission to the Planning Commission a proposal for a planned unit development shall be submitted to the Subdivision Review Committee and the affected city in accordance with Article 2 of this ordinance.

C. The Planning Commission shall hold a public hearing on the proposed planned unit development and shall review the proposal in accordance with Section 3.060 of this ordinance relative to the review of an outline development plan and a tentative development plan and in accordance with Section 4.080, 4.090 and 4.100 of this ordinance relative to the review of the final development plan.

SECTION 6.190. RECORDING OF FINAL DEVELOPMENT PLAN. A developer of a planned unit development shall, without delay, proceed with the recording of the final development plan following approval by the county in accordance with the standards and requirements set forth by this ordinance and other applicable regulations for a standard subdivision.

SECTION 6.200. RESUBMISSION OF DENIED DEVELOPMENT PLAN. If the outline development plan or preliminary development plan for a proposed planned unit development is denied, resubmittal thereof shall not be accepted by the county for a period of six months after the date of the final action denying said plan. Resubmission shall require the applicant to consider all items for which the prior denial was based, and the resubmission shall be accompanied by a new filing fee.

ARTICLE 7 CREATION OF STREETS AND WAYS NOT PART OF A SUBDIVISION

SECTION 7.010. APPLICATION. Any person desiring to create a street or way not part of a subdivision or major partition shall make written application to the Planning Department. Said application shall be made on prescribed form and shall be accompanied by the required information and appropriate filing fee.

SECTION 7.020. CREATION OF STREETS OUTSIDE A SUBDIVISION. The creation of a street shall be in conformance with requirements for subdivision except, however, the Planning Commission may approve the creation of a street to be established by deed without full compliance with the regulations applicable to subdivisions provided any of the following conditions exist:

A. The establishment of the street is initiated by the City Council or County Court and is declared essential for the purpose of general traffic circulation and the partitioning of land is an incidental effect rather than the primary objective of the street.

B. The tract in which the street is to be dedicated is an isolated ownership of one acre or less.

C. The tract in which the street is to be dedicated is an isolated ownership of such size and condition as to make it impossible to develop more than two lots.

SECTION 7.030. PROCEDURE.

A. Upon receipt of written application and appropriate filing fee for street dedication, the Planning Director shall refer the proposal to the Planning Commission, County Roadmaster, and affected City Public Works Department for review and recommendation. Two copies of the proposed improvements shall be forwarded to the Planning Commission at least ten days prior to a regularly scheduled meeting.

B. Where access is to a City Street, County Road or State Highway, the necessary permits shall be obtained prior to approval by the County Commission.

C. The Planning Commission, Roadmaster and affected City Public Works Department shall report their findings to the Planning Director and give their recommendations regarding the proposed dedication and improvements. The Planning Commission shall also recommend a classification for the proposed street.

D. Upon receipt of written findings and recommendations from the Planning Commission, Roadmaster and affected City Public Works Department, the proposal shall be submitted to the County Court for preliminary review and approval. Such submission shall be made at least ten days prior to a regularly scheduled meeting.

E. Upon preliminary approval by the County Court, the engineering and improvements design or the roadway conforming to the requirements of this ordinance and other applicable regulations shall be submitted to the County Roadmaster and affected City Street Departments for review and approval. Said engineer and improvements design shall be prepared and signed by a licensed engineer or surveyor.

F. Following approval of the roadway engineering and design, the applicant shall prepare a warranty deed dedicating said street to the public and an improvement guarantee. Said documents shall be submitted to the District Attorney for review and approval.

G. Following receipt of the approval set forth in subsections E and F of this section, the deed and improvements guarantee shall be submitted to the County Court for final approval.

SECTION 7.040. CREATION OF WAYS. Any easement of way providing access to property and which is created in order to allow the partitioning of land for the purpose of transfer or ownership or building development, whether immediate or future, shall be in the form of a street, except that a private easement of way to be established by deed without full compliance with these regulations may be approved by the Planning Commission provided it is the only reasonable method by which the rear portion of an unusually deep lot large enough to warrant partitioning into two parcels may be provided with access. A copy of the proposed document to create the easement shall be submitted to the Planning Director at least ten days prior to the Planning Commission meeting at which consideration is desired. The document and such information as may be submitted shall be reviewed by the Planning Commission and, if assurance of adequate utility and vehicular access is indicated, shall be approved.

ARTICLE 8. DESIGN STANDARDS

SECTION 8.010. COMPLIANCE REQUIRED. Any land division, whether by Subdivision, creation of a street or other right-of-way, partitioning or planned unit development, shall be in compliance with the design standards set forth by this ordinance.

SECTION 8.020. STREETS. (MC-02-05)

A. General. The location, width and grade shall be considered in their relation to existing and planned streets, to topographical conditions, to public convenience and safety, and to the proposed use of land to be served by the street. The street system shall assure an adequate traffic circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. Streets shall be designed and constructed in conformance with the basic cross-sections in the County TSP Update, with horizontal and vertical alignment geometry conforming to the latest version of applicable ODOT and/or AASHTO standards.

B. Design and Construction Approval. Any facility or improvement conditioned to be constructed as part of private development activity and subsequently dedicated to the County must first receive design approval by the Morrow County Public Works Department. Design approval shall include all other pertinent issues related to roadway construction and operations, including but not limited to drainage, maintenance, serviceability, and pavement design. Upon request of an applicant, the County shall provide applicable design criteria and the rationale for establishing the criteria. Street design plans submitted for County approval shall be stamped by a registered professional engineer with appropriate experience. The Public Works Department is responsible for providing regular inspections throughout construction, and performing final inspection upon completion and prior to acceptance of the improvement as public right-of-way. An equitable Plan Review and Construction Inspection fee shall be determined at the initiation of plan review and charged to the developer.

C. Minimum Right-of-Way and Roadway Width. Unless otherwise approved in the tentative plan, the street right-of-way and roadway surfacing widths shall not be less than the minimum width in feet set forth in the following table. Additional right-of-way may be necessary to conform to standards and specifications set forth in current AASHTO and/or ODOT design standards, and other applicable affected City standards and specifications.

Where conditions, particularly topography or the size and shape of land parcels, make it impractical to provide buildable lots, narrower right-of-way may be accepted ordinarily not less than 40 feet. Slope easements, while generally undesirable, may be required in extreme cases.

The Roadway Standards set forth in the following table shall be observed unless a variance has been obtained.

ROADWAY STANDARDS					
Road Classification	Right of Way (ft)	Lane Width (ft)	Paved Shoulder Width (ft)	Pavement Width (ft)	Average Daily Traffic (ADT)
Rural Access I*	60	9	1	20	100-200
Rural Access II*	60	9	1	20	50-100
Rural Collector I	60	12	3-4	30-32	300-500
Rural Collector II	60	12	2	28	200-300
Rural Collector III	60	12	1	26	100-200
Rural Arterial I	60	12	4-8	32-40	> 700
Rural Arterial II	60	12	3-6	32-40	300-700
Rural Gravel	60	11	n/a	n/a	n/a
* Rural Access 1 and Rural Access II differ in the surface type – Rural Access II is gravel.					

D. Reserve Strips. Reserve strips or street plugs controlling the access to streets will not be approved unless necessary for the protection of the public welfare or of substantial property rights and in these cases they may be required.

E. Alignment. All streets other than minor streets, as far as is practical, shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and, in no case, shall be less than 100 feet. The streets and roads shall be laid out so as to conform to the plat of subdivisions and maps of partitions already approved for adjoining property as to width, improvements, general direction, and in all other respects, unless the Planning Commission determines it is in the public interest to modify the street or road pattern. Streets and roads shall be laid out in such a way so as to connect to existing roads at the time of development or through extension at a future date by creating dead-end streets without turn-arounds.

F. Future Extension of Streets. Where necessary to give access to or permit a satisfactory future subdivision on adjoining land, streets shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without a turn-around. Reserve strips and street plugs may be required to preserve the objectives of street extensions. Streets and accessways are always required unless one or more of the following conditions exists:

1. Physical or topographic conditions make a street or accessway connection impracticable. Such conditions include but are not limited to freeways, railroads, steep slopes, wetlands, or other bodies or water where a connection could not reasonably be provided;

2. Buildings or other existing development on adjacent lands physically precludes a connection now or in the future considering the potential for redevelopment; or

3. Where streets or accessways would violate provisions of leases, easements, covenants, restrictions, or other agreements existing as of May 1, 1995, which preclude a required street or accessway connection.

G. Intersection Angles. Streets shall be laid out to intersect at angles as near to right angles as practical, except where topography requires a lesser angle. In no case shall the acute angle be less than 80 degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least 100 feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least 50 feet of tangent adjacent to the intersection unless topography requires a lesser distance. The intersection of more than two streets at any one point will not be approved. Right-of-way lines at street intersections shall have a minimum corner radius of 15 feet.

H. Existing Streets. Whenever existing streets, adjacent to or within a tract, are of inadequate width, additional right-of-way shall be provided at the time of land division by the developer. During consideration of the tentative plan for a subdivision, the Planning Commission shall determine whether improvements are required to existing streets, either adjacent to or within the tract. They may require such improvements as a condition of approval of the tentative plan.

I. Half Streets. Half streets, while generally not acceptable, may be approved where essential to the reasonable development of the subdivision or partition when in conformity with the other requirements of these regulations and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is divided. Whenever a half street is adjacent to a tract to be divided, the other half of the street shall be provided within such tract. Reserve strips and street plugs may be required to preserve the objectives of half streets.

J. Cul-de-Sac. A cul-de-sac, while not encouraged, may be used as part of a development plan, consistent with other provisions of this section (refer to Section 8.020.E). A cul-de-sac shall be as short as possible and shall have a maximum length of 400 feet and serve building sites for not more than 9 dwelling units unless approved otherwise by the Commission. A cul-de-sac shall terminate with a circular turn-around.

K. Street Names. Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street in the city or county. Street names and numbers shall conform to the established pattern in the affected city urban area, and shall be subject to the approval of the Planning Commission.

L. Installation of Regulatory Signs in County Road Right-of-Way. Developers are to install street name, posted speed, and other traffic control and/or regulatory signage required for private developments, per applicable standards of Morrow County and the Manual on Uniform Traffic Control Devices (MUTCD).

M. Private Signage within County Road Right-of-Way. Residents may request specific cautionary signage for individual resident(s) to be installed within County right-of-way. All costs including materials, installation, maintenance, and removal, shall be borne by the requestor.

N. Grades and Curves. Grades shall not exceed eight (8) percent on arterials, ten percent on collector streets or 12 percent on other streets except as otherwise provided for. Center line radii of curves shall not be less than 500 feet on arterials, 250 feet on collectors, or 100 feet on other streets and shall be on an even 10 feet. Where existing conditions, particularly topography, make it otherwise impractical to provide buildable sites, the Planning Commission may accept steeper grades and sharper curves as specifically provided for in current County Design Standards. In flat area, allowance shall be made for finished street grades having a minimum slope, preferably of at least 0.5 percent.

O. Streets Adjacent to Railroad Right-of-Way. Wherever the proposed land division contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of land between the streets and railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

P. Marginal Access Streets. Where a land division abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reserve frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.

Q. Alleys. Alleys shall be provided in commercial and industrial districts, unless other permanent provisions for access to off-street parking and loading facilities are approved by the Planning Commission.

R. Curbs. Curbs shall be required on all urban area streets unless otherwise approved by the County and affected City, and shall be installed by the developer in accordance with the standards set forth in current County Design and Construction Standards or other standards set forth by the affected City and County.

S. Proposed Corridors. For land adjacent to or containing a proposed corridor (see corridor map in the TSP), the Planning Commission may require the dedication of a suitable right-of-way that shall be provided at the time of land division.

T. Access Management. Applications for development with access onto state highways shall be provided to ODOT for review, to ensure consistency with adopted ODOT Access Management Standards shown below. These standards apply only to unsignalized access points. New traffic signals on state facilities shall meet signal

spacing standards in OAR 734-020 (desired minimum spacing for new traffic signals on state highways is at least 0.5 miles from the nearest existing or planned signal). For approval of a new traffic signal on a County facility as part of a condition of development approval, the applicant shall be required to show, through an analysis prepared by a qualified professional engineer registered in the State of Oregon, that the signal is warranted to improve traffic operations, address safety deficiencies, or a combination.

Access Management Standards for Morrow County non-Interstate Highways						
Highway	**Classification**	**Access Spacing Standards for Public or Private Unsignalized Access (ft) for Posted Speed Indicated (mph)**				
		>55	50	40 & 45	30 & 35	<25
US 730, OR 74	Regional	990	830	750	600	450
OR 206, OR 207	District	700	550	500	400	400

Source: Oregon Administrative Rules Section 734-051 (2004)

Access within the influence area of existing or proposed state highway interchanges is regulated by standards in OAR 734-051, which are included as Appendix F of the 2005 Morrow County Transportation System Plan Update. These standards do not retroactively apply to interchanges existing prior to adoption of the 1999 Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project affecting these existing interchanges occurs. It is the goal at that time to meet the appropriate spacing standards, if possible, but, at the very least, to improve the current conditions by moving in the direction of the spacing standard.

Morrow County also requires an access permit for land use development proposing access onto a County road. Access permit requirements for land use development are outlined in Section 4.010 of the Morrow County Zoning Code, and development proposing access onto a County road is subject to access spacing standards specified in the table below.

RECOMMENDED ACCESS MANAGEMENT STANDARDS FOR COUNTY ROADS[a]				
	Intersection			
	Public Road		Private Drive	
Functional Classification	Type	Minimum Spacing	Type	Minimum Spacing
Rural Arterial	at-grade	600 ft	Left/right turns	300 ft
Rural Collector	at-grade	300 ft	Left/right turns	100 ft
Rural Local	at-grade	200 ft	Left/right turns	Access to each lot

a. For most roadways, at-grade crossings are appropriate. Also, allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Any access to a state highway requires a permit from the district office of ODOT and is subject to the access spacing standards in the previous table in this section.

Approval of a variance from the County access spacing standards is subject to the following requirements:

1. The granting of a variance for access management standards shall be in harmony with the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is employed.

2. Applicants for a variance from these standards must provide proof of unique or special conditions that make strict application of the provisions impractical. Applicants shall include proof that:

a. Indirect or restrict access cannot be obtained;

b. No engineering or construction solutions can be applied to mitigate the condition; and,

c. No alternative access is available from a street with a lower functional classification than the primary roadway.

3. No variance shall be granted where such hardship is self-created.

U. Corner Clearance. Corner clearance at intersections shall meet or exceed the minimum connection spacing requirements for that roadway. New connections shall not be permitted within the functional area of an intersection or exchange as defined by the connection spacing standards of this ordinance, unless no other reasonable access to the property is available. Where no other alternatives exist, the Morrow County Planning Department may allow construction of an access connection along the property line farthest from the intersection. In such cases, directional connections such as right-in/right-out, right-in only, or right-out only may be required.

V. Driveways. Driveways onto State highways shall be consistent with ODOT Access Management Standards. Driveways onto County facilities, which require an access permit from the Morrow County Department of Public Works, shall be consistent with County access management standards and meet the following standards.

All private access driveways shall meet the following standards. Those that do not meet these standards shall require an access variance.

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	10	24
Multi-Family Residential	24	30
Commercial	24	40
Industrial	30	40

Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view meeting County sight distance requirements. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

The length of driveways shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation.

For unpaved driveways connecting to paved roadways, a paved driveway apron must be provided per Morrow County Department of Public Works standards.

W. Easements and Legal Access. All lots must have access onto a public right-of-way. This may be provided via direct frontage onto an existing public road, a private roadway, or an easement. Minimum easement requirements to provide legal access shall be as follows:

1. 1000 feet or less, an easement width of 20 feet.

2. More than 1000 feet, an easement width of 40 feet.

3. Parcels where 3 or more lots share an access (current or potential), an easement of 60 feet.

X. Joint and Cross Access. Adjacent commercial or office properties classified as major traffic generators shall provide a cross access drive and pedestrian access to allow circulation between sites. These shall be established as a system wherever feasible including:

1. A continuous service drive consistent with access management standards.

2. Stub-outs or other design features to allow tie-ins to adjacent properties.

Pursuant to this section, property owners shall record an easement allowing joint or cross access between parcels, record an easement on the deed to dedicate access rights to the main roadway, and to close non-conforming existing driveways, and to record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.

Y. Requirements for Phased Development Plans. In the interest of promoting unified access and circulation systems, development sites under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall be reviewed as a single property in relation to the access standards of this ordinance. This shall also apply to phased development plans.

Z. Nonconforming Access Features. Legal access in place as of the date of adoption that do not meet spacing and design standards shall be brought into compliance with applicable standards when new access permits are requested or when a change in land use or improvements occurs.

AA. Reverse Frontage. Lots that front on more than one street shall be required to locate motor vehicle access on the street with the lower functional classification.

AB. Shared Access. Subdivisions with frontage on the state highway system shall be designed into shared access points to and from the highway. If access to a lower classification street becomes available, then conversion to that access is encouraged, along with closing the state highway access.

AC. Connectivity. The street system of a proposed subdivision shall be designed to coordinate with existing, proposed, and planned streets outside of the subdivision as provided in this Section and in the local street plans of the TSP. Whenever a proposed development abuts unplatted land or a future development phase of the same development, street stubs shall be provided to provide access to abutting properties or to locally extend the street system into the surrounding area. All street stubs shall be provided with a temporary turn-around unless specifically exempted by the Public Works Director, and the restoration and extension of the street shall be the responsibility of any future developer of the abutting land. Minor collector and local residential access streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate traffic controls, such as traffic calming measures, are preferred means of discouraging through traffic.

AD. Private Streets Outside an Urban Growth Boundary. All private streets providing access from a public roadway to a proposed land division shall meet the following standards:

1. Have a minimum sight distance in compliance with adopted County Standards at any intersection with a public road. Additional sight distance or advance

warning signage or other devices may be required where known safety hazards exist.

2. For each private street, there shall be a legal recorded document which includes:

    a. A legal description of the proposed easement;

    b. Ownership of the street;

    c. Use rights; and

    d. A maintenance and construction agreement which includes Fire Marshal approved street specifications and turn around area (if required) and the allocation and/or method of determining liability for maintenance.

3. Where drainage conditions require it, a private street shall be ditched in conformance with the County Road Standards.

4. Private streets which access public or County roads shall be located, designed and constructed (within the public right-of-way) in accordance with adopted standards for County roads.

5. Prior to establishing a private driveway or a private street, the owner shall obtain an access permit for access to the intersecting public road. As a condition of granting access to a public road, the County may require the applicant to clean the ditch serving the parcel and remove sight obstructing vegetation in the vicinity of the access.

SECTION 8.030. BLOCKS.

A. General. The length, width, and shape of blocks shall take into account the need for adequate building site size and street width and shall recognize the limitations of the topography.

B. Minimum Block Lengths. Minimum block lengths of 600 feet shall be established within urban growth boundaries. A goal for areas outside of urban growth boundaries is a minimum of 1,200 feet. A block shall have sufficient width to provide for two tiers of building site unless topography or the location of adjoining streets justifies an exception.

C. Easements.

1. Utility Lines. Easements for sewers, water mains, electric lines or other public utilities shall be at least 12 feet wide and centered on lot or parcel rear lot lines, except for utility pole tieback easements which may be reduced to six feet in width.

2. Water Courses. If a tract is traversed by a water course, such (as) a drainage way, channel or stream, there shall be provided a storm water easement or drainage right-of-way conforming substantially with the lines of the water course, and such further

widths as will be adequate for the purpose. Streets or parkways parallel to the major watercourses may be required.

3. Pedestrian and Bicycle Ways. When desirable for public convenience, a pedestrian or bicycle way at least 10 feet in width may be required to connect to a cul-de-sac or to pass through an unusually long or oddly shaped block or otherwise provide appropriate circulation.

SECTION 8.040. BUILDING SITES.

A. Size and Shape. The size, width, shape and orientation of building sites shall be appropriate for the location of the land division and for the type of development and use contemplated, and shall be consistent with the residential lot size provisions of the zoning ordinance with the following exceptions:

1. In areas that will not be served by a public sewer, minimum lot and parcel sizes shall permit compliance with the requirements of the Department of Environmental Quality and shall take into consideration problems of soil structure and water table as related to sewage disposal by septic tank.

2. Where property is zoned and planned for business or industrial use, other widths and areas may be permitted at the discretion of the Planning Commission. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.

B. Access. Each lot and parcel shall abut upon a street other than an alley for a width of at least 50 feet.

C. Through Lots and Parcels. Through lots and parcels shall be avoided, except where they are essential to provide separation of residential development from major traffic arterials or adjacent non-residential activities or to overcome specific disadvantages of topography and orientation. A planting screen easement at least ten feet wide and across which there shall be no right of access may be required along the line of building sites abutting such a traffic arterial or other incompatible uses.

D. Lot and Parcel Side Lines. The lines of lots and parcels, as far as it is practicable, shall run at right angles to the street upon which they face, except that on curved streets they shall be radical to the curve.

E. Division by ROW, Drainage Ways. No lot shall be divided by the boundary line of the County, City, or other taxing or service district, or by the right-of-way of a street utility line or drainage way, or by an easement for utilities or other services.

SECTION 8.050. GRADING OF BUILDING SITES. Grading of building sites shall conform to the following standards unless physical conditions demonstrate the priority of other standards.

A. Cut slopes shall not exceed one foot vertically to one-half feet horizontally.

B. Fill slopes shall not exceed one foot vertically to two feet horizontally.

C. The character of coil for fill and the characteristics of lots and parcels made usable by fill shall be suitable for the purpose intended.

SECTION 8.060. BUILDING LINES. If special building setback lines are to be established in a subdivision, they shall be shown on the subdivision plat and included in the deed restrictions.

SECTION 8.070. LARGE BUILDING SITES. In dividing tracts into large lots or parcels, which at some future time are likely to be redivided, the Planning Commission may require that the blocks be of such size and shape, so that they may so be divided into building sites and contain such site restrictions as will provide for extension and opening of streets at intervals which will permit a subsequent division of any tract into lots or parcels of smaller size.

SECTION 8.080. LAND FOR PUBLIC PURPOSES.

A. If the county or affected city has as interest in acquiring a portion of a proposed subdivision for a public purpose, or if the county has been advised of such interest by a school district or other public agency, and there is reasonable assurance that steps will be taken to acquire the land, then the Planning Commission may require that those portions of the subdivision to be reserved for public acquisition, for a period not to exceed one year.

B. Within or adjacent to a subdivision, a parcel of land of not more than five (5) percent of the gross area of the subdivision may be required to be set aside as and dedicated to the public by the Planning Commission as being suitable and adaptable for park and recreation uses. In the event no such area is suitable for park and recreation purposes, the subdivider may be required, in lieu of setting aside land, to pay into a public fund an amount equal to the value of the area required for dedication above in the subdivision. If the nature of the subdivision is being dedicated to the public for streets and other public uses, the requirements of this section shall be reduced so that the total obligation of the subdivider does not exceed 40 percent.

ARTICLE 9. IMPROVEMENTS

SECTION 9.010. IMPROVEMENT PROCEDURES. In addition to other requirements, improvements to be installed by a subdivider, either as a requirement of this ordinance or other applicable regulations or at his own option, shall conform to the requirements of this article.

A. Plan Review and Approval. Improvement work shall not be commenced until plans therefore have been reviewed and approved by the county or a designated representative thereof. Such review and approval shall be at the expense of the developer. To the extent necessary for evaluation of a proposed development, such improvement plans may be required before approval of the tentative plan of a subdivision or the tentative development plan of a planned unit development.

B. Notification. Improvement work shall not commence until after the county has been notified and approval thereof has been granted, and if work is discontinued for any reason it shall not be resumed until after the county is notified and approval thereof granted. The cost of such inspections and approvals shall be borne by the developer.

C. Improvements as Platted. Improvements shall be designed, installed and constructed as platted and approved, and plans therefor shall be filed with the final plat at the time of inspection.

D. Inspection. Improvements shall be constructed under the inspection and approval of an inspector designated by the county. Expenses incurred thereof shall be borne by the developer. The county, through said inspector, may require changes in typical sections and details of improvements if unusual conditions arise during construction to warrant such changes in the public interest.

E. Utilities. Underground utilities including but not limited to electric power, telephone, water mains, water service crossings, sanitary sewers and storm water drains, to be installed in streets shall be constructed by the subdivider prior to the surfacing of the streets.

F. As Built Plans. A map showing public improvements as built shall be filed with the affected city and county upon completion of the improvements and a copy thereof shall be recorded with the final plat. Such map shall also be provided in reproducible form (Mylar or comparable).

SECTION 9.020. SPECIFICATIONS FOR IMPROVEMENTS. See Appendix "A" for specifications.

SECTION 9.030. IMPROVEMENTS IN SUBDIVISIONS. The following improvements shall be installed at the expense of the subdivider:

A. Streets. Streets, including alleys and curbs may be required, within the subdivision, adjacent thereto, and those outside the subdivision may require to be improved as a condition of subdivision approval, and shall be improved to affected city or county specifications set forth by this ordinance and other applicable affected city and county regulations. Catch basins shall be installed and connected to drainage facilities in accordance with specifications in this and other applicable regulations. Upon completion of street improvements, monuments shall be re-established in accordance with this ordinance and ORS at every street intersection and all points of curvature and points of tangency at their centerlines.

B. Surface and Storm Sewer System. Drainage facilities shall be provided as deemed necessary within the subdivision and to connect the subdivision drainage to drainage ways or storm sewers outside the subdivision. Design of drainage within the subdivision, as provided by specifications of this ordinance and other applicable standards, shall take into account the capacity and grade necessary to maintain unrestricted flow from drainage through the subdivision and allow extension of the system to serve such areas.

C. Sanitary Sewers. Sanitary sewers as required shall be installed to serve the subdivision and to connect the subdivision to existing mains. In the event it is not possible to connect the subdivision to an affected city sewer system, the affected city and county may jointly authorize the use of an interim system, if lot areas are of adequate, considering the physical characteristics of the area and if sewer laterals designed for future connection to a sewage disposal system are installed and sealed. Design shall take into account the capacity and grade to allow for desirable extension beyond the subdivision.

D. Water System. Water lines and fire hydrants serving each building site in the subdivision and connecting the subdivision to the serving system as may be required shall be installed by specifications required by the county and/or affected city and serving water system surveyor. The design shall take into account water provisions for extension beyond the subdivision.

E. Pedestrian Facilities... Site plans shall include a pedestrian circulation plan for providing safe and convenient pedestrian access. Pedestrian facilities as may be required shall be installed on at least one side of a public street and in any special pedestrian facility or walkway within the subdivision; in the case of primary or secondary arterials, special type industrial districts, or in rural areas, the Planning Commission may approve a subdivision without appropriate pedestrian facilities, if alternative pedestrian routes are available or if applicant can demonstrate that there is no need for such facilities, and provided further that in the case of streets serving lots equivalent to two and one-half or less dwellings per gross acre, the requirement of walkways shall not apply, provided there is no evidence of special pedestrian activity along the streets involved. Walkways shall be constructed to specifications set forth by the affected city or county specifications.

F. Bicycle Facilities. Site plans shall include a bicycle circulation plan. If appropriate to the extension of a system of bicycle routes, existing or planned, the Planning Commission may require the installation of bikeways or other bicycle facilities.

G. Streets Name Signs. Street name signs shall be installed at all street intersections. One street sign shall be provided at the intersection of each street. Two street signs shall be provided at four-way intersections.

H. Street Lights. Street lights may be required and if so required shall be installed and shall be served from an underground source of supply.

I. Curbs. Curbs may be required on urban area streets, and if so required shall be installed by the developer in accordance with standards set forth by the affected city or county.

J. Other. The developer shall make necessary arrangement with the utility companies or other persons or corporations affected for the installation of underground lines and facilities. Electrical lines and other wires, including but not limited to communication, street lighting and cable televisions may be required to be placed underground.

SECTION 9.040. IMPROVEMENTS IN PARTITIONS. The same improvements may be required for a partitioning and if so shall be installed to serve each building site of a partition as required of a subdivision.

SECTION 9.050. APPROVAL OF IMPROVEMENTS. All improvements shall be approved by the affected city and county inspectors prior to acceptance by the county. All costs of inspection shall be paid for by the developer.

SECTION 9.060. ACCEPTANCE OF IMPROVEMENTS. Improvements shall receive preliminary acceptance after inspection at the time the improvements are constructed. Final acceptance shall be considered by the county within one year after construction is completed.

SECTION 9.070. BUILDING PERMITS. No building permit shall be issued upon lots to receive and be served by sanitary sewer and water service as improvements required pursuant to this ordinance unless such improvements are in place and serviceable or bonded for and approved by the county. All improvements required and pursuant to this ordinance and other applicable regulations shall be completed, in service and approved by the county prior to the sale and occupancy of any building unit erected upon a lot within the subdivision, partition or planned unit development. Prior to sale and occupancy, and as a condition of acceptance of improvements, the county may require a one-year Maintenance Surety Bond in an amount not to exceed ten percent of the value of all improvements to guaranteed maintenance of said improvements for a period of not less than one year from the date of acceptance.

ARTICLE 10. IMPROVEMENT GUARANTEE

SECTION 10.010. AGREEMENT FOR IMPROVEMENTS. Prior to final approval of a subdivision plat or partition map by the county, the subdivider shall either install required improvements and repair existing streets and other public facilities damaged in development of the property or execute and file with the county an agreement between himself and the county, specifying the period which required improvements and repairs shall be completed and provided that, if the work is not completed within the period specified, the county may complete the work and recover the full cost and expense together with court costs and attorney fees necessary to collect said amounts from the land divider. The agreement shall also provide for payment to the affected city and county for the cost of inspection by the affected city and county.

SECTION 10.020. BOND.

A. Type of Security. The land divider shall file with the agreement, to assure his full and faithful performance thereof, one of the following, pursuant to approval and acceptance by the County Court.

1. A surety bond executed by a surety company authorized to transact business in the State of Oregon in a form approved by the District Attorney.

2. A personal bond co-signed by at least one additional person together with evidence of financial responsibility and resources of those signing the bond sufficient to provide reasonable assurance of ability to proceed in accordance with the agreement.

3. Such other security as may be deemed necessary by the County Court to adequately insure completion of improvements pursuant to the agreement.

4. Such other security as may be deemed necessary by the County Court to adequately insure completion of improvements pursuant to the agreement.

B. Amount Required. Such assurance of full and faithful performance shall be for a sum approved by the county sufficient to cover the cost of the improvements and repairs, including related engineering and incidental expenses, and to cover the cost of affected city and county inspection.

C. Default Status. If a land divider fails to carry out provision of the agreement and the county has unreimbursed costs or expenses resulting from such failure, the county shall call on the bond or cash deposit for reimbursement. If the cost and expense incurred y the county exceed the amount of the bond or cash deposit, the land divider shall be liable to the county for the difference plus any attorney fees and costs incurred.

ARTICLE 11. VARIANCE AND EXCEPTIONS.

SECTION 11.010. APPLICATION. The Planning Commission may authorize variances or exceptions to requirements of this ordinance. Application for a variance or an exception shall be made by a petition of the developer stating fully the grounds of the application and the facts relied upon by the petitioner. The petition shall be filed with the tentative plan. A variance or exception may be granted only in the event that all the following circumstances exist:

A. Exceptional Circumstances. Exceptional or extraordinary facts apply to the property which do not apply generally to other properties in the same vicinity, and result from tract size or shape, topography or other circumstances over which the owner of the property, since enactment of this ordinance, has no control.

B. Preservation of Property. The variance is necessary for the preservation of a property right of the applicant substantially the same as owners of other property in the same vicinity possess.

C. Not Detrimental. The variance would not be materially detrimental to the purposes of this ordinance, or to property in the same vicinity in which the property is located, or otherwise conflict with the objectives of the Comprehensive Plan, any other area plan, or policy thereof.

D. Minimum. The variance requested is the minimum which would alleviate hardship.

E. For a variance to access standards: The granting of a variance shall be in harmony with the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is employed.

F. Applicants for a variance from these standards must provide proof of unique or special conditions that make strict application of the provisions impractical.

G. No variance shall be granted where such hardship is self-created.

SECTION 11.020. PLANNING COMMISSION ACTION ON VARIANCE OR EXCEPTION. In granting or denying a variance or exception, the Planning Commission shall make a written record of its findings and the facts in connection with, and shall describe the variance or exception granted and the conditions designated. The county shall keep the findings on file as a matter of public record, and a copy of the variance or exception granted and the conditions thereof shall be recorded together with the final plat by the developer.

ARTICLE 12. ADMINISTRATION, APPEALS.

SECTION 12.010. Approval or denial of an application for land development shall be based upon and accomplished by a brief statement that explains the criteria and standards considered relevant to the decision, states the facts relied upon in rendering the decision and explains the justification for the decision based on the criteria, standards and facts set forth.

SECTION 12.020. A person may appeal to the County Court a decision or requirement made pursuant to this ordinance by the Planning Commission. A person may appeal to the Planning Commission from a written decision made by the Planning Commission from a written decision made by the Planning Director or other County Official. Written notice of the appeal must be filed with the County within fifteen (15) days after the decision is made for a minor partition and within 30 days for a subdivision or major partition. The notice of appeal shall state the nature of the decision or requirement and the specific grounds for the appeal setting forth the error and the basis of error sought to be reviewed.

A. The County Court or Planning Commission shall hold a hearing on the appeal within 30 days from the time the appeal is filed. The County Court or Planning Commission may continue the hearing for good cause.

B. The County Court may review a lower decision upon its own motion after giving 10 days notice to the parties involved in the decision and if such review is within 15 days of receipt of notice of said initiated lower decision.

C. In the case of an appeal to a Planning Commission action, the petition for appeal shall be accompanied by the required fee plus a deposit to cover the estimated costs of the transcript as specified by the Planning Director, which deposit shall be paid within five (5) days of such estimate by the Planning Director. Within ten (10) days of such notice of completion of a required transcript, the party seeking review shall transmit the balance due of any required transcript fee to the Planning Director and failure to do so may cause dismissal of the appeal. Any deposit in excess shall be returned to the party.

D. In the case of an appeal to a Planning Commission action, unless otherwise provided by the County Court in Subsection 12.020.E, the review of the initial action shall be confined to the record of the proceeding below which shall include:

1. All materials, pleadings, memoranda, stipulations, and motions submitted by any party to the proceeding and received or considered by the Commission as evidence.

2. All materials submitted by the Planning Director with respect to the application.

3. The transcript of the hearing below.

4. The findings and action of the Commission and the petition of appeal.

5. Argument (without introduction of new or additional evidence) by the parties or their legal representative at the time of review before the County Court.

E. The County Court may, at its option, determine to admit additional testimony and other evidence by all interested parties or parties of record, to supplement the record of the proceedings held by the Commission. Such consideration may be initiated by order of the County Court or upon written motion of a party of record or interested person. Such written motion set forth with particularity to the basis for such request and the nature of evidence sough to be introduced. Prior to making the determination of whether to permit the record to be supplemented, the County Court shall provide an opportunity for all parties to be heard on the matter. The County Court may grant the opportunity to supplement the record if it finds such necessary to:

1. Prevent prejudice to parties.

2. To take into consideration the inconvenience of locating the evidence at the time of initial hearing, with such inconvenience not being the result of negligence or dilatory act by the moving party.

F. Following the hearing, the County Court may affirm, overrule or modify any decision or requirement and shall set forth findings for such decision.

G. The procedure, public notice and type of hearing for an appeal or review shall be in the same manner as for any application under this ordinance.

SECTION 12.030. Application or filings required by this ordinance shall be accompanied by a filing fee in the amount established by this section, and set forth in the Fee Schedule Ordinance adopted by the Morrow County Court.

SECTION 12.040. This Ordinance, known as the Morrow County Subdivision Ordinance of 1980, amended and readopted in its entirety on November 7, 2001, and further amended by the 2005 Transportation System Plan Update, shall become effective 10 days after the date of this adoption by the Morrow County Court, or July 23, 2005. (MC-C-3-01) (MC-02-05)

City of Boardman
Transportation System Plan
Boardman, Oregon

June 1999

Update June 2001

City of Boardman Transportation System Plan

Boardman, Oregon

Prepared For:

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June 1999

Project No. 2899

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June 2001

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Preface

Preface

This project is partially funded by a grant from the Transportation Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds. The contents of this document do not necessarily reflect the views or policies of the state of Oregon.

The progress of this plan was guided by the Management Team, Transportation Advisory Committee, Community Stakeholders, and the Consultant Team identified below.

Management Team

Tamra Mabbott
Morrow County Planning Department

Kathy Moore
Manager, City of Boardman

Cheryl Jarvis-Smith
Oregon Department of Transportation

George Ruby
Oregon Department of Transportation

Transportation Advisory Committee

Glaya Baker

Robert Boss, M.D.

Grant Chapman

Sim Ten Eyck

Hugh Homer

John Prag

Carolyn Skaubo

Debra Watson

Advisory Committee members devoted a substantial amount of voluntary time and effort to the development of the Transportation System Plan, and their participation was instrumental in the development of the recommendations that are presented in this report. In addition, Community Stakeholders provided critical guidance in developing the Transportation System Plan and are recognized on the following page. The Consultant Team and Management Team believe that the City of Boardman's future transportation system will be better because of their commitment.

Consultant Team

Kittelson & Associates, Inc.

Julia Kuhn, P.E.

Wayne Kittelson, P.E.

Marc Butorac, P.E.

Chris Brehmer

Cogan Owens Cogan, Inc.

Linda Davis, AICP

Kirstin Greene

Matt Hastie

Murase Associates

Steve Shapiro

Community Stakeholders List

Art Kegler, American West Properties

Bank of Eastern Oregon

Boardman Auto Care

Boardman Chamber of Commerce

Karen Pettigrew, Boardman Park & Recreational District

Raymond Michael, Boardman Pharmacy and Hardware

Marc Rogelstad, Chief, Boardman Rural Fire Protection District

Boardman Texaco

Jack Bozarth, C&D Drive-In

Devin Oil Company

Joseph Tatone, Dodge City Inn

Inland Empire Bank

Gary Maughan

Kathy McGowen

Morrow County School District

Rich Cappotto, Nomad Restaurant

Nugget Inn

Oregon Trail Library District

Port of Morrow

Don Russell, Russell Oil Company

Section 1

Introduction

Introduction

The City of Boardman, in conjunction with Morrow County and the Oregon Department of Transportation (ODOT), initiated a study of the city's transportation system during the summer of 1998. The purpose of this study was two-fold: to guide the management and development of appropriate transportation facilities; and to incorporate the vision of the community into a land use and transportation system that addresses both the potential for infill and redevelopment strategies and the multimodal needs of the community.

Several community-specific issues that needed to be addressed as part of the study process were identified at the project inception stage. The Boardman urban growth boundary (UGB) contains sufficient land for at least a 20-year period. Because such a large amount of land exists, there is a potential for continued low-density development and inefficient development patterns, which could make it difficult to provide utilities and services cost-effectively and efficiently. Low-density development could also consume more land than necessary and cause a need to expand the UGB earlier than might otherwise be necessary. Boardman also lacks an established downtown commercial core and has needs for additional, concentrated commercial development. How and where future commercial development occurs will be important in terms of helping Boardman establish a stronger identity and character and will also affect the transportation system and needs. The analysis, findings, and recommendations of this report incorporate a diverse spectrum of vehicular, pedestrian, bicycle, and other multi-modal circulation and connectivity solutions.

This study was prepared as part of a Transportation Growth Management Grant and is formatted to provide the necessary elements for the City of Boardman to assemble its Comprehensive Plan. In addition, this document provides Morrow County and ODOT with recommendations for incorporation with their respective planning efforts.

State of Oregon guidelines stipulate that the TSP must be based on the current comprehensive plan land use map and must provide a transportation system that accommodates the expected 20-year growth in population and employment that will result from implementation of the land use plan. Oregon Revised Statute 197.712 and the Land Conservation and Development Commission (LCDC) administrative rule known as the Transportation Planning Rule (TPR) require that all jurisdictions develop the following:

- a road plan for a network of arterial and collector streets;
- a public transit plan;
- a bicycle and pedestrian plan;
- an air, rail, water, and pipeline plan;
- a transportation finance plan; and,
- policies and ordinances for implementing the transportation system plan.

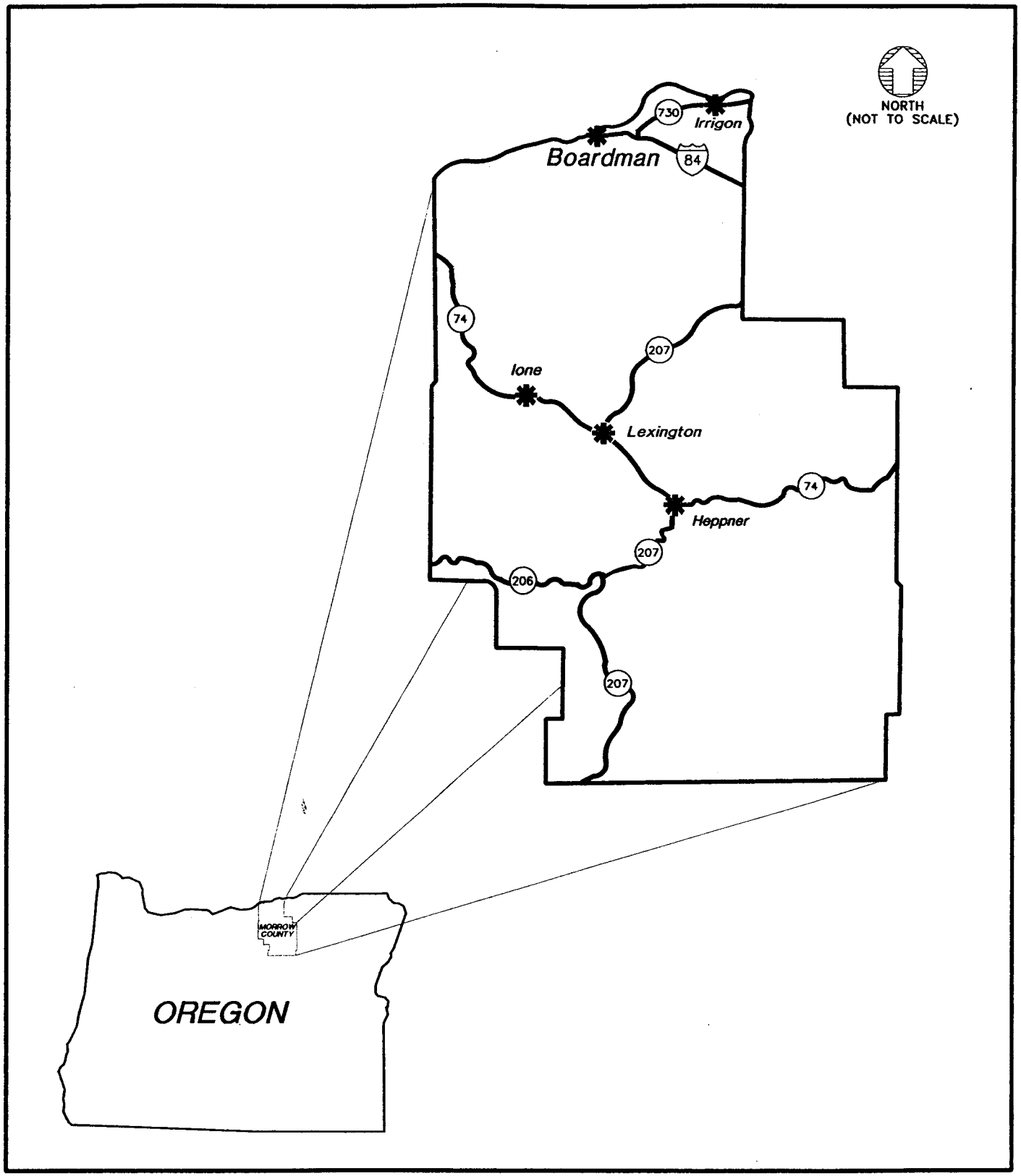
The TPR requires that alternative travel modes be given equal consideration and that reasonable effort be applied to the development and enhancement of the alternative modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions adopt land use and subdivision ordinance amendments to protect transportation facilities and to provide bicycle and pedestrian facilities between residential, commercial, and employment/institutional areas. It is further stipulated that local communities coordinate their respective plans with county and state transportation plans.

STUDY AREA

The City of Boardman is located along the southern shore of the Columbia River in northern Morrow County, Oregon, as shown in Figure 1. The city currently benefits from several easily accessible modes of transportation. Boardman has convenient access to Interstate 84 via two grade-separated interchanges located near the downtown and the Port of Morrow, respectively. In addition, the city has convenient access to the Columbia River through the Port of Morrow. The city also enjoys rail service provided by Union Pacific Railroad.

Home to an estimated population of 2,795 persons (1998 census estimate), Boardman's development pattern was defined in a master planning effort that guided the city's relocation to high ground as dams were built on the Columbia River. According to the city's Comprehensive Plan, the master plan that was developed during the relocation of the city platted commercial and residential lots with mobile homes allowed only on certain selected lots in the original plat. The downtown area contains a mix of commercial, residential, and public land uses, with the major employers of the area located in the Port of Morrow.

Large residential lots north of the freeway and west of Main Street were developed to acquire land from the railroad and a 31-acre campus was reserved for the Riverside High School. The City of Boardman's growth patterns that followed relocation were driven by the creation of thousands of acres of new farmland through center pivot irrigation, construction of the Portland General Electric coal-fired power plant at the Port of Morrow, and development of agri-business facilities at the Port. The transportation network was constructed with these developments in mind.



STUDY AREA MAP

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 1

DWGS\BOARDMAN\TSP\B001

PUBLIC INVOLVEMENT AND STUDY GOALS

The TSP planning process provided the citizens of Boardman with the opportunity to identify their priorities for future growth and development. Expressing their vision for the future in terms of goals and objectives for the TSP was a central element of the public involvement process. The goals and objectives identified by the community were used as guidelines for developing and evaluating alternatives, selecting a preferred transportation plan, and prioritizing improvements.

Three committees were formed to guide the planning process: the Management Team, the Transportation Advisory Committee (TAC), and the Community Stakeholders. The Management Team was composed of representatives of the City of Boardman, Morrow County, ODOT, and the consultant team. The Transportation Advisory Committee involved members of the City of Boardman Planning Commission. The Community Stakeholders included several members of the community with a specific interest in transportation and land use planning in Boardman.

The committees convened at several key junctures of the project including: project inception, completion of the existing conditions analysis, presentation of the future conditions and alternatives analysis findings, and presentation of the draft TSP. Through these meetings, the local transportation planning process evolved such that a general consensus was achieved and maintained among all parties in attendance.

Given the city's Comprehensive Plan, and through the direction provided by the TSP committees and the public hearing process, a series of transportation system goals and objectives evolved that provided the planning process with direction as well as evaluation criteria. Those goals and objectives are listed below.

Goal 1

Promote a balanced, safe, and efficient transportation system.

Objectives

1. Develop a multi-modal transportation system that avoids reliance upon one form of transportation as well as minimizes energy consumption and air quality impacts.
2. Protect the qualities of neighborhoods and the community.
3. Provide for adequate street capacity and optimum efficiency.
4. Promote adequate transportation linkages between residential, commercial, public, and industrial land uses.
5. Examine the function of the freeway interchanges and establish land use and transportation policies that will maximize capacity and minimize conflict among uses.
6. Identify a preferred location for long term development of a central business district that can tie the north and south sides of the city together with a transportation system of streets, sidewalks, and bike paths.
7. Examine the location and mix of residential densities, including infill potential, to determine the most efficient pattern of residential development to maximize the use of existing and planned infrastructure and reduce vehicle miles for internal trips as well as make the most efficient use of the city's land supply.

Goal 2

Ensure the adequacy of the roadway network in terms of function, capacity, level of service, and safety.

Objectives

1. Develop a functional classification system that addresses all roadways within the study area.
2. In conjunction with the functional classification system, identify corresponding street standards that recognize the unique attributes of the local area.
3. Identify existing and potential future capacity constraints and develop strategies to address those constraints, including potential intersection improvements, future roadway needs, and future street connections.
4. Evaluate the need for modifications to and/or the addition of traffic control devices.
5. Identify access spacing standards adjacent to state highway facilities that conform to the Oregon Highway Plan.
6. Provide an acceptable level of service at all intersections in the city, recognizing the rural character of the area. Intersection operations on state highways should conform to the level of service and volume/capacity ratio requirements identified in the Oregon Highway Plan.
7. Identify existing and potential future safety concerns as well as strategies to address those concerns.

Goal 3

Promote alternative modes of transportation.

Objectives

1. Develop a comprehensive system of pedestrian and bicycle routes that link major activity centers within the study area.
2. Encourage the continued use of public transportation services.

Goal 4

Identify and prioritize transportation improvement needs in the City of Boardman, and identify a set of reliable funding sources that can be applied to these improvements.

Objectives

1. Develop a prioritized list of transportation improvement needs in the study area.
2. Develop construction cost estimates for the identified projects.
3. Evaluate the adequacy of existing funding sources to serve projected improvement needs.
4. Evaluate new innovative funding sources for transportation improvements.

TRANSPORTATION SYSTEM PLAN STUDY METHODOLOGY AND ORGANIZATION

The development of the City of Boardman's Transportation System Plan began with an inventory of the existing transportation system and a review of the local, regional, and statewide plans and policies that guide land use and transportation planning in the city (Appendix "A" contains the plans and policies review). The system inventory included documentation of all transportation-related facilities within the

study area and allowed for an objective assessment of the current system's physical characteristics, operational performance, safety, deficiencies, and general function. A description of the inventory process, as well as documentation of the existing conditions analyses and their implications, is presented in **Section 2** of this report. The findings of the existing conditions analysis were presented to and verified by the TSP committees.

Upon completion of the existing conditions analysis, the focus of the project shifted to forecasting future travel demand and the corresponding long-term future transportation system needs. Development of long-term (year 2020) transportation system forecasts relied heavily on population and employment growth projections for the study area and review of historical growth in the area. Through the city's Comprehensive Plan and land use projections provided by the consultant team, reasonable assumptions could be drawn as to the potential for and location of future development activities. **Section 3** of this report, *Future Conditions Analysis*, details the development of anticipated long-term future transportation needs within the study area.

Section 4 of this report, *Alternatives Analysis*, documents the development and prioritization of alternative measures to mitigate identified safety and capacity deficiencies, as well as projects that would enhance the multi-modal features of the local transportation system. The process by which future transportation system projects were identified and prioritized included extensive cooperation with the TSP committees. The impact of each of the identified alternatives was considered on the basis of individual merits, conformance with the existing transportation and land use system, as well as potential conflicts to implementation and integration with the surrounding transportation and land use system components. Ultimately, a preferred plan was developed that reflected a consensus as to which elements should be incorporated into the city's long-term transportation system.

Having identified a preferred set of alternatives, the next phase of the TSP planning process involved presenting and refining the individual elements of the transportation system plan through a series of decisions and recommendations. The recommendations identified in **Section 5**, *Transportation System Plan*, include a Roadway Network and Functional Classification Plan, a Pedestrian Plan, a Bikeway Plan, a Public Transportation Plan, and other multi-modal plans.

Section 6, *Transportation Funding Plan*, provides an analysis and summary of the alternative funding sources available to finance the identified transportation system improvements.

The city's existing comprehensive plan and zoning ordinances were limited and did not allow the city to develop the type of transportation system desired. In an effort to rectify this situation and ensure compliance with the TPR, several comprehensive plan and zoning ordinance modifications have been developed. Development review guidelines were also drafted. The recommended modifications presented in **Section 7**, *Policies and Land Use Ordinance Modifications*, address major land use and transportation issues identified through development of the TSP and reflect the desire to enhance all modes of the transportation system.

Finally, **Section 8**, *Transportation Planning Rule Compliance*, lists the requirements and recommendations of the Oregon Transportation Planning Rule (OAR 660 Division 12) and identifies how the City of Boardman TSP satisfies that criterion.

Section 2

Existing Conditions

Existing Conditions

INTRODUCTION

The development of this transportation system plan began with an assessment of the existing land use and transportation system conditions. This section describes existing land uses and conditions for all transportation modes that the transportation system plan will address, including cars, trucks, bicycles, pedestrians, transit, air, and marine facilities. The purpose of this section is to provide an inventory description of existing facilities while setting the stage for a basis of comparison to future conditions.

LAND USE

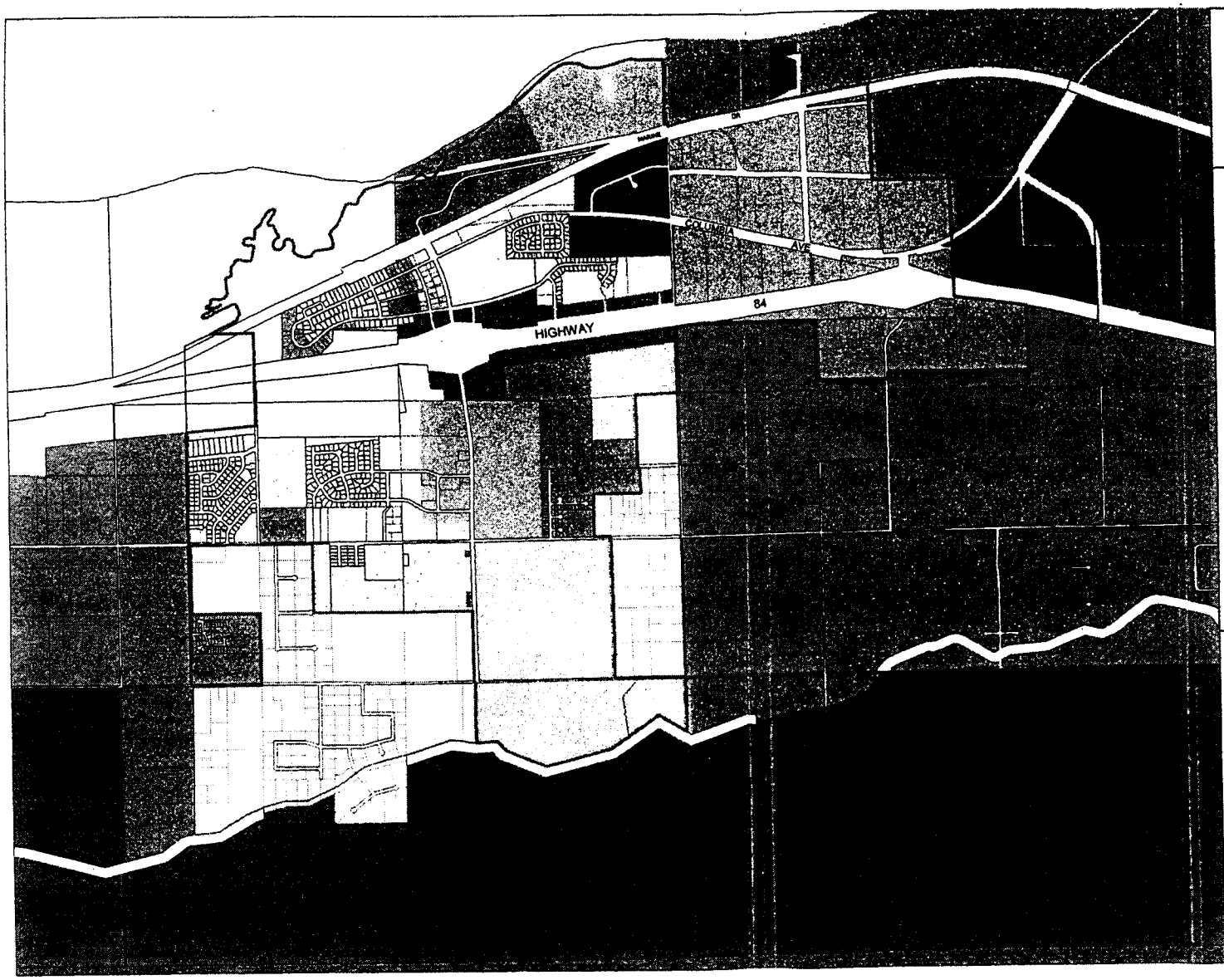
Boardman was incorporated in 1927. With construction of the John Day dam down river in the early 1960's, the town was relocated from its original site on the Columbia River to higher ground. The dam provided irrigation to open vast tracts of dry land to major agricultural enterprises. This in turn allowed the Port of Morrow to capitalize on the agricultural production and provide processing and shipping of agricultural products at the Port's facilities in Boardman. Railroad and marine facilities serve the Port of Morrow making it one of the largest in volume in the Columbia River basin. The Port also owns and operates an airport west of town, outside the UGB.

As will be documented later in the **Future Conditions Analysis** section of this report, the 1990's have been a period of phenomenal growth for Boardman. During the past decade Boardman has been one of the fastest growing communities in the state, growing from 1,387 people in 1990 to 2,795 by 1998, an increase of 102 percent or 13 percent per year on average. Growth has been and continues to be stimulated by a number of regional economic development forces including industrial development at the Port of Morrow. Growth is projected by year 2020 to be 4,523 persons in the city and 5,129 within the urban growth area.

The city has an abundance of developed and vacant industrial land north of the freeway that has coveted access to rail, surface and water transportation to move goods to national and international destinations. The majority of this land is owned by the Port of Morrow and leased to industries; most of the rest has been sold by the Port to industries that have located in the Port industrial district. This industrial land provides several hundred jobs to residents as well as others who commute to the city. Boardman is becoming an economic hub of regional significance. Transportation facilities have a major influence on Boardman's economic growth and its development pattern. Interstate 84 splits the community roughly one-third to the north and two-thirds to the south. The freeway has two interchanges. The interchange at the west-end of town provides access to commercial services and residential areas and the other, at the east-end, predominantly serves the Port of Morrow and industrial development. Figure 2 identifies zoning within the City of Boardman.

Commercial services are located both north and south of the freeway. The city has over 200 acres of vacant commercially-zoned land, more than will be needed within the next 20 years. Most of the vacant land is south of the freeway. The commercial district to the north, which includes City Hall, service stations, some restaurants, two motels and other miscellaneous commercial businesses, as well as the high school, is substantially built-out. Some redevelopment is occurring on the north side and the potential exists for more redevelopment in the future.

About 90 percent of the city's future residential development will occur south of the freeway based on the city's vacant land inventory. At least a 20-year supply of land exists for both single family and multi-family residential development. Residential development on the north is a mix of single family and multi-family developments. Residential development on the south is characterized as medium to low density.



City of BOARDMAN Zoning

— Urban Growth Boundary
— City Limits
— Taxlots

Zoning

C1	FR2	R1
C2	IND	R2
C3	MG	R3
CFU	PI	SC
EFU	PUB	SF40
		SR1

Scale = 1:20000

Date : 6/28/99

MORROW COUNTY

Geographic Information Systems

single family housing. Affordable housing is generally plentiful but the city lacks higher income housing. One of the goals of the Strategic Plan is to promote a variety of housing and neighborhoods for all economic and age groups. Sidewalks are required in new subdivisions and there are several bike/pedestrian paths.

The 1997 buildable lands analysis found that new residential subdivision development is occurring at reasonable densities. However, the abundance of residential land and readily available city sewer and water facilities throughout the city have produced a disconnected residential development pattern south of the freeway where most new development is occurring. In addition, many newer residential developments are relatively distant from commercial services. These factors produce heavy reliance on autos for traveling within the community.

TRANSPORTATION FACILITIES

The City of Boardman's transportation system includes facilities that serve several different modes. All of these facilities are identified and discussed in detail in the remainder of this section.

Roadway Facilities

All public roadways within the City of Boardman are operated and maintained under the auspices of one of three jurisdictions – the Oregon Department of Transportation (ODOT), Morrow County, and/or the city. The following paragraphs highlight the existing roadway network, which is illustrated in Figure 3.

State Facilities

Interstate 84

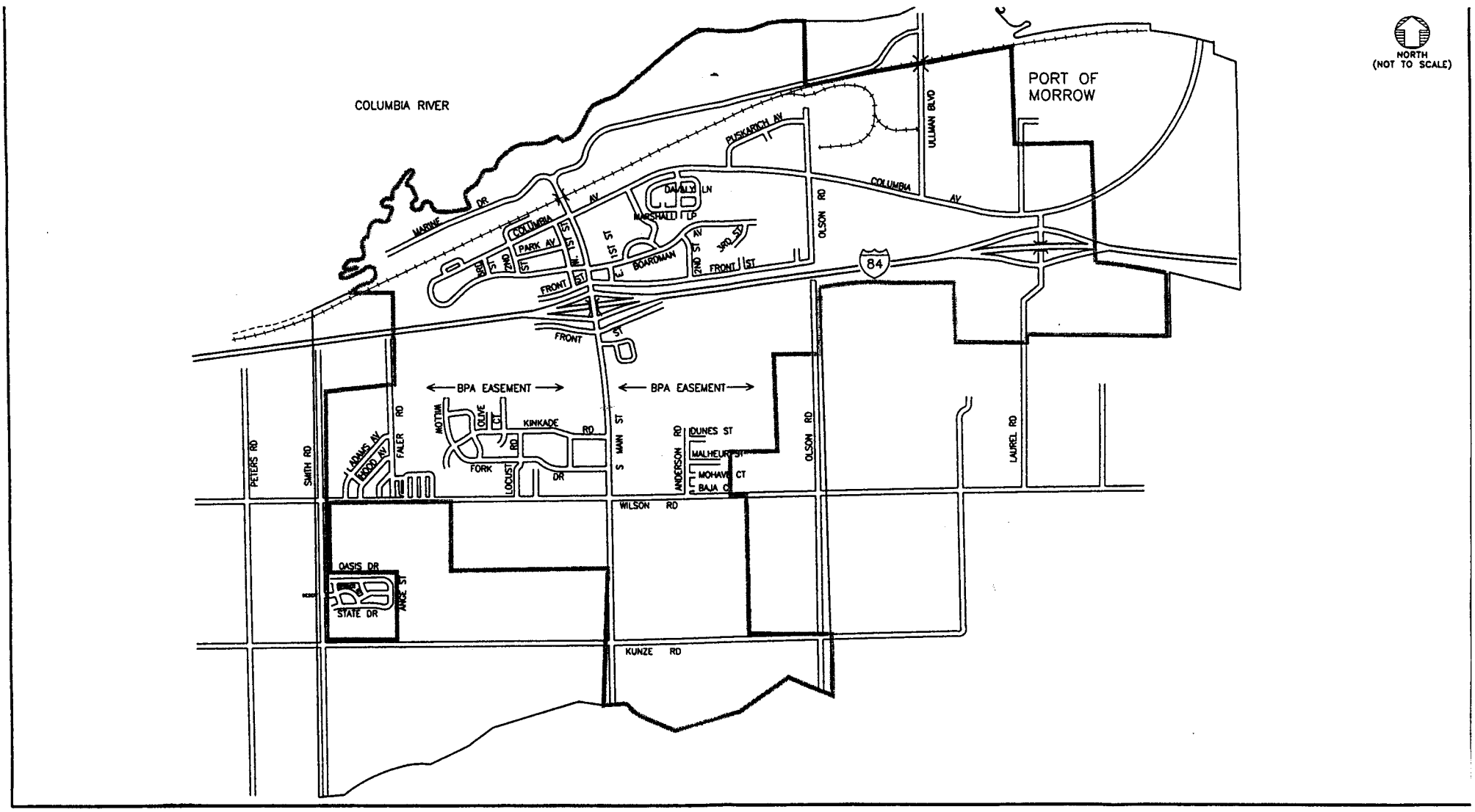
The City of Boardman is conveniently located adjacent to Interstate 84, providing the local community with a high-speed facility to travel to adjacent communities such as Hermiston, Umatilla, and Pendleton. Interstate 84 is a major trucking route and has, in part, facilitated employment growth associated with industrial and shipping activities through the Port of Morrow and the city in general.

Interstate 84 is maintained by ODOT, which classifies the roadway as being of an *Interstate Level of Importance* as described in ODOT's *1991 Oregon Highway Plan* (Reference 1). The primary function of an Interstate Highway is to provide connections and links to major cities, regions of the state, and other states. Interstate 84 has a four-lane cross section and a 65 mile per hour posted speed limit.

Two grade-separated interchanges provide access to Boardman at opposite ends of the city. One interchange serves Main Street while the other provides access to the Port of Morrow via Laurel Lane. Interstate 84 disrupts the continuity of the city as it divides the city into two distinct geographic areas. In addition, the manner in which properties have developed require residents to cross the interstate, primarily on Main Street, on a daily basis. Most of the residential lands are located to the south of the interstate. The majority of the employment opportunities and services are located to the north of the interstate.

City of Boardman Facilities

The City of Boardman's roadway system is comprised of a number of streets that collectively feed the two Interstate 84 interchanges. The east-west orientation of the Columbia River, Interstate 84, the BPA Easement, and the Union Pacific Railroad right-of-way all limit the number and extent of north-south connections through the city and have shaped the local roadway network.



LEGEND

——— URBAN GROWTH BOUNDARY

CITY LIMITS

EXISTING ROADWAY NETWORK

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 3

2899\DWGS\BOARDMAN\TSP\2899B002

The City of Boardman Comprehensive Plan, through Chapter 12, identifies the need to develop an interim and ultimate street classification system. The intent of the interim plan is to provide adequate capacity and reasonable levels of service for low volume conditions through use of relatively narrow streets and simplified traffic control devices. The intent of the ultimate plan is to provide for a more robust roadway network capable of handling increased traffic volumes through a system of arterials and intersection improvements. The comprehensive plan does not, however, present a functional classification system for roadways within the city.

On-Street Parking

Limited striped on-street parking is provided along Front Street on both the north and south sides of Interstate 84. On-street parking is also provided on both sides of First Street near the post office. Within the residential areas, several homeowners appear to park on the shoulders of local roads, though parking spaces are not striped.

TRAVEL MODES/CONNECTIVITY OF MODES

An inventory of the existing street system was conducted within the urban growth boundary with the intent of identifying the locations of sidewalks, bike lanes, on-street parking, paved/unpaved roadways, traffic control devices and signing, and posted speed limits. The findings of that inventory are summarized in the following paragraphs

Pedestrian System

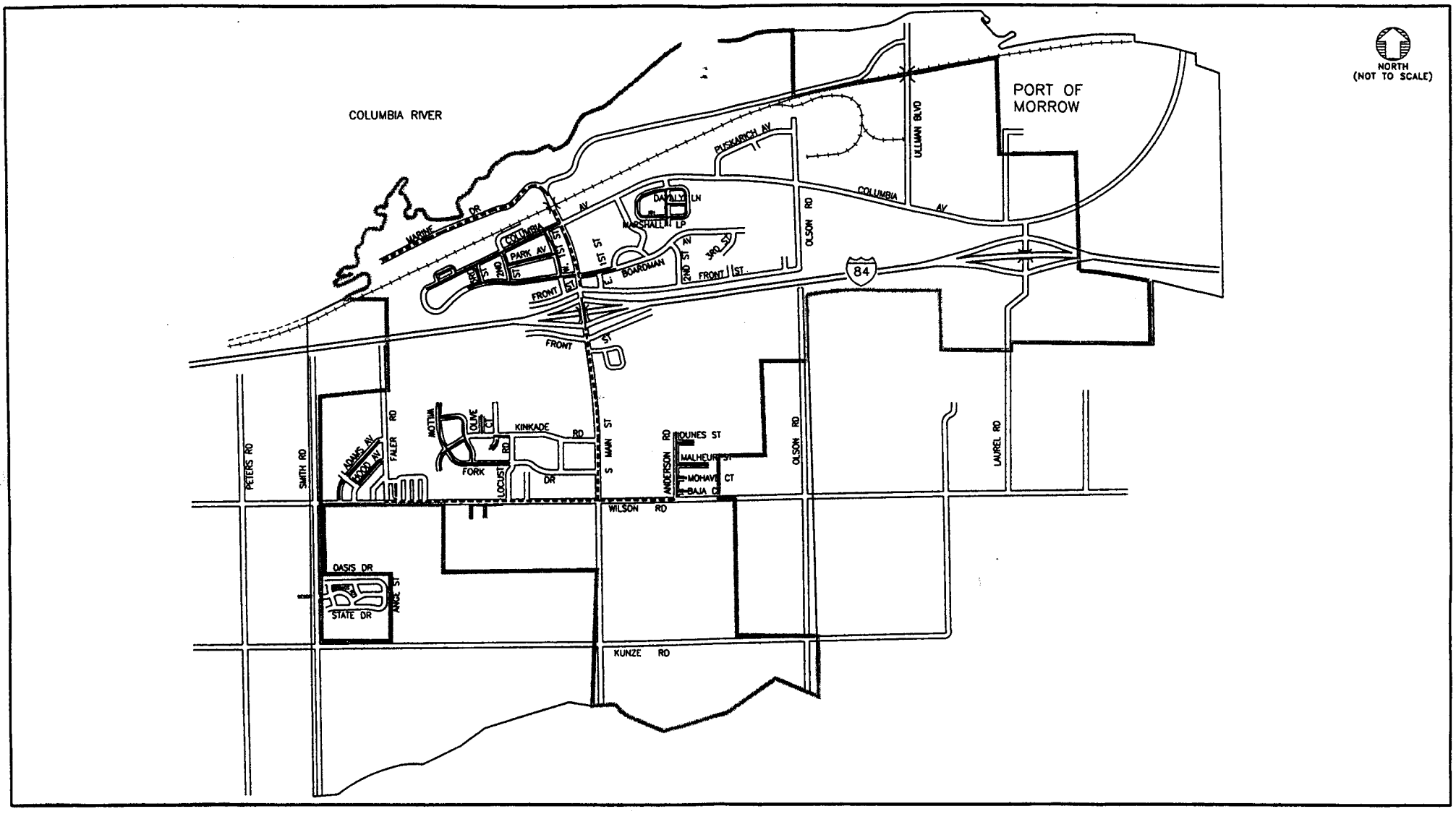
The City of Boardman's existing pedestrian network system includes sidewalks along many of the local roads and a multi-use path along Main Street and Wilson Road. Figure 4 illustrates the roadways within the city that currently have multi-use paths or sidewalks on one or both sides of the street.

As is typical with many rural cities, the existing pedestrian system in the city is relatively complete in some core areas and virtually non-existent in others. The majority of the sidewalks are provided within residential areas. While the multi-use paths along Main Street and Wilson Road have significantly enhanced the city's pedestrian network, there is still a lack of sidewalks and pedestrian crossings along several key roadway facilities in the study area.

Bicycle System

The City of Boardman currently has two designated bicycle facilities/multi-use paths. As indicated in Figure 4, one of the paths provides connections from Marine Drive south to Front Street on the north side of Interstate 84. Currently, the path is not continuous, with the most notable break dictated by the narrow bridge carrying Main Street over the Union Pacific Railroad right-of-way. The second path travels from a point south of Interstate 84 to Wilson Road and then along Wilson Road between Faler Road and Anderson Road. It is the city's desire to ultimately provide bike routes to all areas of the town while avoiding vehicular conflicts where possible.

The City of Boardman has been recently notified that it has been awarded an Enhancement grant from the federally funded Transportation Efficiency Act for the 21st Century (TEA-21) program. These funds will enable the city to provide pedestrian and bicycle facilities on the Main Street bridge over the Union Pacific railroad right-of-way and continuous sidewalks and bicycle lanes along Main Street from the bridge to Interstate 84.



LEGEND

- URBAN GROWTH BOUNDARY
- CITY LIMITS
- SIDEWALK
- MULTI-USE PATH

EXISTING PEDESTRIAN AND BICYCLE SYSTEM

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 4

PUBLIC TRANSPORTATION SYSTEM

Limited public transportation serves within the City of Boardman are available through the county, the local school district, the RSVP/CAPECO program, and Greyhound.

Morrow County Special Transportation Program

Morrow County provides two public transportation programs that serve the City of Boardman. A senior bus service is available to groups by appointment and provides service for seniors, disabled persons, and low-income persons. Other users are welcome as long as they do not displace the primary users (i.e., seniors, the disabled, and the disadvantaged). A dial-a-ride service is also available by appointment to serve the same audience. Both programs are funded through a tobacco tax and rely on a volunteer pool of drivers. While increased usage of these services is desirable, there are no current or pending plans to expand public transportation services to the area.

Relevant Information

- Program Contact: John Wenholz, County Commissioner, Phone (541) 922-3941
- Program Coordinator: Barbara Hayes, Phone (541) 676-5667
- Ride Scheduling Contact: Boardman Senior Center, Phone (541) 481-3257
- Scheduling Hours: Monday-Friday 9:00 a.m. to 5:00 p.m.
- Service Area: The Morrow County Special Transportation Program serves all of Morrow County and has provided trips out of county for medical services including trips to the Tri-Cities area of Washington State. Because there are no vans in Boardman, no individual trips are provided as they are in other parts of the county.
- Equipment/Facilities in Boardman (As of March 31, 1999):
  1. 1987 Ford 14 Passenger Van – 60,075 miles (Handicapped accessible)
  2. 1991 Ford 14 Passenger Van – 62,812 miles (Handicapped accessible)

Other Services

Boardman has intercity bus service provided by Greyhound Lines, Inc. Currently, Lines 5547, 5535, and 5549 depart from Boardman daily for Portland at 6:25 a.m., 11:50 a.m., and 3:35 p.m., respectively. Route 5530 departs Portland at 12:50 p.m. daily and makes a scheduled stop in Boardman at 4:10 p.m. with continuing service to Boise, Idaho and Salt Lake City, Utah.

The local school district provides school bus service within portions of the city and to the neighboring community of Irrigon (Irrigon students are bused to Riverside High School in Boardman and Boardman students are bused to the Columbia Middle School in Irrigon) on school days.

Finally, the RSVP/CAPECO program based in Pendleton provides one additional transportation option. Under the RSVP/CAPECO program, qualified drivers are reimbursed for transporting others in personal vehicles when the local county transportation service is unavailable. This program requires an initial application process and authorization prior to persons being qualified for reimbursement. Reimbursement is then available for qualified trips on a per mile basis. The RSVP Program Contact is Don Thorndike, phone (541) 278-5669.

General Comments

Discussions with local agency staff and TAC members indicated that, with the exception of school bus and Greyhound service, the public transportation services available are not as well used as they could be. A commonly repeated theme was the notion that there is a need to create greater awareness of the programs among community members. Community input stressed the need for convenient access to public transit service for the elderly. It was further observed that the population under the driving age is particularly under-served and, as the community grows in geographic size, their overall accessibility will be diminished. Although enhanced service is desired, no segment of the city's population was specifically identified as being without transportation service.

Aside from the aforementioned services, for most of the city's residents, private transportation is the only available option to get to the local medical, social, and retail services and the educational and employment opportunities located in adjacent communities.

AIR TRANSPORTATION SYSTEM

The City of Boardman has access to several airport facilities. The nearest airfield is the Boardman Airport located five miles west of Boardman, but it serves only small aircraft and U.S. Navy operations at this time. The airport, which is owned by the Port of Morrow, was originally designed to service heavy bombers and large commercial aircraft, suggesting that future expansion of the airport's operations to include larger aircraft is feasible. The airport's runway is 4,200 feet long and serves as a focal point for a growing airport industrial park. The airport has medium intensity runway lighting and in 1998 there were three aircraft based at the airport and an estimated 1,500 aircraft operations annually.

Regional freight cargo and air passenger services are provided at the Eastern Oregon Regional Airport at Pendleton, located approximately 45 miles southeast of Boardman via Interstate 84, and at the Tri-Cities Airport located approximately 55 miles to the north in Pasco, Washington. Both the Eastern Oregon Regional Airport and the Tri-Cities airport provide regional passenger air service, connecting to national and international air service at the Portland International Airport. In addition, the City of Hermiston owns and operates a general aviation airport that offers charter service.

RAILROAD TRANSPORTATION SYSTEM

Freight rail service is available via the Union Pacific Railroad. The Union Pacific mainline, which roughly parallels Interstate 84, serves 30 to 40 trains daily pending local and regional shipping needs and market fluctuations. According to ODOT's Rail Section, the rail line carries approximately 35 million tons of freight annually - the equivalent of nearly 1 million tractor trailer loads of freight.

Union Pacific's track is classified as being in Federal Railroad Administration Class IV condition, permitting freight trains speeds of 60 miles per hour and passenger trains speeds up to 79 miles per hour. ODOT's Rail Section identified four rail shippers in Boardman: Boardman Farms, Lamb-Weston, Oregon Potato, and the Port of Morrow.

The rail line through Morrow County was serviced by passenger trains in the past. When the passenger train was operating between Portland, Boise and points east, approximately 12,000 passengers annually boarded at Oregon stations outside Portland. By comparison, the Portland-Eugene Willamette Valley Rail Corridor serves over 140,000 passengers a year. Amtrak passenger service has been discontinued and the last passenger train operated over the line on May 10, 1997. When passenger service was operated, Morrow County was served from the station at the Hinkle railyards, which is located one mile south of Hermiston. There was no passenger stop in Morrow County.

ODOT's Rail Section had no record of any grade crossing problems on the segment of track in the City of Boardman. All of the major roadways crossings were grade separated with the remainder being very low volume local roads. It was further noted that the Port of Morrow has narrow bridge over the tracks in Boardman that provides port access. Ultimately, the Port would like this structure replaced.

There are no railroad branch lines in the City of Boardman. Further, according to ODOT, no trackage in Morrow County needs rehabilitation.

MARINE TRANSPORTATION SYSTEM

Marine transportation is available to the City of Boardman though the Port of Morrow. Within the Port, Tidewater Terminal maintains a large container terminal and additional docking facilities are available that support transfer of wood chips, aggregates, and grain. Overall, the Port of Morrow maintains six docks, two berths for barges, and two overhead cranes for loading purposes. Four large companies serving the Port of Morrow handle approximately 2,000 containers at the docks each month (Reference 2).

PIPELINE TRANSPORTATION SYSTEM

There is an U.S. Transmission natural gas pipeline serving the co-generation plant located in the Port of Morrow. The residential areas of the community have natural gas pipeline service provided by Cascade Natural Gas. No other major pipelines within the City of Boardman were identified at the time the TSP was prepared.

TRAFFIC OPERATIONS ANALYSIS

Ten intersections within the city were selected for operational analysis under 1998 existing conditions. Those intersections include:

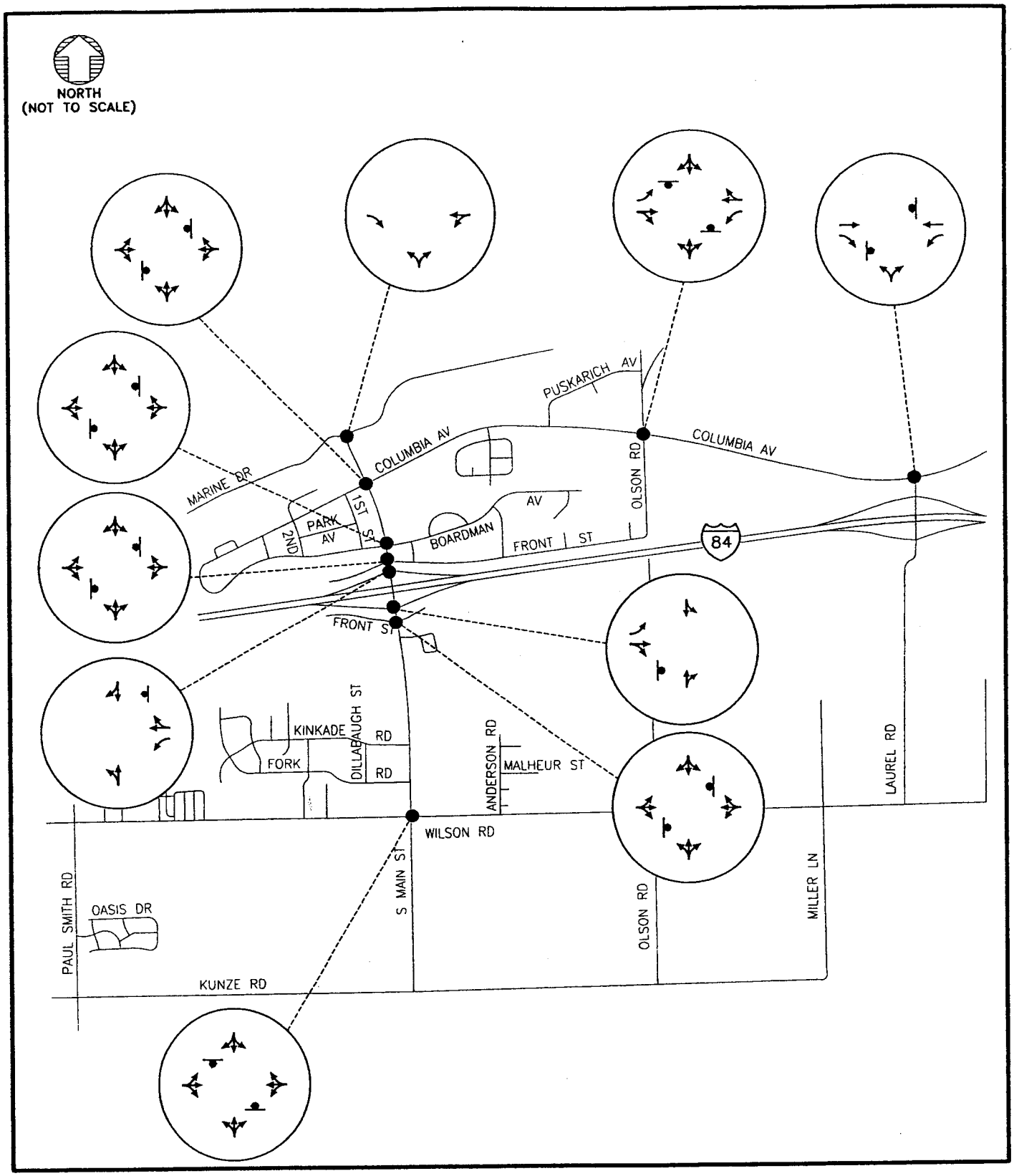
- Marine Drive/Main Street
- Columbia Avenue/Main Street
- Olson Road/Columbia Avenue
- Laurel Lane/Columbia Avenue
- Boardman Avenue/Main Street
- Front Street/Main Street
- Interstate 84 Westbound Ramp/Main Street
- Interstate 84 Eastbound Ramp/Main Street
- Front Street/South Main Street
- Wilson Road/South Main Street

Traffic Control

All of the study intersections within the City of Boardman are currently unsignalized. Figure 5 illustrates the existing lane configurations and traffic control devices at each of the study intersections. Traffic operations at each of the intersections were examined during the weekday p.m. peak hour. The p.m. peak period represents the worst case condition for traffic operations on the transportation system. Travel patterns during this weekday time period typically combine commuting, shopping, and recreational trips, thus generating higher traffic volumes on the transportation system than during any other time period or day of the week.

Traffic Volumes

Weekday p.m. peak hour manual traffic volume counts at the intersections were conducted in November 1998. Manual turning movement traffic counts were conducted between 4:00 p.m. and 5:30 p.m. on a mid-week day. The highest one-hour flows during these periods were used in this study.



LEGEND

- – STOP SIGN
- – APPROACH LANE, INDICATING ALLOWED MOVEMENTS

EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES

CITY OF BOARDMAN, OREGON
TRANSPORTATION SYSTEM PLAN
JUNE 1999

FIGURE 5

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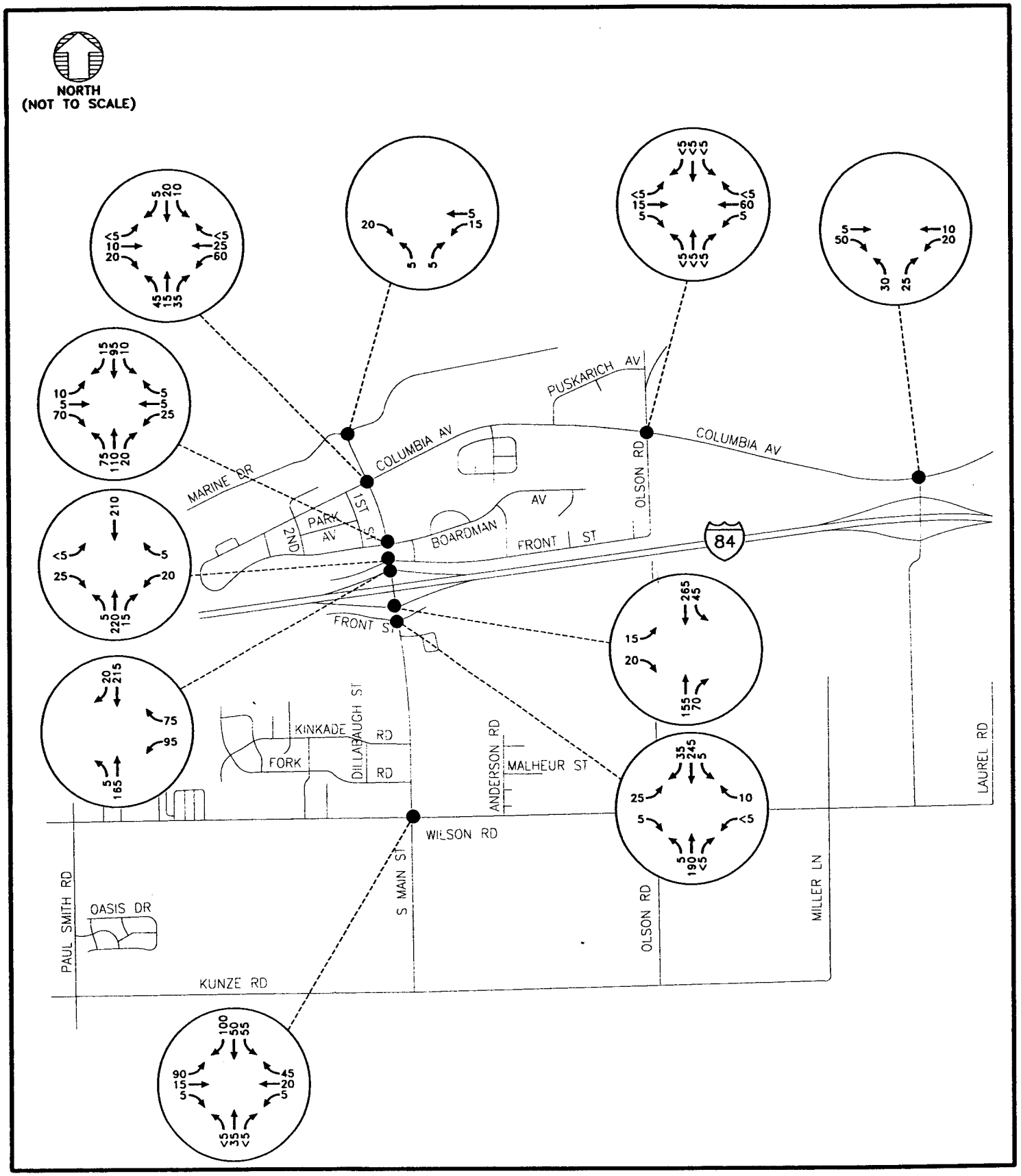
Based on the turning movement counts conducted at study area intersections, the system-wide p.m. peak hour of traffic on a typical weekday afternoon was estimated to occur between 4:00 and 5:00 p.m. Existing weekday p.m. peak hour traffic volumes are shown in Figure 6. Traffic volumes have been rounded to the nearest five vehicles per hour.

It should be noted that the community also identified congestion concerns occurring on weekdays between 3:00 and 3:45 p.m. Specifically, the intersections of Boardman Avenue/Main Street and Columbia Avenue/Main Street were identified as areas of concern during this time period. The congestion is related to the near-simultaneous release of students from the Riverside High School and the change of shifts at a major local employer. Subsequent field study of this condition determined that the weekday p.m. peak hour represented worst-case conditions and, accordingly, no further analysis of the 3:00 p.m. time period was completed.

Level of Service Analysis

Using the weekday p.m. peak hour turning movement volumes shown in Figure 6, an operational analysis was conducted at each of the study area intersections to determine existing levels of service. All level of service analyses described in this study were conducted in accordance with the 1994 Highway Capacity Manual, published by the Transportation Research Board (Reference 3). Appendix "B" summarizes the level of service concept.

To ensure that this analysis was based on a reasonable worst case scenario, the peak 15 minute flow rate during the weekday p.m. peak hour was used in the evaluation of all intersection level of service analyses. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average weekday p.m. peak hour. Traffic conditions during all other weekday periods will likely operate under better conditions than those described in this report. (It should be noted that peak seasonal traffic conditions typically occurs during the summer harvest season, hence Design Hour Volumes may be up to 25 percent higher than the peak hour analyzed in the TSP.)



1998 EXISTING TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN	FIGURE 6
JUNE 1999	

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Unsignalized Intersections

For unsignalized two-way stop-controlled (TWSC) intersections, level of service (LOS) is based on an intersection's capacity to accommodate the worst, or critical, movement. Typically, the left-turn from the stop-controlled approach is the most difficult movement for drivers to complete at a TWSC intersection. This is due to this movement being exposed to the greatest potential number of conflicting, higher-priority movements at the intersection. Available gaps in the through traffic flow of the uncontrolled approach(es) are used by all other conflicting movements before the side-street left-turn can be negotiated. Therefore, the number of available gaps for the side street left-turn to negotiate its movement safely is likely to be substantially lower than any other movement. As a result, the side-street left-turn typically experiences the highest delays and the worst level of service. For the Interstate 84 corridor through the City of Boardman, ODOT stipulates that major street level of service "A" through "C" are considered acceptable. Table 1 summarizes the level of service results for the unsignalized study intersections.

TABLE 1
1998 EXISTING PM PEAK HOUR LEVEL OF SERVICE,
UNSIGNALIZED INTERSECTIONS

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Marine Drive/Main Street	Westbound	0.02	3.7	A	A
Columbia Avenue/Main Street	Westbound	0.13	5.0	A	A
Boardman Avenue/Main Street	Westbound	0.06	6.0	B	A
Front Street/North Main Street	Westbound	0.06	7.2	B	A
I-84 Westbound Ramp/Main Street	Westbound	0.23	8.4	B	A
I-84 Eastbound Ramp/Main Street	Eastbound	0.05	8.7	B	A
Front Street/South Main Street	Eastbound	0.07	7.5	B	A
Wilson Road/South Main Street	Southbound	0.24	4.8	A	A
Olson Road/Columbia Avenue	Southbound	0.01	3.6	A	A
Laurel Lane/Columbia Avenue	Westbound Left	0.03	4.3	A	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 1 indicates, all of the unsignalized study area intersections operate at acceptable levels of service under existing weekday p.m. peak hour conditions.

TRAFFIC SAFETY

Another important aspect of the transportation system is safety. The safety analysis described in the following section focuses on the accident history for the study intersections within the City of Boardman urban growth boundary.

Intersection Accident Analysis

The accident history of the study intersections was examined for potential and existing safety problems. ODOT accident data for the period January 1993 through June 1998 were used for this analysis. In addition, the ODOT District 12's 1996-1998 Safety Priority Index System (SPIS) lists were reviewed. The SPIS lists identify locations with relatively high accident rates and locations that have been the site of one or more fatal accidents.

Review of the three respective annual SPIS lists indicates that no SPIS sites are located within the City of Boardman. Table 2 presents accident rates for the individual study intersections. Accident rates for intersections are calculated by relating the total entering volume of traffic at the intersection, on an average daily basis, to the number of reported accidents for a given period of time. The accident rate for intersections is expressed as the number of accidents per million entering vehicles (acc/mev).

TABLE 2
STUDY INTERSECTION ACCIDENT RATES

Intersection	Number of Accidents	Accidents/MEV
Marine Drive/Main Street	0	0
Columbia Avenue/Main Street	0.20	1
Boardman Avenue/Main Street	0	0
Front Street/North Main Street	0.20	2
I-84 Westbound Ramp/Main Street	0.17	2
I-84 Eastbound Ramp/Main Street	0.09	1
Front Street/South Main Street	0.20	2
Wilson Road/South Main Street	1.06	9
Olson Road/Columbia Avenue	0.54	1
Laurel Lane/Columbia Avenue	0.0	0

*ODOT Accident data search period of 1993- 1998

As shown in Table 2, the Wilson Road/South Main Street intersection was the only study intersection that had more than two reported accidents over the 5.5-year analysis period. The Wilson Road/South Main Street, which had an accident rate of 1.06 accidents/mev, was the site of nine reported accidents over the 5.5-year analysis period, including one fatal accident. The majority of the accidents were attributed to traffic on South Main Street not yielding the right-of-way to vehicles on Wilson Road (the Main Street approaches are stop-controlled; drivers on Wilson Road do not have to stop at the intersection). Four of the nine accidents occurred during inclement weather, two during icy conditions and two during wet weather. All but one of the accidents occurred during daylight conditions and one of the accidents resulted in a westbound vehicle that had been travelling on Wilson Road being overturned. The single fatal accident (which did not involve the overturned vehicle) was attributed to drunken driving and excessive speed.

The remainder of the accident data did not reveal any specific safety problems or discernable patterns amongst the accident type, suggesting that the intersections are not exhibiting geometric or safety deficiencies that are leading to accidents. The accidents at the Front Street/North Main Street intersection, Interstate 84 Eastbound Ramp/Main Street, and the Olson Road/Columbia Avenue intersection were attributed to adverse environmental conditions such as ice or snow. Of the two accidents at the Interstate 84 Westbound Ramp/Main Street intersection, one was attributed to adverse weather and the second was a rear-end accident resulting from a driver following another car too closely. The single accident at the North Main Street/Columbia Avenue intersection was attributed to a young driver who failed to yield the right-of-way.

OTHER IDENTIFIED EXISTING TRANSPORTATION DEFICIENCIES

As an extension of the existing conditions analysis, different aspects of the transportation system with existing deficiencies were identified. A description of the deficiencies and potential improvements

System Connectivity

During the TAC meeting process, it was noted that Interstate 84 and the Union Pacific Railroad both serve as barriers to north-south travel. Accordingly, there is a continuing need to provide strategic north-south multi-modal connections across both the interstate and the railroad line. Similarly, there is a need to ensure that the city provides adequate east-west facilities parallel to Interstate 84 such that the community does not become entirely dependent on interstate access to facilitate local trips. In addition, with the large amount of residential development occurring on the south side of the city, there is a need to review the layout of the city's roads to ensure that reasonable connectivity is preserved.

SUMMARY

Through an inventory of existing conditions, several key findings were identified. Those findings are summarized below.

- The City of Boardman was redefined through a master planning effort undertaken prior to relocation of the city in conjunction with dam construction along the Columbia River.
- The city is located at the crossroads of the Columbia River, Interstate 84, and the Union Pacific Railroad, thereby offering many modal opportunities.
- The city is limited in north-south growth and connectivity due to local topographical constraints such as Interstate 84, the Union Pacific Railroad right-of-way, and the Columbia River. While these facilities will continue to present constraints to both growth and transportation connectivity, they are essential components of the city's livelihood.
- Sidewalk facilities are concentrated in residential areas throughout the city. Two multi-use paths, one along Main Street, and one along Wilson Road, serve as backbones linking the north and south sides of the city. Many other local roads tend to exhibit disjointed or nonexistent sidewalks.
- Public transit service is available in the form of a senior bus and dial-a-ride service provided through Morrow County. Greyhound bus service is also available.
- The city has convenient access to both rail and marine shipping alternatives available though the Port of Morrow. Within the Port, a large container terminal and other docking facilities are available that support transfer of wood chips, aggregates, and grain.
- On a typical weekday afternoon, the transportation system experiences its peak roadway traffic demand between 4:00 and 5:00 p.m. During this peak period, the transportation system operates well within established standards.
- The Wilson Road/South Main Street intersection had nine reported accidents during the period of January 1993 through June 1998. The history of accidents at this intersection suggests that mitigation measures should be considered. Potential mitigation measures should address both pedestrian accessibility and ease of access for emergency vehicles responding from the fire station located on Wilson Road.
- Review of historical ODOT accident data did not reveal safety deficiencies at any of the remaining study intersections.
- The city has recently obtained funding to add sidewalks and bicycle lanes to the existing Main Street bridge over the Union Pacific Railroad right-of-way.

Future Conditions Analysis

INTRODUCTION

This section presents estimates of long-term future travel conditions within the TSP study area. The long-term future transportation needs for the City of Boardman were examined based on available employment and population forecasts, identified development activities, results from the operational analysis of the existing street system, and extensive discussions with regional transportation personnel and representatives from the City of Boardman.

TRANSPORTATION DEMAND

Future transportation demand within the City of Boardman was estimated based on expected growth in the study area population, employment, and traffic traveling through the study area for the horizon year 2020. Future growth estimates were developed based on historical traffic volume trends in the study area as well as consideration of the unique trip making characteristics of residential and employment-based activities. The estimation included a review of the land use mix proposed in the city's Comprehensive Plan.

Land Use/Demographics

Year 2020 traffic volumes on the City of Boardman's transportation system were forecast based on population and employment estimates developed by the State of Oregon for Morrow County and the city. These estimates were compared against recent development trends, planned developments, and forecast growth rates provided by local agencies to verify their appropriateness. The 20-year planning horizon was chosen to ensure compliance with the Transportation Planning Rule.

Population and Employment Projections

Tables 3 and 4 summarize population and employment projections prepared for the City of Boardman in conjunction with the TSP process. In reviewing the two tables, it should be noted that the estimates contained in Table 3 include the population within the city limits as well as the Urban Growth Area (UGA). The employment estimates shown in Table 4 are for the city only.

TABLE 3
POPULATION PROJECTIONS

Year	1990	1997	2000	2002	2005	2010	2015	2020	1997-2020 Average
City of Boardman Projections									
Projected Population -Including UGA	1,387 --	2,700 3,062	3,126 3,545	3,446 3,908	3,635 4,123	3,936 4,463	4,240 4,808	4,523 5,129	--
Annual Percent Change	--	10.0%	5.0%	5.0%	1.8%	1.6%	1.5%	1.3%	2.3%
Morrow County Projections									
Projected Population	--	9,895	11,131	12,039	12,701	13,750	14,812	15,801	--
Annual Percent Change	--	--	4.0%	4.0%	1.8%	1.6%	1.5%	1.3%	2.1%

Historical Growth

Based on discussions with regional Oregon Department of Transportation (ODOT) staff, no historical traffic volume data could be identified for the City of Boardman. A review of local traffic volume data on nearby Highway 730 indicated a historical 0.6 percent growth rate between 1960 and 1996 (Refer to Figure 7). Considering only the past five years and using additional data available for Interstates 82 and 84, the annual traffic growth rate was approximately three percent.

Using this information in conjunction with local population/employment estimates and insights gained through TSPs prepared for the neighboring cities of Irrigon and Umatilla, the addition of new residents and jobs in the region over the next 20 years is expected to result in a growth in traffic of approximately 2.9 percent annually. The traffic growth can be expected to parallel population growth; hence the near-term growth in traffic volumes is expected to be more substantial than the long-term growth rate.

PLANNED TRANSPORTATION IMPROVEMENTS

One planned roadway improvement project was identified within the City of Boardman urban growth boundary at the time the TSP was prepared as discussed below.

North Main Street Pedestrian/Bicycle Enhancements

As noted in the **Existing Conditions Section**, the North Main Street bridge structure that carries Main Street traffic over the Union Pacific Railroad (located between Columbia Avenue and Marine Drive) has been identified as deficient. The existing bridge structure is too narrow and does not provide any pedestrian or bicycle amenities.

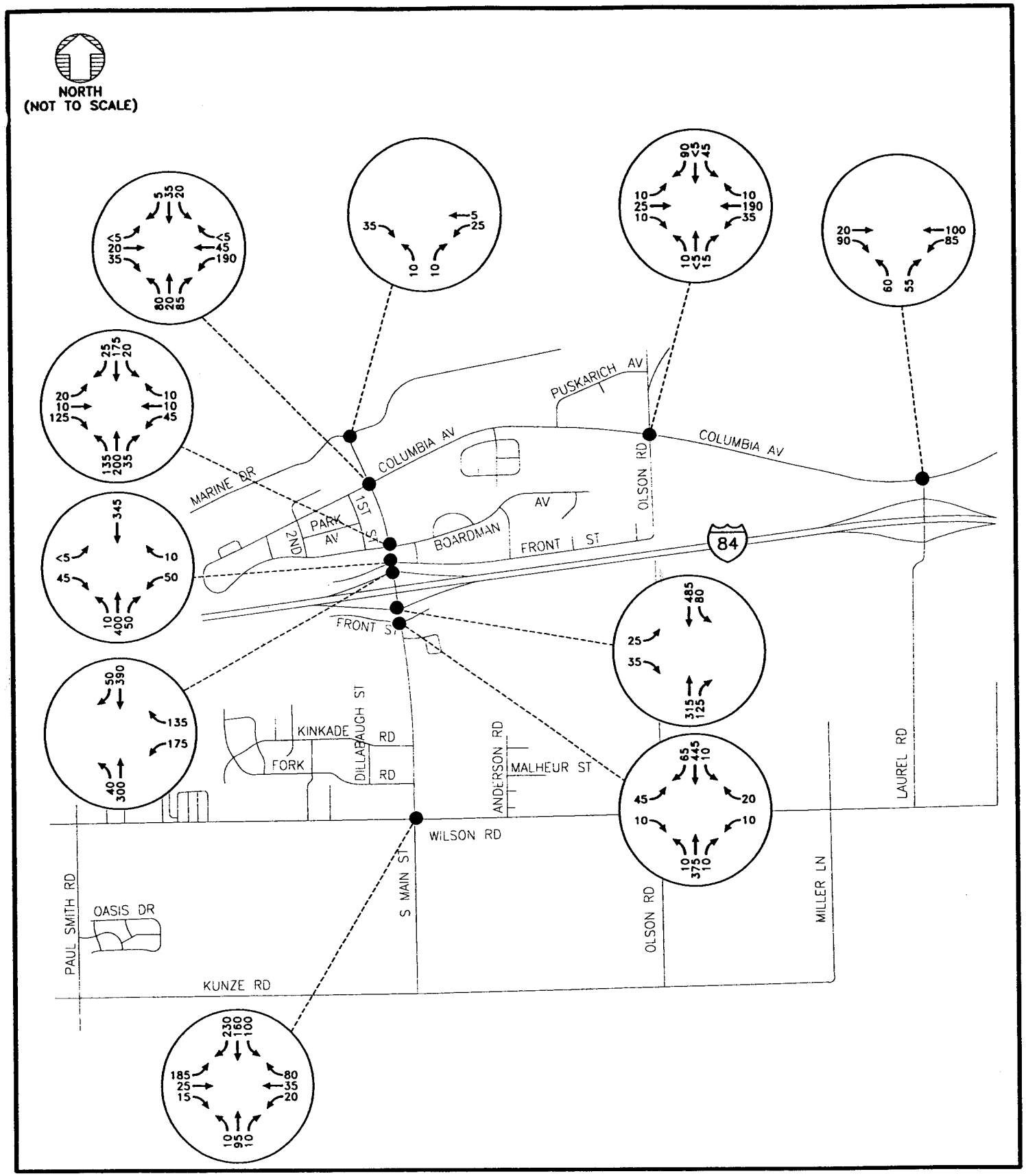
At the time this TSP was prepared, the city had been notified that it had qualified for federal funding through Transportation Efficiency Act for the 21st Century (TEA-21). This funding will be used to widen the existing bridge structure to accommodate pedestrian and bicycle facilities.

No other planned improvement projects were identified.

FORECAST FUTURE TRAFFIC VOLUMES/DEFICIENCIES

The transportation needs and travel demand patterns of Boardman will change with time. It is generally understood that as smaller rural communities grow in population and employment they become more self-sufficient entities and better able to serve the full needs of their population. Citizens are able to find employment and services desired within the community instead of having to travel to large urban areas located nearby. The benefit to the transportation system is in the potential for some of these trips (now local as opposed to long distance) to be made via modes other than the automobile; thus reducing demand on the overall network. The future traffic volume forecast presented in this report reflects the anticipated benefits of a more multi-modal transportation system as well as the changing character of travel demand.

Future traffic conditions within the City of Boardman were forecast by applying the 2.9 percent annual growth rate assuming a "no-build" condition (i.e., no new roadways would be constructed in the 23-year horizon) to the 1998 existing intersection traffic counts (refer to Figure 6). The future conditions analysis also included the introduction of additional traffic to select side street locations (most notably near the Port of Morrow and on the south end of South Main Street). The additional traffic was estimated in an effort to gauge the likely impact of residential and commercial development activities in areas that local officials indicated are likely to develop in the coming years. Figure 8 summarizes the forecast year 2020 weekday p.m. peak hour traffic volumes at the study intersections under the no-build condition.



FORECAST 2020 TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 8

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require widening of the existing bridge deck, potentially necessitating a new interchange altogether. The effect of signalizing the Interstate 84 Westbound Ramp/Main Street intersection must also consider the impact signalization will have on adjacent intersections.

Further, while the initial level of service analysis results suggest that the intersections of North Main Street/Front Street and South Main Street/Front Street will operate acceptably, the analysis results should not be interpreted as suggesting that no operational problems will be encountered. Given the close spacing between the Interstate 84 ramps and the two respective frontage roads, it is expected that several geometric changes will be required to accommodate future traffic volume growth. Stated simply, the existing intersections are too closely spaced and will not function efficiently as traffic volumes grow. The lack of access management along Main Street further complicates intersection operations.

The potential need for, and placement of, geometric improvements and a traffic signal at the Interstate 84/Main Street interchange within the 20-year planning horizon will be further discussed in Section 4, **Alternatives Analysis**. That discussion will include consideration of north-south connectivity needs within the city, the potential affects of access management and/or geometric improvements, and signalization issues, as well as overall safety for both vehicles and pedestrians.

Finally, as discussed previously, many of the homes are located on the south side of the interstate whereas the majority of employment opportunities and services are located on the north side. This results in city residents having to cross the interstate on a daily basis, primarily at Main Street. If growth continues to occur as it has in the past, this problem will be exacerbated in the future and will further impact the operations at the Interstate 84/Main Street and Main Street/Front Street intersections. Alternative land use scenarios to address this problem and the need for a cohesive "downtown" in Boardman will be discussed further in Section 4, **Alternatives Analysis**.

With the exception of improvements to the Interstate 84/Main Street interchange area and the previously identified improvement needs at the Wilson Road/Main Street intersection, no additional roadway capacity-related mitigation measures are anticipated. The next section of the TSP presents an analysis of potential improvement alternatives that address existing and future forecast traffic conditions.

SUMMARY

Several significant findings were identified through the future conditions analysis, most notably:

- The City of Boardman's population (including those persons in the UGA) is forecast to grow by an average annual rate of 2.3 percent (approximately 2,065 people) between 1997 (estimated population of 3,062) and 2020 (projected population of 5,129). Approximately 780 additional employment opportunities are anticipated in the city over the course of the 23-year horizon period.
- The population of Morrow County is projected to increase by an average annual rate of approximately 2.1 percent from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020.
- The growth projections prepared for both the city and county suggest that the forecast growth will be substantial in the near-term and will moderate in the long-term.
- Growth in traffic volumes will require improvements to the City of Boardman's existing roadway, pedestrian, and bicycle network. Areas identified for further investigation primarily involve the Interstate 84/Main Street interchange and the Main Street corridor.
- There are several connectivity and access issues that should be planned for and addressed. Enhancements to the city's roadway, pedestrian, bicycle, and public transit systems are desirable and will be reviewed in Section 4, **Alternatives Analysis**.

Alternatives Analysis

INTRODUCTION

This section presents a summary of future land use and transportation improvement alternatives that could be implemented to mitigate existing and projected future transportation system deficiencies. The remainder of this section is organized into three parts. First, land use issues and alternatives are presented. Based on the land use discussion, an overview of transportation improvement needs and associated ramifications is presented. A discussion of specific improvement alternatives, including estimated costs, and recommendations for implementation then follows.

As potential deficiency mitigation projects were developed, consideration was given to how a multi-modal approach could contribute to individual projects. Thus, while the primary impetus for a given mitigation alternative may center on increasing vehicular capacity, provision of appropriate bicycle and pedestrian amenities was given equal consideration. Special effort was provided in considering and recommending improvements to the pedestrian and bicycle systems. Recommendations were developed that create direct linkage to all identified pedestrian/bicycle generators and provide for a core pedestrian and bicycle transportation system. The alternative analysis and subsequent recommendations process were handled separately to ensure that a complete system for each mode was identified without constraint.

It should be noted that, in this section, formal alternatives development and analysis have only been presented for the roadway network and its components. Other elements of the transportation system such as pedestrian access, bicycle access, etc. currently exist at a level such that an entire network needs to be developed. The **Transportation System Plan** section of this report contains the recommended improvements to all of the modal systems.

LAND USE ALTERNATIVES/TRANSPORTATION SYSTEM RELATIONSHIP

The existing and future land uses within the City of Boardman have a substantial impact on the local transportation system. As a result, the city's transportation system will continue to reflect a strong relationship to local land use well into the future. The following discussion focuses on the transportation impact associated with various land uses and the implications associated with future land use alternatives.

Background

As stated in the **Existing Conditions** section, approximately 90 percent of the city's future residential development will occur south of the freeway based on the city's vacant land inventory. Further, at least a 20-year supply of land exists for both single family and multi-family residential development.

As such, land use alternatives in Boardman primarily relate to infill and redevelopment of future commercial development. The large supply of commercial land, relative to the current and projected population base of Boardman and its market area, is a challenge to manage efficiently. In 1997, there were 37 acres of developed commercial land and 237 acres of vacant commercial land within the Boardman urban growth boundary.

Commercial uses are scattered among four different areas of the city: 1) North Main Street area; 2) Front Street between North Main and Olson Road; 3) South Main at the I-84 interchange; and 4) on South Main Street between Interstate 84 and Wilson Road. A fifth area between South Main Street and Olson Road along the south side of Interstate 84 is also planned for commercial development but does not currently have street access.

- wide sidewalks;
- combination of on-street and off-street parking;
- shallow front yard set-backs;
- zero side yard setbacks with attached buildings;
- rear alleys and loading areas; and
- mix of uses – retail, services, public buildings and residential (often above retail businesses).

Many, but not all downtowns and main streets, have landscaping, distinctive street fixtures such as lighting and design themes. Main streets usually consist of one major retail street whereas downtowns are larger retail business districts that incorporate a larger range of uses.

Most downtowns and main streets were established when the original townsites were platted. It is rare for a community to create a downtown in a contemporary situation and it will be a challenge to create a new downtown or main street in Boardman. However, there are essentials that urban designers strive for in "neo-traditional" commercial centers: street design that comfortably accommodates pedestrians and autos; pedestrian-oriented building design at street level; compact development; and on-street and off-street parking (preferably shared). These are characteristics not usually typical of freestanding retail centers.

The existence of a downtown or main street for retail business is important to cities, regardless of size, for a variety of reasons, as summarized below.

- It performs an important economic function. A downtown provides a center where businesses can congregate and mutually support each other, providing a stronger benefit to each other and the community than when they are separated.
- It provides a convenient, central location where the community can obtain a variety of goods and services.
- It performs a social function, especially if civic buildings are located in the downtown, by bringing people together with a sense of pride and ownership in the community.
- It provides an organizing element to the physical growth and developments of the community, helping establish logical arrangements of land use that are mutually supportive.
- It helps a community establish its identity.

Whether in a downtown or main street, public investment is often a critical factor in creating successful new centers or revitalizing older ones. The location of post offices, city halls, libraries, public safety buildings and other similar facilities helps create the environment of community activity and supports retail businesses. These also help downtowns and main streets be more interesting places, become centers of community life and contribute to the community's identity and self-image.

Land Use Alternatives

The abundant land supply, while presenting problems and challenges, is also an opportunity: it presents the community with several possible choices in how to develop its commercial areas. Not many communities have such a range of choices.

This analysis presents three alternatives for consideration by the community: 1) a multi-center alternative; 2) a main street alternative; and 3) a downtown alternative.

- close to the industrial area, high school and riverfront; and
- provides the ability to achieve somewhat of a main street concept with pedestrian accessibility.

Disadvantages include:

- development pattern could cause traffic conflicts between freeway access, industrial traffic and local circulation needs;
- limited area for expansion over long period of time;
- existing development may not fit plan; and,
- locates commercial center on side of freeway away from most future residents, which will further exacerbate capacity constraints on the overpass.

While Boardman Avenue was chosen to demonstrate the Main Street alternative north of the freeway, the concept could be employed in other locations where both sides of a major street can be developed to meet the goals of a main street concept. Riverside High School is located on the north side of Boardman Avenue and is not zoned for commercial use. However, there might be enough land area to create a shallow tier of storefronts and still adequate provide access to the high school. Instead of Boardman Avenue, a new street could be created between Boardman Avenue and Front Street. A significant part of the commercial land between these streets is vacant and it appears that there is room to provide a street with commercial uses on both sides. The Main Street concept does not work well on a street where only one side can be developed for retail use, such as along Front Street.

Land Use Alternative 3: Downtown Concept

Under Land Use Alternative 3, a downtown would be created on South Main Street. The amount of vacant commercial land in this area would allow more uses with a range of site requirements and has adequate land to allow expansion for well beyond a 20-year planning horizon. A large public square or park would be the centerpiece. It could incorporate mixed use, including major public buildings, surrounded by a higher density area of multi-family housing within easy walking distance. While the central retail area would be developed on a 200-foot grid system, this would increase to 400 feet on the outer blocks for larger retail uses and multi-family housing. Commercial land north and south of the freeway exit on Main Street would continue to cater to travelers so that the new downtown could be oriented primarily to residents, thereby minimizing traffic conflicts on the freeway overpass.

Advantages of this alternative include:

- locates major services where most of future population will reside;
- reduces potential conflicts of industrial, freeway-oriented and residential traffic;
- large parcels are located along South Main Street that can be master-planned "from scratch" to adequately address development needs and different modes of transportation;
- potential to create a "close to traditional" downtown; and
- adequate area to expand over a long period of time.

Disadvantages include:

- would be located away from the older, established part of the community;
- development is dependent on one or two property owners to work with city to create; and
- requires strong public-private partnership and long-term commitment.

- the capacity of the current and future street system to accommodate growth of commercial and residential development over a long period of time;
- the ability to develop a grid system pattern of streets within and surrounding the downtown that will disperse traffic and promote the use of alternative modes of travel;
- the ability to incorporate and surround the downtown with public uses, mixed use and multi-family development within walking distance of commercial services;
- the ability to provide a range of parcel/block sizes to promote a variety of commercial uses;
- the distance from freeway on- and off-ramps to avoid conflicts with interchange traffic, including trucks that are accessing the industrial area;
- large parcels that allow platting in a grid pattern of blocks and streets;
- the potential to establish a strong identity for the city that will foster community cohesion and pride; and,
- improvement of Boardman as an economic center and residential community.

Section 5 of this TSP, **Transportation System Plan**, provides additional information on the implementation of the preferred land use alternative.

There are also several transportation improvements that will also be necessary in the future. The remainder of this section provides an overview of improvement alternatives that could be implemented to mitigate existing and anticipated transportation system deficiencies.

OPERATIONAL IMPROVEMENT NEEDS

The need for mitigation of existing and future roadway/intersection operations is interrelated with pedestrian and bicycle infrastructure needs as well as access management issues. The existing and long-term future forecast conditions analyses identified several specific capacity-related roadway and intersection deficiencies. In addition, several issues related to traffic operational improvements were identified by community members and the project team. These issues are discussed below.

North Main Street Improvement Needs

North Main Street is in need of several improvements that would benefit vehicular, pedestrian, and bicycle modes of travel. The need for these improvements is directly impacted by the operations of Front Street, the Interstate 84 Interchange, Boardman Avenue, and the location of existing and future land use development in the city. Access management and pedestrian/bicycle infrastructure needs also dictate the need for improvements, as discussed below.

Front Street/Interstate 84 Interchange Operational Issues

Analysis of year 2020 future forecast volumes revealed that the Interstate 84 Westbound Ramp/Main Street intersection would require capacity improvements to restore intersection operations to an acceptable level of service. The forecast year 2020 analysis results described in Section 3 further noted that, as a result of the close spacing between the Interstate 84 ramps and the two respective frontage roads (North Front Street and South Front Street), it is expected that several geometric changes will be required to accommodate future traffic volume growth.

There are several interrelated factors that will determine whether, and how, the capacity of the Interstate 84 interchange and Main Street can be ensured. These issues include:

- *Intersection Spacing*. The existing intersections of Main Street/North Front Street, Main Street/Interstate 84 Westbound Ramp, Main Street/Interstate 84 Eastbound Ramp, Main

that future traffic volume demands at the existing interchange can be accommodated. There are also issues as to how the interchange will operate in the future with respect to the frontage roads located on either side of the interchange. The following paragraphs highlight some of the other issues that need to be considered.

Circulation Improvements

The City of Boardman's roadway system is comprised of a number of streets that collectively feed the two Interstate 84 interchanges. The east-west orientation of the Columbia River, Interstate 84, the Union Pacific Railroad right-of-way, and the Bonneville Power Administration's right-of-way all limit the number and extent of north-south connections through the city and have shaped the local roadway network.

As more properties develop in the southern and northeast quadrants of the city, the city needs to ensure that adequate facilities are provided such that the city does not become entirely dependent on any one roadway to facilitate local trips. As properties develop in the these parts of the city, careful consideration should be given to the type and locations of connections to the existing street system, and to connectivity and access issues within any new subdivisions. It is essential to provide pedestrian, bicycle, and vehicular access both to and within new developments and to provide a sense of linkage to and continuity with the existing developments in town. Care should also be taken to avoid "cul-de-sac" developments in these and other residential areas that may be developed in town.

North-South Connectivity

There are several potential opportunities to strengthen north-south connectivity within the City of Boardman. Ideally, roadway circulation alternatives should provide routes for local trips while accommodating industrial/heavy vehicle traffic destined to the Port and other locations on separate facilities. Opportunities to strengthen north-south connectivity include:

- provision of a new interchange or overpass on the west side of Boardman; and/or,
- extension of Olson Road across Interstate 84.

East-West Connectivity

In addition to improving north-south connectivity, there is also a need to ensure that the city develops adequate east-west facilities parallel to Interstate 84 such that these facilities provide access to local commercial and residential properties in a safe and efficient manner. It will be especially important to ensure that convenient east-west connectivity is preserved such that the city does not become entirely dependent on interstate access to facilitate local east-west trips. In addition, with the large amount of development occurring on the south side of the city, there is a need to ensure that the city's east-west roads are connected in a logical manner. Potential opportunities to strengthen east-west connectivity within the City of Boardman include:

- extension of South Front Street between South Main Street and Olson Road; and/or,
- construction of "Future Boulevard," a proposed east-west roadway along the BPA easement, to provide additional east-west connectivity south of the Interstate 84.

In addition to connectivity enhancements, the city should also consider development of access management techniques to further circulation needs. These techniques should provide for the consolidation of access points along collector and arterial level roadways as property develops or redevelops and allow for more focused crossings of roadways in areas outside of the downtown as discussed below.

Zoning Recommendation

Implementation of the preferred land use alternative, the "Downtown Concept," is recommended. Provision of appropriate zoning and development code revisions should be made by the city. Examples of appropriate revisions are summarized in Section 7.

ENHANCED PEDESTRIAN, BICYCLE, AND VEHICULAR ACCESS ACROSS INTERSTATE 84

Alternative #2 – Develop a Split-Diamond Interchange along Interstate 84

As a means by which to mitigate the existing and forecast future congestion at the Main Street/Interstate 84 interchange and to provide additional pedestrian, bicycle and vehicular access between the land uses north and south of the freeway, consideration was given to developing a new split-diamond interchange in Boardman. The split diamond concept would include ramps at Olson Road (westbound off-ramp and eastbound on-ramp) and Main Street (eastbound off-ramp and westbound on-ramp) connected by a frontage road along North Front Street and South Front Street. In concept, the new interchange would provide an alternative north-south crossing of Interstate 84 as well as a capacity improvement that would relieve the existing Interstate 84 interchange. Further, North Front Street and South Front Street could be developed to capitalize on a frontage road concept that would, in part, serve local access and land use needs.

Further analysis of the concept revealed that the split-diamond interchange concept would not meet ODOT's access spacing standards and would likely foster "strip commercial development" along the frontage roads. For these reasons, the concept was abandoned. No cost estimated was prepared for this improvement alternative.

Alternative #3 – Extend Olson Road across Interstate 84

Olson Road originally linked the north and south sides of Boardman but the connection was severed during the construction of Interstate 84. Conceptually, the extension of Olson Road could be constructed with or without access to Interstate 84; however, provision of another interchange with Interstate 84 in close proximity to the existing Main Street interchange would violate ODOT access spacing standards.

Assuming that no access was provided to Interstate 84, Olson Road could be expected to serve as a major local trip and commuter route between the north and south sides of the city. This in turn would provide an alternate route to Main Street and could be expected to relive congestion at the Interstate 84/Main Street interchange. An overpass at Olson Road could serve as an essential connection between the Port of Morrow, other industrial areas, and the southern residential areas. This connection would be desirable both for the convenience of access between these two areas and the fact that truck traffic would not be expected to use this route heavily (assuming no access were provided to Interstate 84). Limited truck activity would minimize potential conflicts between heavy truck movements destined for the industrial areas and local pedestrian, bicycle, and vehicular traffic. The Olson Road extension would be expected to relieve some of the existing concerns with respect to shift changes at the Port affecting operations of Main Street, specifically during the time Riverside High School classes end for the day.

It should be noted that the potential extension of Olson Road across Interstate 84 would likely impact potential wetland areas and that the environmental impacts of creating the roadway link will need to be evaluated as part of a project-specific design and engineering study.

Estimated cost for this improvement is $8-10 million.

Alternative east-west roadway alignments located to the south of South Front Street were considered to offer more potential benefits than the extension of South Front Street. Given the negative land use impacts associated with this project, no cost estimate was prepared for this alternative.

Alternative #6 – Construct Future Boulevard Along the BPA Easement

Alternative #6 involves the construction of "Future Boulevard" along the BPA easement to provide additional east-west connectivity south of the Interstate 84. Potentially, this roadway would extend from Paul Smith Road east to Olson Road. Again, assuming the future extension of Olson Road across Interstate 84 as identified in Alternative #3, such an east-west roadway would be expected to benefit the Interstate 84/Main Street interchange while also providing relief to the Main Street/Wilson Road intersection. Given that most of the traffic originating in or destined to the south part of town currently must pass through the Main Street/Wilson Road intersection, provision of an alternative east-west conduit could avert the need to provide major mitigation measures at the Main Street/Wilson Road intersection. In addition, the construction of Future Boulevard would serve as an essential east-west link into and through the proposed downtown located along South Main Street, as prescribed in the preferred land use alternative.

Estimated cost for this improvement is $3.5 million.

Alternative #7 – Extend NE Boardman Avenue to Olson Road

The extension of Boardman Avenue east to Olson Road would enhance the city's east-west connectivity while permitting more direct pedestrian and bicycle access between Riverside High School and the residential areas to the east. This connection would further facilitate east-west circulation if Olson Road is extended across Interstate 84, as recommended in Alternative #3.

Estimated cost for this improvement is $420,000.

East-West Connectivity Recommendations

To enhance east-west connectivity for pedestrians, bicyclists, and motorists in Boardman, two projects are recommended for implementation, as summarized below.

- The construction of Future Boulevard along the BPA easement is recommended in the mid-term and as properties develop. As part of this alternative, care should be taken to integrate the new roadway with the development of the downtown along South Main Street and to provide pedestrian and bicycle-friendly amenities along the street.
- The extension of Boardman Avenue to Olson Road is recommended for implementation in the mid- to long-term future and should be coordinated with any future development activity in the area.

Finally, in the future as properties develop, care should be taken to provide pedestrian, bicycle, and vehicular connections between the new development and the existing infrastructure within the City of Boardman. Several recent residential developments have incorporated cul-de-sacs or other street configurations that do not allow for connections to the existing street and pathway system.

for developing left-turn lanes at the intersection can be better evaluated in the future as land use and development proposals are initiated.

In lieu of providing a free southbound right-turn or some other form of mitigation measure that can successfully be implemented, it may be necessary to signalize the intersection in the long-term future. A review of the forecast future year 2020 traffic volumes determined that the traffic volumes may warrant installation of a traffic signal. Signalization of the intersection would include installation of pedestrian signals, thereby enhancing safety for both vehicles and pedestrians crossing South Main Street and Wilson Road. It should, however, be reiterated that mitigation of the intersection through provision of a free southbound right-turn would eliminate the need for a traffic signal on a level of service criteria basis. The key to any intersection design that is investigated is to provide better definition of vehicular movements and facilitate the ease of pedestrian crossings at the intersection.

Main Street/Wilson Road Recommendation

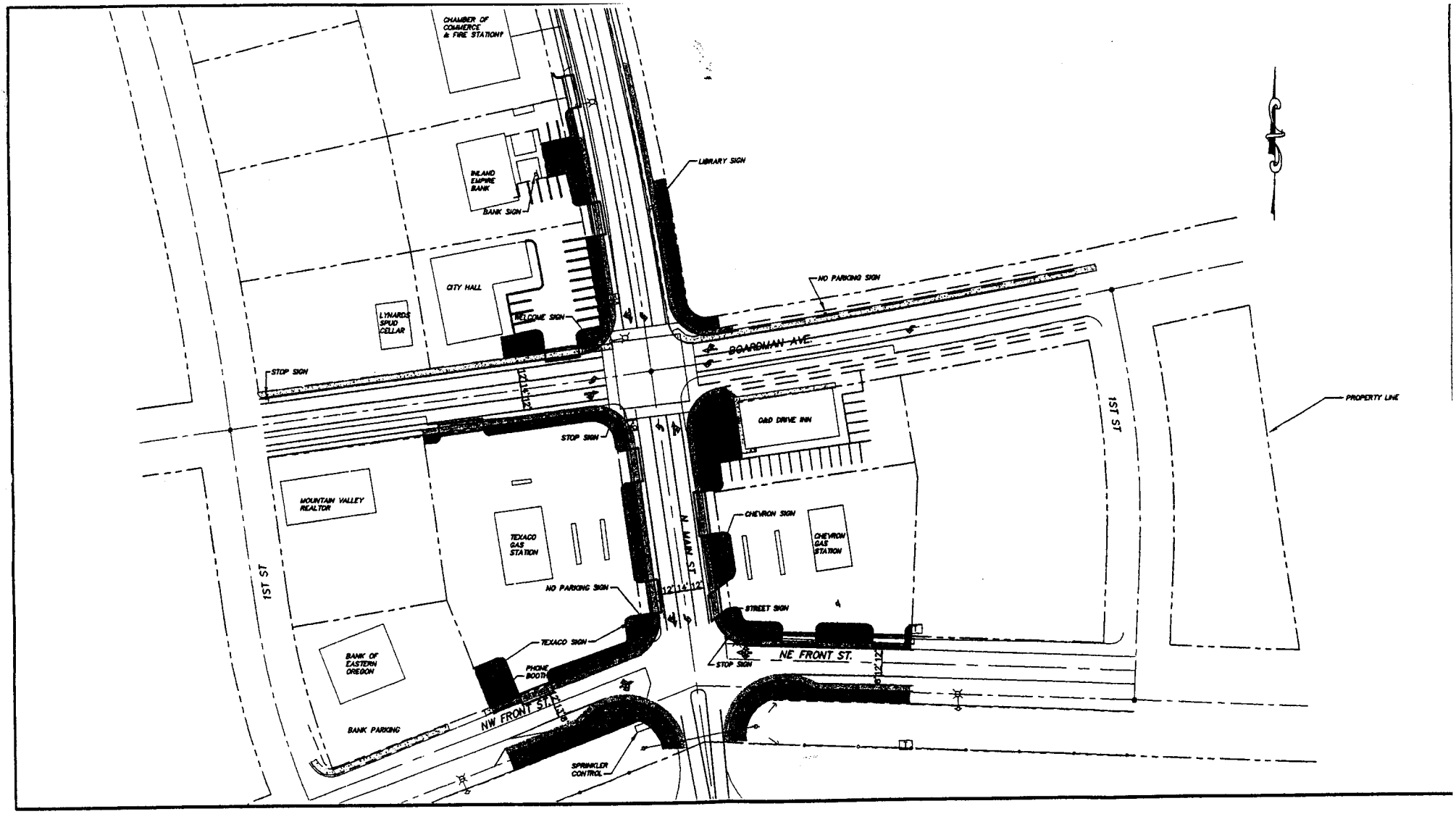
Several improvements are recommended at the Wilson Road/Main Street intersection, as summarized below.

- All-way stop-control should be implemented at the intersection in the near-term future. Appropriate "Stop Sign Ahead" signing should also be provided at the intersection at the time the traffic control change is made. Estimated cost for this improvement is: $1,000.
- Curb extensions should be provided on the north side of the intersection (South Main Street) to link the existing multi-use pathway on either sides of the street and to reduce the exposed crossing distance pedestrians must walk. The curb extensions would also serve as a "traffic calming" tool, resulting in reduced turning speeds at the intersection. This project is recommended for completion in the near-term future. Estimated cost for this improvement is: $5,000.
- Long-term intersection operations should be monitored to ensure the intersection continues to operate safely and efficiently into the long-term future as development activities occur in the area. Appropriate mitigation measures may include construction of a southbound right-turn lane, left-turn lanes, signalization, or other traffic control measures. Costs of the improvement should be determined at the time an appropriate mitigation measure is identified.

MAIN STREET IMPROVEMENTS

As discussed in the existing conditions section of the Transportation System Plan, there are several conflicts between the multiple functions that Main Street serves. As a result, the following objectives need to be considered as part of the alternatives development for Main Street improvements:

- provide safe pedestrian and bicycle movements between Marine Drive and Wilson Road;
- provide better delineation of the travel lanes, pedestrianways, and adjacent property parking areas;
- provide access to adjacent parcels and the proposed downtown;
- provide efficient access to/from the Interstate;
- protect the north/south connectivity provided by Main Street;
- provide safe access to the schools;
- provide access to freeway-oriented uses along the corridor for both vehicles and heavy trucks; and,
- minimize cut-through traffic through private properties.



CONCEPTUAL MAIN STREET IMPROVEMENT PROJECTS

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 10A

2899/DWGS/BOARDMAN/TSP/2899B10A.DW

- on-street diagonal parking stalls should be provided along North and South Front Streets; use of on-street angled parking spaces (striped to a 60-degree angle) would allow for large trucks to maneuver into and out of the on-street parking stalls and would ensure that adequate sight distance is available for passenger vehicles in the vicinity of the maneuvering trucks;
- on-street parking should be prohibited within 20 feet of an intersection to preserve sight distance at the intersection, enhance truck turning movements, and allow for a better defined crossing space for pedestrians;
- signalization of the both of the Main Street/Interstate 84 ramp terminals;
- provision of a left-turn lane across the Main Street overpass; the future conditions analysis indicated that both a northbound and southbound left-turn lane would be warranted at the interchange and the existing bridge deck does not have adequate width to accommodate a left-turn lane; and,
- widening the eastbound and westbound Interstate 84 ramps to accommodate separate left- and right-turn lanes; provision of separate left- and right-turn lanes would reduce delay to vehicles on the ramps and, consequently, would reduce queuing on the ramps; separate turn lanes would be especially valuable in enhancing the operations of a traffic signal at the Main Street/Interstate 84 Westbound ramp intersection.

Alternative #11 – Ultimate Reconstruction of Main Street if Olson Road Overpass is Not Constructed

If the Olson Road overpass is not constructed in the next 20 years, significant reconstruction will be required on Main Street to meet the future travel demand. This reconstruction will likely occur gradually at first on a parcel by parcel basis but at some point in the future will require significant public investment to widen the Main Street overpass and restrict public and private access to key locations along the corridor.

If future travel demands necessitate this improvement, the following measures, in addition to those listed in Alternative #10, will likely need to be implemented:

- conversion of the west approach of the North Main Street/North Front Street intersection to right-in, right-out operations (even if such changes were not implemented, traffic volumes on North Main Street will ultimately preclude safely making a left-turn from North Front Street onto North Main Street simply by virtue of increased traffic volumes on North Main Street);
- conversion of the east approach of the North Main Street/North Front Street intersection to right-in operations;
- the existing South Front Street intersection could be modified to prohibit left-turns into or out of South Front Street; these turning movements could be accommodated by a new east-west access to South Main Street located south of the existing commercial developments (i.e., the BP Gas station, truck parking, restaurants, etc.);
- the provision of a north-south access road to link South Front Street with a new east-west access road, providing for continued access and efficient circulation; and,
- the ultimate widening of Main Street to a 5-lane facility.

Main Street Recommendations

Main Street should be restriped to include two travel lanes and a center left-turn lane. Sidewalks and bicycle lanes should be provided on Main Street between Marine Drive and 750 feet to the south of

Recommendation

Access Management should be implemented in the immediate future. No specific construction need is evident to implement this improvement as it simply promotes compliance with existing roadway policy. No immediate land use actions would be required either. Instead, as property along city streets is developed or redeveloped, appropriate action should be taken by local and state agencies to ensure that the relevant access spacing standards are reasonably enforced. Section 5, **Transportation System Plan,** includes a full access management plan and corresponding implementation strategy complete with typical spacing standards, driveway widths, etc.

TRANSPORTATION DEMAND MANAGEMENT

Alternative #14 – Implement Transportation Demand Management Measures

Transportation Demand Management (TDM) measures identify opportunities to reduce the impact of trips generated by various land uses. Specifically, TDM techniques typically seek to reduce reliance on single-occupant vehicle trips and promote the use of alternative travel modes by persons accessing a given area or facility. The Transportation Planning Rule encourages the evaluation of TDM measures as part of the TSP development process.

TDM strategies often focus on major employers or other sources of traffic that can be influenced through scheduling changes, alternative transit opportunities such as carpools and buses, and other means. Oftentimes, financial disincentives are included in programs as a revenue generator to support other elements of an overall program. The success of fee parking and other commonly used disincentives is dependent on the environment in which a given employer is located.

Given the rural nature of Eastern Oregon and the City of Boardman, the TDM measures available to the city are limited in scope as compared to larger metropolitan areas. One of the most promising options available to the city is the provision of a carpool or vanpool service for people who live in Boardman and work at employers within the Port of Morrow or in neighboring communities such as Umatilla and Hermiston. Coordination of a vanpool and/or carpool(s) to the major employers in the area (such as the industries within the Port of Morrow, the Two Rivers Correctional Facility in Umatilla, the Wal-Mart Distribution Center in Hermiston, Union Pacific's Hinkle Railyards in Hermiston, and the U.S. Army Chemical Weapons Incinerator at the Umatilla Depot) could help to reduce the number of single occupant vehicle commute trips from Boardman and help the community to achieve transportation demand management objectives.

Provision of a park-and-ride facility at a key location(s) within the community is another means by which the use of non-auto dependent travel can be encouraged. Further, the city could also promote carpooling to out-of-town employers through education.

The cost of implementing a TDM program is dependent on the type and variety of measures selected. Facilitation of carpools, vanpools, or a park-and-ride facility could be completed through a volunteer network and/or coordination with major employers at minimal cost.

TDM Recommendation

It is recommended that the City of Boardman focus TDM efforts on supporting carpools and/or vanpools to major employers through education, coordination with employers, and provision of appropriate facilities such as park-and-ride areas.

The cost of implementing a TDM program is dependent on the type and variety of measures selected.

Section 5

Transportation System Plan

- the development of a public square or park as a central focal point;
- the inclusion of public buildings to help anchor the downtown, such as City Hall, Library and the Post Office;
- mixed use and multi-family development including senior housing;
- two story retail including housing over retail uses (see inset depiction below);

Downtown Building Styles With Housing on Second Story

- community facilities and services such as day care centers and health clinics; county and state offices should also be encouraged to locate in the downtown;
- careful arrangement of buildings, parking, and access points that will promote a compact, pedestrian-oriented design;
- shallow front yard setback of buildings (0 – 5 feet) with windows oriented to the street; and,
- parking on-street, along the side or in the rear of buildings; large parking lots in front of buildings should be prohibited.

There may be other opportunities that the community identifies in a master plan that can help provide more definition and excitement to the downtown concept and that would be unique for Boardman.

Development Potential on South Main Street

One of the key reasons to locate the downtown on South Main Street is because of the large supply of relatively undeveloped commercial land that is still in large parcels. Other commercial lands in the city could be used for other types of commercial development that would not be appropriate to the downtown, such as uses that cater to travelers.

The 1997 Buildable Lands Study found that Boardman would need about 61 acres of commercial land by 2017 to meet projected needs, based on projected income. The 61 acres is for all types of commercial uses – land need data for just the downtown is not available.

The acreage available on South Main Street was examined to determine its capacity to meet projected commercial land needs. The city is in the process of obtaining the right-of-way and constructing Future Boulevard. This will take some of the C-1 zoned land along South Main and create separate parcels on the north and south of the boulevard. The land area to the south of Future Boulevard would be the downtown. The commercial land north of the boulevard could be developed for other types of commercial uses.

Appendix D contains graphical illustrations of the downtown concept, including the construction of the Future Boulevard and the extension of Kinkade Road to the east. The downtown would consist of commercial blocks on the east and west sides of South Main Street, developed on a grid of 200 to 300 foot blocks, with the more intensive area on the east side of South Main Street.

to prevent partitioning of parcels into odd sizes or shapes that would prevent the most desirable downtown development design. This should be done as soon as possible to deter "suburban style" commercial development, which usually occurs as large irregularly shaped parcels with broad setbacks and large amounts of parking in the front yards. This could be accomplished by amending the Zoning Ordinance to include the following:

1) establish a minimum parcel size of five acres for partitioning in C-1 zoning, prior to the adoption of a master plan;
2) require a master plan to permit partitioning of less than five acres; and,
3) establish standards for block sizes and all streets serving the downtown through a master plan.

ROADWAY SYSTEM PLAN

Based on the identified existing and anticipated operational and circulation needs, the roadway system plan was developed. The city's roadway system plan provides guidance as to how to best facilitate travel within the city by addressing two key issues:

- a roadway functional classification system and corresponding roadway design standards, and
- roadway connectivity, including new and improved streets to meet future capacity, circulation, and safety needs.

Functional Classification

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation. A given roadway's functional classification determines its intended purpose, the amount and character of traffic that it is expected to carry, commitment to serve and promote non-auto travel, and its design standards.

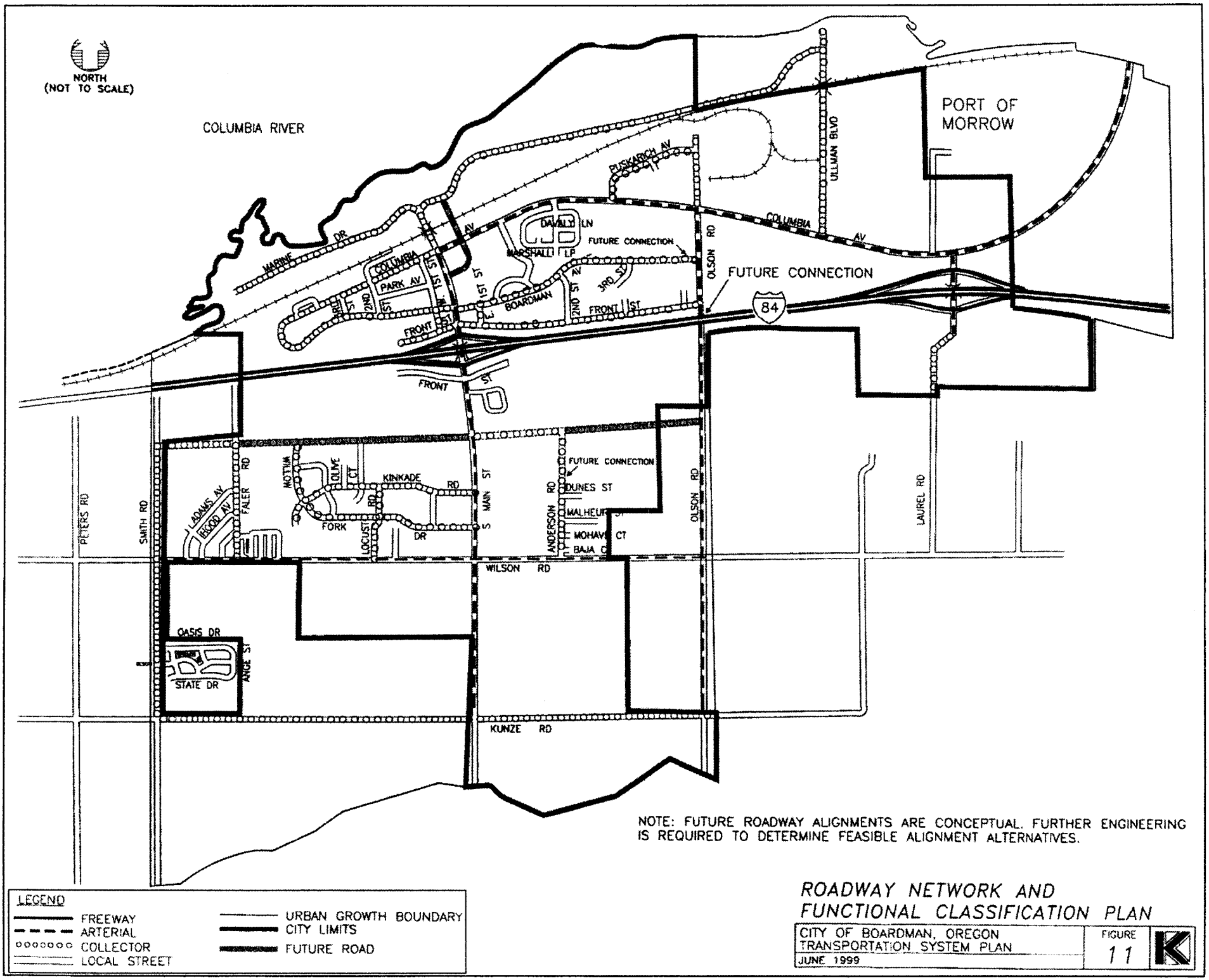
The classification of a given street is intended to convey the requirements, capabilities, and capacity of each respective roadway while recognizing that roadway's contribution to the overall transportation system. It is imperative that the classification of streets is considered in relation to adjacent properties, the land uses that they serve, and the modes of transportation that can be accommodated. Further, each street must be appropriately designed so as to accommodate local travelers (i.e., passenger cars, heavy trucks, pedestrians, and bicycles). The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

The City of Boardman Comprehensive Plan, through Chapter 12, identified the need to develop an interim and ultimate roadway classification system. The intent of the interim plan was to provide adequate capacity and reasonable levels of service for low volume conditions through use of relatively narrow streets and simplified traffic control devices. The intent of the ultimate plan was to provide for a more robust roadway network capable of handling increased traffic volumes through a system of arterials and intersection improvements. The comprehensive plan did not, however, present a functional classification system for roadways within the city.

The City of Boardman Transportation System Plan incorporates five functional categories: freeways, arterials, minor collectors, neighborhood collectors, and local streets.

Freeways

Freeways are limited-access facilities that primarily serve motorized vehicle traffic travelling through an area for statewide or interstate travel purposes. Freeways offer the highest level of mobility and,



ROADWAY NETWORK AND FUNCTIONAL CLASSIFICATION PLAN

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN	FIGURE 11
JUNE 1999	

Figure 12 presents typical cross sections for the various roadways identified in the functional classification system. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, drainage, and optional amenities such as landscape strips. The cross sections illustrated in Figure 12 are intended for planning and design purposes for new road construction as well as for those locations where it is physically and economically feasible to improve existing streets.

The typical cross sections present standards for roadways that allow for flexibility in defining the actual roadway width through optional features such as landscape strips and on-street parking. The use of on-street parking and planter strips would be subject to the discretion of the City of Boardman which would determine whether such amenities are required on a given street (in the case of the Interstate 84 interchange area, appropriate representatives from ODOT would have ultimate authority over the roadway design).

Table 7 summarizes the street design standards for the different roadway classifications.

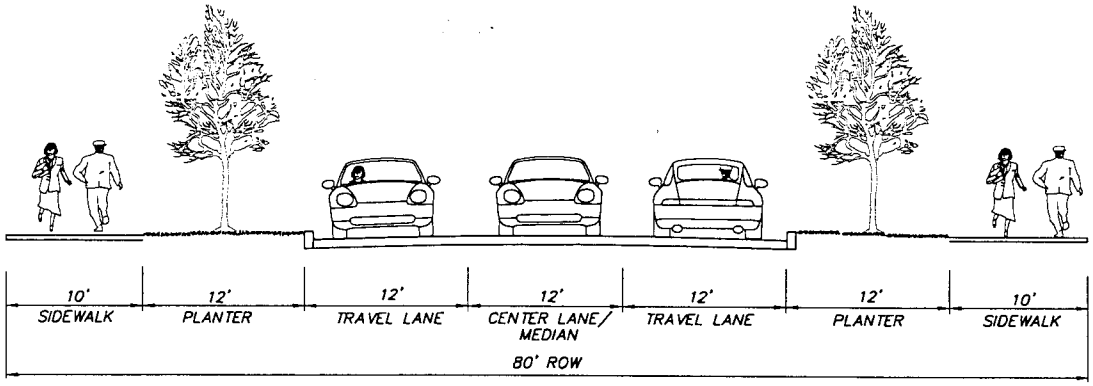
TABLE 7
STREET DESIGN STANDARDS

Classification	Cross Section	ROW	Turn Lanes	Travel Lanes	Bike Lane	Side-walks	On-Street Parking	Landscape Strip
Arterial – Main Street	2 lanes	60-80 feet	12 feet	12 feet	No	10 feet	No	12 feet
Arterial – City Developed Alternative	2 lanes	80 feet	Yes(a)	14 feet	8 feet(a)	10 feet	No	No
Downtown Collector	2 lanes	60-80 feet	No	11-12 foot	5-6 feet	6-9 feet	7 feet	4-5 feet (b)
Collector – City Developed Alternative	2 lanes	75 feet	Yes(a)	12 feet	8 feet (a)	5 feet	7 feet	No
Local Street – Option 1	2 lanes	60 feet	No	10 feet	No	6 feet	8 feet	5 feet (c)
Local Street – Option 2	2 lanes	60 feet	No	9 feet	No	6 feet	7 feet	6.5 feet (c)
Alleys	1-2 lane	20 feet	No	15-20'	No	No	No	No
Multi-Use Path	--	8-10 feet	No	No	8-10 feet	8-10 feet	No	No

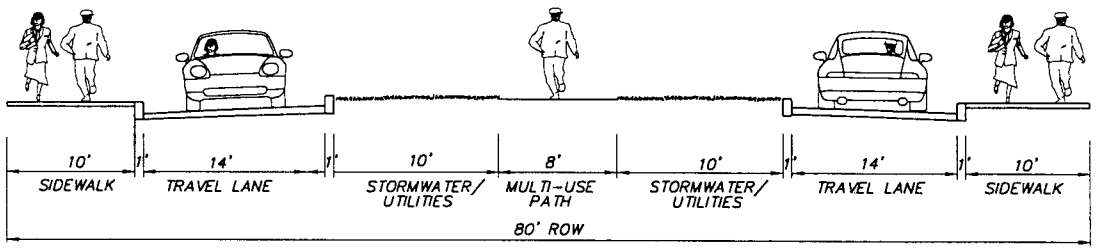
The optional availability of streetscape treatments such as landscape strips, pedestrian refuges and bike lanes may be valuable to the city in the future as an instrument by which the character of roadways can be influenced. The City of Boardman would also have the prerogative of allowing narrower local streets in their development projects, thereby creating an ability to reduce impervious surface and provide site-specific standards for roadway improvement projects that reflect local conditions. Narrower streets may also be desirable in some neighborhood areas for use as a deterrent to through or speeding traffic on local streets. It should be noted that ODOT would have the ultimate authority as to which improvements are made along Main Street in the area of the Interstate 84 interchange.

(a) Turn lanes at intersections utilizing the 28' median (21' for collector) that includes turns lanes, 8' multi-use path, and 10' stormwater/utility strip on both sides of multi-use pathway.
(b) 5 foot paver/planter strip.
(c) 5 foot stormwater/utility strip on outside of sidewalk (at edge of ROW)

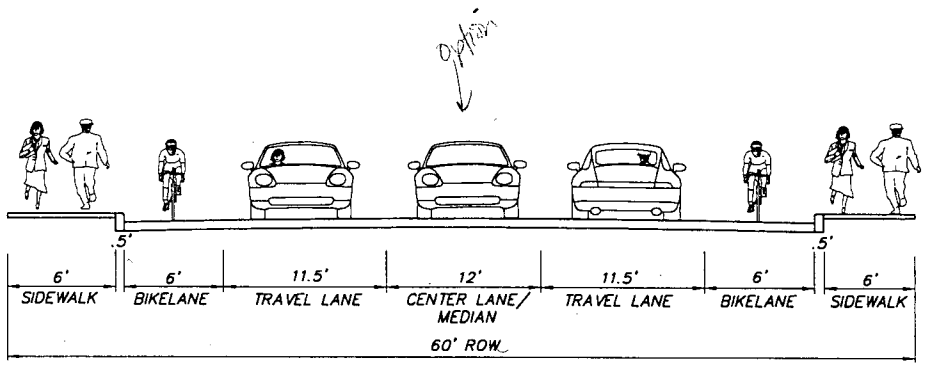
BOARDMAN STREET DESIGN STANDARDS



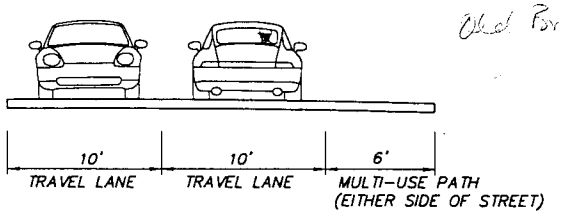
ARTERIAL-SOUTH MAIN STREET STANDARD



ARTERIAL - CITY DEVELOPED ALTERNATIVE



ARTERIAL-NORTH MAIN STREET STANDARD + New Railroad Crossing



ARTERIAL-NORTH MAIN STREET RAIL OVERPASS STANDARD

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TRILAND DESIGN GROUP, INC.
PLANNING · CIVIL ENGINEERING · LAND SURVEYING

BOARDMAN STREET
DESIGN STANDARDS
BOARDMAN TSP

PREPARED FOR:
CITY OF BOARDMAN
BOARDMAN, OREGON

Project:	00015
Designed:	
Drawn:	PJB
Scale:	NONE
Date:	7/28/01

Neighborhood collector streets will have a right-of-way requirement of 60 feet and a required cross-section consisting of two 12-foot wide travel lanes. No bike lanes will be required; however, landscape strips and on-street parking will be required at the discretion of the city.

Local streets will have a right-of-way requirement of 50 feet, a 32-foot wide paved cross section, and five-foot wide sidewalks. Requirement of adjacent landscape strips may be made at the discretion of the city.

Requirement of adjacent landscape strips will be made at the discretion of the city. The landscaping strips are located between street and sidewalk on arterial and collector facilities to provide a buffer between cars and pedestrians. The provision of a landscaping strip between the street and sidewalk will allow for an area with no obstructions or impediments that would prevent or discourage pedestrian movements. Further, the landscape strips can be used for the location of street signs, power poles, utility easements, etc. to provide for unimpeded pedestrian movements.

Comments from the City of Boardman revealed that, for maintenance purposes, it is desirable to place landscape strips next to the adjacent property line rather than between the roadway and the sidewalks. The adjacent resident maintains the landscaping as part of their property (e.g., lawns, etc.). Further, city comments revealed that a minimal amount of impeding objects will occur on local streets. For this reason, landscaping strips will be placed behind sidewalks.

Guidelines for Arterial/Collector Intersection Improvements

In addition to roadway cross-section standards, the city should adopt standards for intersection improvements. As intersection improvements are made at arterial/collector intersections in the city, the following general guidelines are suggested for consideration:

- maintain adequate signing of side-streets (stop signs and visible street signs);
- provide street lighting at intersections to increase visibility; and,
- provide proper channelization (striping, raised medians, etc.) of movements to/from the arterial.

Relation to Development Activities

At the time development activities are proposed, the City of Boardman, when appropriate, will require half-street improvements as part of a given project's conditions of approval. The conditions of approval should require that roadways adjacent to development activities be constructed to comply with the street standards presented in this TSP. Section 7, **Policies and Land Use Modifications,** provides sample development review guidelines that are recommended for adoption by the city.

Relation to County Facilities

The Morrow County Transportation System Plan (Reference 3) identified roadway standards for county facilities. The county's right-of-way requirement for Rural Access Roadways is 60 feet as compared to the 50 foot requirement identified for local streets in this TSP. Although the county's Rural Access Roadways may be applicable to some roadways within the City of Boardman Urban Growth Area, the roadway standards contained in the City of Boardman TSP do not conflict with the county's standards. The county's Rural Access Roadway standards are intended for roads that do not exhibit substantial traffic volumes now but may be expected to expand in the future, hence the additional right-of-way requirement. By comparison, the 50 foot right-of-way required on city roads designated as being local streets reflects the expectation that these roadways will not require additional widening in the long-term future. The city's neighborhood collector designation would be an appropriate counterpart to the county's Rural Access Roadway designation.

requires that new connections to arterials and state highways be consistent with designated access management categories. One objective of the Boardman TSP was to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the city's streets. From a policy perspective, the Oregon Department of Transportation has legal authority to regulate access points along Interstate 84 within the city's urban growth boundary. The City of Boardman will manage access on other collector and local streets within its jurisdiction to ensure the efficient movement of traffic and enhance safety.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways in the upper echelon of the functional classification system (i.e. arterials) tend to have stringent spacing standards, while facilities ranked lower in the functional classification system allow more closely spaced access points. The following discussion presents the hierarchical access management system for roadways in Boardman.

ODOT Access Management Standards

The *1999 Oregon Highway Plan* specifies an access management classification system for state facilities and has classified Interstate 84 as being of an *Interstate Level of Importance*. The recently adopted update to the *Oregon Highway Plan* did not change the *Interstate* designation. Although Boardman may designate state highways as arterial roadways within their transportation system, the access management categories for these facilities should generally follow the guidelines of the Oregon Highway Plan.

Impact on Local Development Activities

Future developments along Interstate 84 (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the *1999 Oregon Highway Plan* Level of Importance and Access Management policies and standards.

To protect the function of the I-84 Interchange, access management will need to evaluated in the future. This should include evaluation of access spacing, turning movements, turning movements within ¼ mile of the interchange, and opportunities for consolidating existing access.

As shown in Table 9, within urban or urbanizing areas, a new development will need to maintain a 3-mile spacing (centerline-to-centerline) between interchanges and no private access points or traffic signals will be allowed. Full median control is required on the interstate.

TABLE 9
INTERSTATE HIGHWAY ACCESS MANAGEMENT STANDARDS*

Classification	Intersection				Signal Spacing	Median Control
	Public Road		Private Drive			
	Type	Spacing	Type	Spacing		
Interstate	Interchange	3 miles	None	Not Applicable	None	Full

*Source: 1999 Oregon Highway Plan, Appendix C, Table 12

The following table shows the access spacing standards for (applicable Boardman) interchanges as discussed in the 1999 Oregon Highway Plan Goal 3, Policy 3C: Interchange Access Management Areas.

TABLE 9A
Minimum Spacing Standards Applicable to Freeway Interchanges with Two-Lane Crossroads

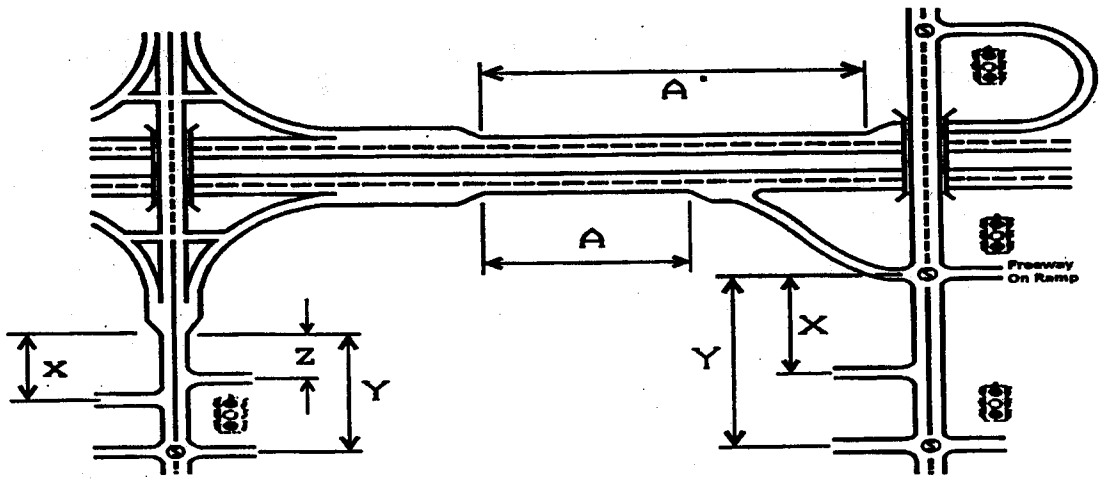
Category of Mainline	Type of Area	Spacing Dimension			
		A	X	Y	Z
Freeway	Urban	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	990 ft. (300 m)

A = Distance between the start and end of tapers of adjacent interchanges

X = Distance to the first approach on the right; fight in/right out only

Y = Distance to first major intersection; no left turns allowed in this roadway section

Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp



In addition to the standards shown in Table 9, according to the *1999 Oregon Highway Plan*, the impact in traffic generation from land uses must allow a major street level of service "C" to be maintained for interstate segments within the development's influence area along the highway. The influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property-line of the development (whichever is greater).

The existing legal driveway connections and public street intersection spacing are not required to meet the spacing standards immediately upon adoption of this transportation system plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, the City of Boardman and ODOT are required to ensure that all safety and capacity issues are addressed.

Proposed land use actions that do not comply with the designated access spacing policy will be required to apply for an access variance from the City of Boardman and/or ODOT.

Variance Process

Access variances may be provided to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming permit and would either have no reasonable access or cannot obtain reasonable alternate access to the public road system. In such a situation, a conditional access permit may be issued by ODOT and the City of Boardman for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards.

The permit may carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. Approval conditions might also require a given land owner to work in cooperation with adjacent land owners to provide either joint access points, front and rear cross-over easements, or a rear-access upon future redevelopment. In addition, approval of a conditional permit might require ODOT-approved turning movement design standards to ensure safety and managed access. Under special circumstances, ODOT may purchase property in order to prevent safety conflicts.

City Standards

Table 10 identifies the minimum public street intersection and private access spacing standards for the City of Boardman roadway network as they relate to new development and redevelopment. Table 11 identifies standards for private access driveway widths. In cases where physical constraints or unique site characteristics limit the ability for the access spacing standards listed in Tables 10 and 11 to be met, the City of Boardman should retain the right to grant an access spacing variance. County facilities within the city's urban growth boundary should be planned and constructed in accordance with these street design standards.

TABLE 10
MINIMUM INTERSECTION SPACING STANDARDS*

Functional Classification	Public Street (feet)	Private Access Drive (feet)
Arterial	600**	300
Collector	300	75
Neighborhood Collector	200	50
Local	150	15

*Spacing measured from centerline to centerline
** To promote circulation in the downtown, public streets can be spaced at 200-feet intervals.

TABLE 11
PRIVATE ACCESS DRIVEWAY WIDTH STANDARDS

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	12	24
Multi-Family Residential	24	30
Commercial	30	40
Industrial	30	40

Management Techniques

From an operational perspective, the City of Boardman should consider implementing access management measures to limit the number of redundant access points along roadways. This will enhance roadway capacity and benefit circulation. Improvements that should be considered include:

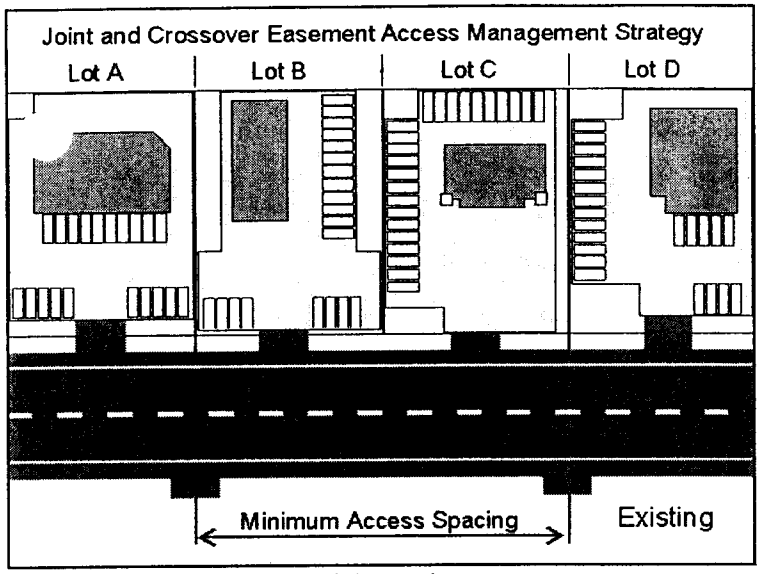
- planning for and developing intersection improvement programs in order to regularly monitor intersection operations and safety problems;
- purchasing right-of-way and closing driveways; and
- installing positive channelization and driveway access controls as necessary.

Enforcement of the access spacing standards should be complemented with the availability of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously effect the viability of the impacted properties. Thus, if an access management approach is taken, alternative access should be developed prior to "land-locking" a given property. Specifically, provision of key collector facilities as identified in Figure 11 would provide alternative access to land adjacent to major roadways such as Interstate 84 and Main Street; thereby reducing or eliminating the need to provide new direct highway access to multiple properties.

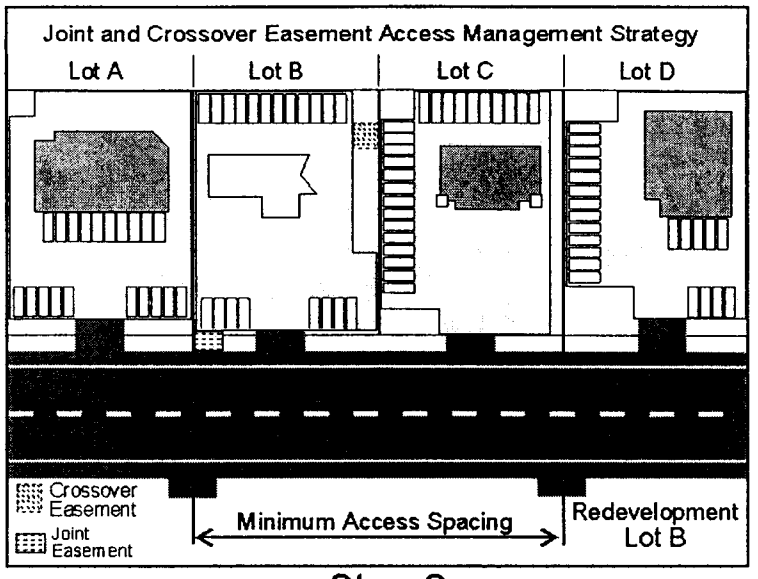
As part of every land use action, the City of Boardman should evaluate the potential need for conditioning a given development proposal with the following items, in order to maintain and/or improve traffic operations and safety along the arterial and collector roadways.

- Crossover easements should be provided on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels. Figure 13 illustrates how this process would, in the long run, facilitate compliance with access management objectives.
- Conditional access permits should be issued to developments having proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing driveways. The actual access spacing policy will be developed later as part of the TSP process.
- Right-of-way dedications should be provided to facilitate the future planned roadway system in the vicinity of proposed developments.
- Half-street improvements (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) should be provided along site frontages that do not have full-buildout improvements in place at the time of development.

Proposed Access Management Strategy



Step 1



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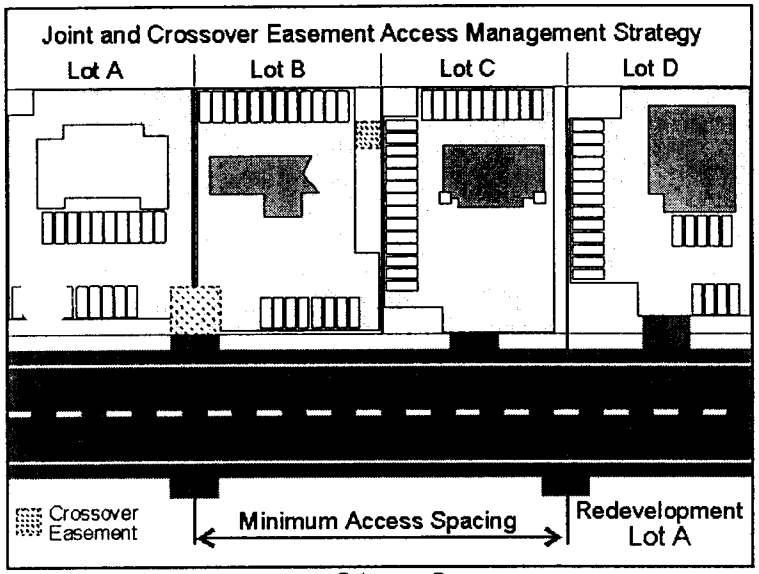

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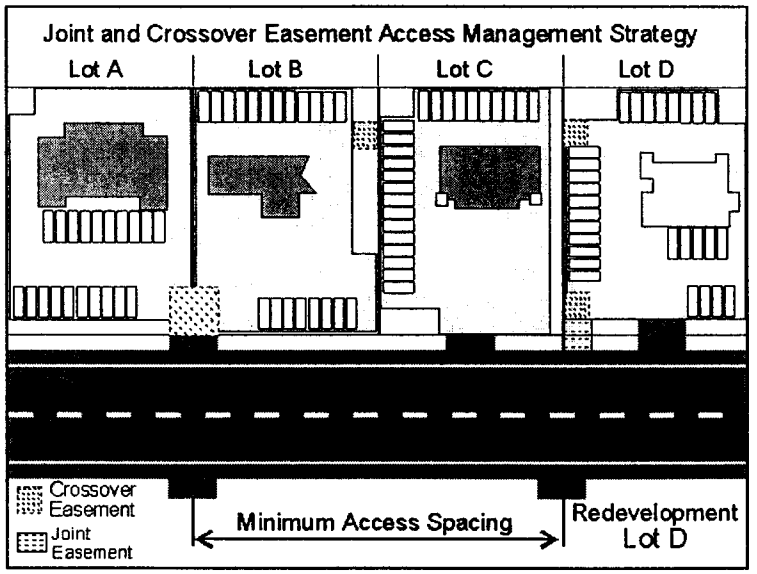

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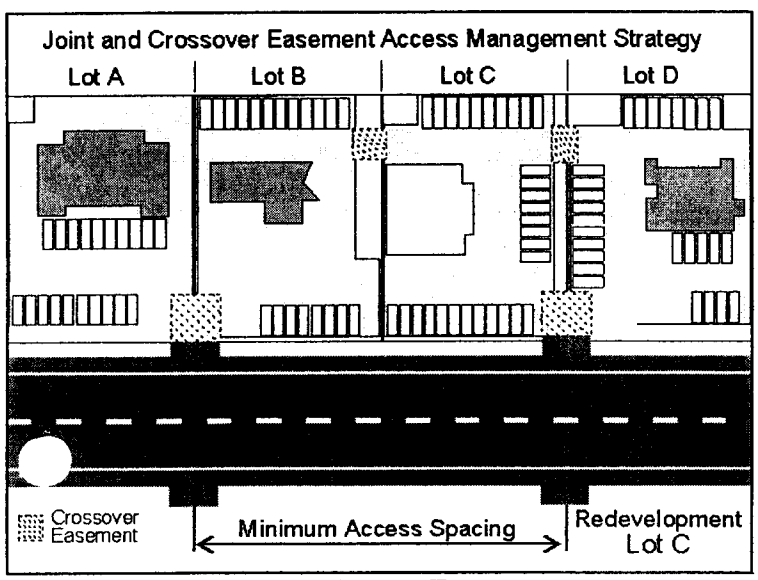
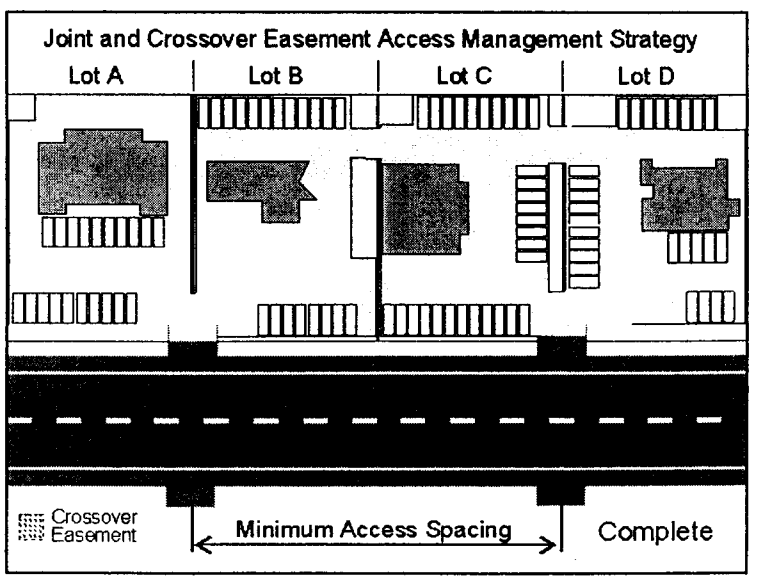


Step 5



Step 6

Example of Cross-over Easements and Conditional Access Policy/Process

As suggested by Figure 13, using these guidelines, all driveways and roadways along the highway will eventually comply with the access spacing policy set for a particular segment of roadway as development and redevelopment occurs in the study area. It should be noted that not every parcel can or should be addressed through the process illustrated in Figure 13. The topography of the parcel, type of proposed or adjoining use, and/or highway frontage may preclude a development from using consolidated or crossover access points (e.g., consolidating access for a commercial business and an industrial or agricultural land use would be inappropriate).

PEDESTRIAN SYSTEM PLAN

Ideally, pedestrian facilities should provide connectivity between major activity centers, such as housing, commercial areas, schools, the post office, and recreation areas. The city has generally provided such connections in residential areas but additional facilities are desirable to serve various locations such as the Riverside High School and the Port of Morrow.

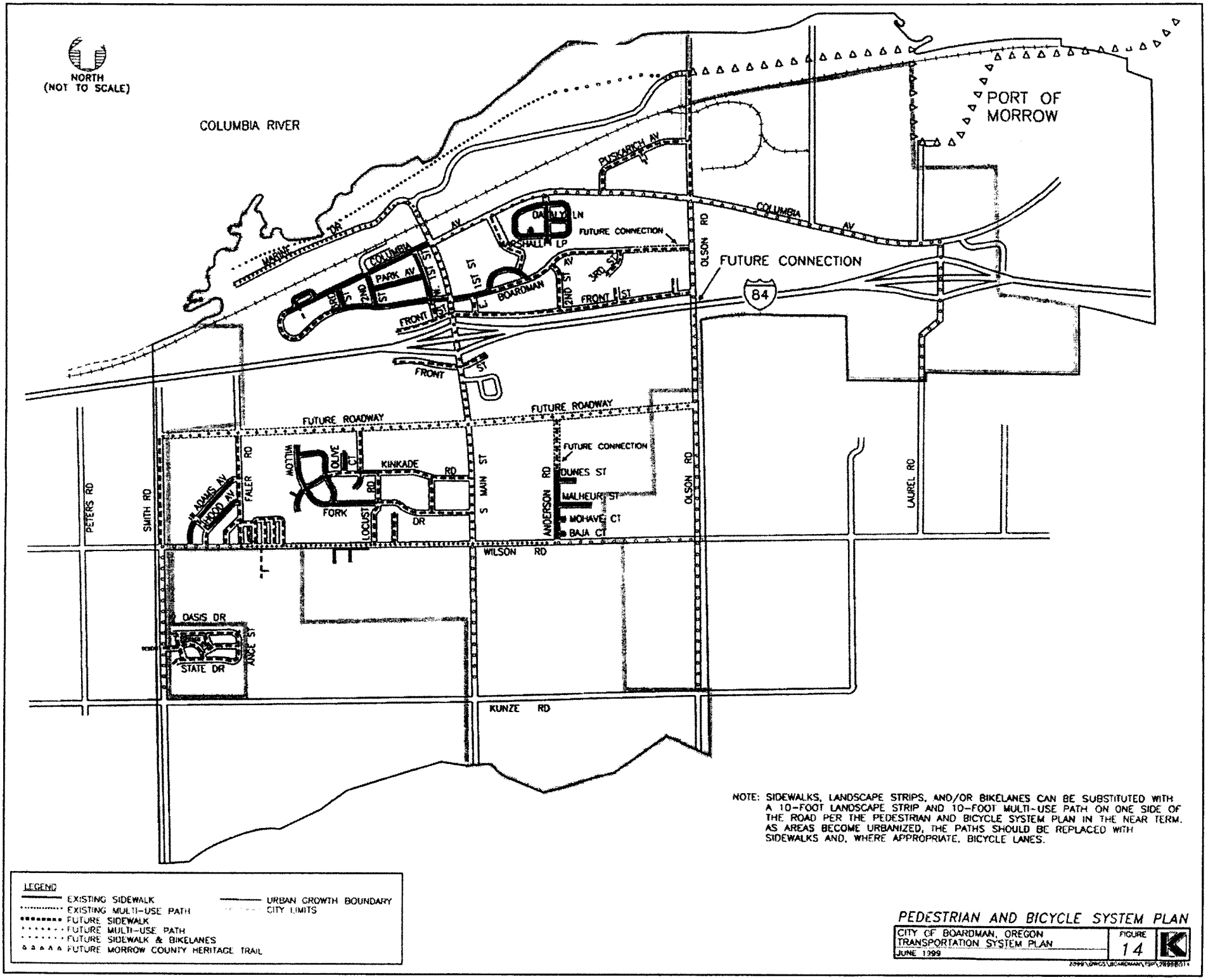
The pedestrian and bicycle system plan is shown in Figure 14. The key objective in the development of the pedestrian and bicycle system plan was to provide connectivity between major activity centers. Within the City of Boardman, these activity centers primarily include the downtown commercial area north of Interstate 84 (North Main Street), Riverside High School, the Sam Boardman Elementary School on Wilson Road, the parks along the Columbia River, the post office, recreation areas, and the proposed Morrow County Heritage Trail.

Sidewalk Improvements

As indicated in Figure 14, Boardman's existing sidewalks are generally provided within residential areas. Under the pedestrian component of the plan, sidewalks would be provided along all major roadways not served by multi-use paths in an effort to continue the development of a comprehensive sidewalk system throughout the city. It is essential that existing sidewalks be connected to new sidewalks as new developments are constructed or as road improvements are made. Sidewalks should be included in any full reconstruction of arterials or collectors. Provision of sidewalks along one or both sides of key local roads is also encouraged.

Key elements of the pedestrian plan include:

- the provision of a continuous sidewalk network in existing multi-family and single-family developments;
- sidewalks along Boardman Avenue, East First Street, East Second Street, and the school's north access drive to provide better pedestrian access to Riverside High School from the downtown and the northeast portions of the city;
- provision of sidewalks linking the western portions of Columbia Avenue and Boardman Avenue;
- provision of sidewalks along the entire length of Faler Road, Kinkade Avenue, Locust Road, and Willow Fork Drive;
- provision of sidewalks along Olson Road (north of Columbia Avenue) and Puskarich Avenue to link multi-use paths on Marine Drive and Columbia Avenue with residential developments;
- provision of appropriate sidewalk both to and within all new development in the city; and,
- provision of new or extended multi-use path facilities.



NOTE: SIDEWALKS, LANDSCAPE STRIPS, AND/OR BIKELANES CAN BE SUBSTITUTED WITH A 10-FOOT LANDSCAPE STRIP AND 10-FOOT MULTI-USE PATH ON ONE SIDE OF THE ROAD PER THE PEDESTRIAN AND BICYCLE SYSTEM PLAN IN THE NEAR TERM. AS AREAS BECOME URBANIZED, THE PATHS SHOULD BE REPLACED WITH SIDEWALKS AND, WHERE APPROPRIATE, BICYCLE LANES.

LEGEND

- EXISTING SIDEWALK
- EXISTING MULTI-USE PATH
- FUTURE SIDEWALK
- FUTURE MULTI-USE PATH
- FUTURE SIDEWALK & BIKELANES
- FUTURE MORROW COUNTY HERITAGE TRAIL
- URBAN GROWTH BOUNDARY
- CITY LIMITS

PEDESTRIAN AND BICYCLE SYSTEM PLAN

CITY OF BOARDMAN, OREGON
TRANSPORTATION SYSTEM PLAN
JUNE 1999

FIGURE 14

Multi-Use Facilities

Multi-use paths located along Main Street and Wilson Road have significantly enhanced the city's pedestrian and bicycle network; however, there is still a lack of sidewalks and pedestrian crossings along several key roadway facilities in the study area. As illustrated in Figure 14, in addition to maintaining the existing path network, the multi-use path system is to be extended to serve areas including Wilson Road, South Main Street, Paul Smith Road, Olson Road, North Front Street, Columbia Avenue, and Laurel Road. Further, as the alignment of the proposed Morrow County Heritage Trail is better defined, connections should be made with this facility to provide pedestrian/bicycle access along the Columbia River.

By extending the multi-use path system to encompass the areas designated in Figure 14, a strong base network of pedestrian/bicycle connections will be available to the community. This base network can then be tapped by local sidewalk facilities to provide a more complete pedestrian and bicycle system in an environment free of vehicular traffic. The cross sections of these multi-use pathways would consist of 10-foot wide paved paths separated from the roadway by a minimum of 10-feet (accomplished through use of a 10-foot wide landscaping strip would provide the necessary separation).

It should be noted that multi-use paths are especially effective in undeveloped areas. As properties develop/redevelop at urban densities in Boardman, the city should consider replacing the multi-use paths with sidewalks on all streets and bicycle lanes on arterial and collector streets. In addition, sidewalks and bicycle lanes, where appropriate, should be provided on all facilities in the downtown as it develops along South Main Street.

Other Pedestrian Amenities

In addition to providing the pedestrian system components, there are several other potential enhancements that should be considered along arterial and collector streets, including:

- provision of additional street lighting to provide clear visibility of pedestrians at night;
- provision of curb extensions that reduce the exposed crossing distance pedestrians must walk; and
- use of median treatments that provide pedestrians with a "safe-haven" at a mid-crossing.

Provision of sidewalks along both sides of key collector and local roads not specifically identified in this plan is also encouraged.

Table 12 provides a summary of pedestrian and bicycle system projects.

Many of the sidewalk and multi-use facilities presented in Table 12 could be completed incrementally as part of local development projects. Creating "partnership programs" with landowners and businesses to construct such facilities would be one method by which individual projects could be brought to fruition in a timely manner. The pedestrian facilities could be constructed as adjacent properties develop, thereby ensuring alternative modes of access to various land uses. The city would however, need to develop a reasonably equitable methodology of assessing the extent of facilities that individual developers would be required to provide.

TABLE 12
PEDESTRIAN AND BICYCLE SYSTEM IMPROVEMENTS

General Alignment	Project Start/End Point	Improvement Description	Estimated Cost*	Responsible Jurisdiction
Near-Term, High Priority Projects (0-5 years)				
Main Street	Interstate 84 to Marine Drive	Sidewalk and Bicycle Lanes	$46,000	City
Mid-Term Projects (5-10 years)				
Future Boulevard	Paul Smith Road to Olson Road	Sidewalk and Bike Lanes	Included in cost of new street	Private
Marine Drive	Main Street to Olson Road	Multi-use Path	$27,500	City
Columbia Ave.	Main Street to east UGB	Multi-use Path	$56,000	City
Long-Term Projects (10-20 years)				
Olson Road	Kunze Road to Marine Drive	Sidewalk and Bike lanes	$230,000	City
Concurrent with Local Development				
Boardman Ave.	Riverside High School to Olson Road	Sidewalk	$60,000	Private
Front Street	West of W. First Street to Olson Road	Sidewalk	$80,000	Private
Second Street	Boardman Avenue to Front Street	Sidewalk	Not Estimated	Private
Third Street	Boardman Avenue to Front Street	Sidewalk	Not Estimated	Private
Wilson Road	West of Faler Road and East of Anderson	Multi-use Path	$21,500	Private
Smith Road	Future Boulevard to Kunze Road	Sidewalk or Multi-use Path	$25,000	Private

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

PUBLIC TRANSPORTATION SYSTEM PLAN

Transit service provides mobility to community residents who do not have access to automobiles and provides an alternative to driving for those who do. Transit service should meet the needs both of travelers within the city and those of travelers making trips outside of the community.

The *1997 Oregon Public Transportation Plan* identifies minimum level of service standards for rural and frontier communities such as the City of Boardman (Reference 4). Under the *1997 Oregon Public Transportation Plan*, public transportation in small communities and rural areas in the year 2015 (under Level 3-Respond to State and Federal Mandates and Goals) should:

- Provide public transportation service to the general public based on locally established service and funding priorities;
- Provide an accessible ride to anyone requesting service;
- Provide a coordinated centralized scheduling system in each county and at the state level;
- Provide phone access to the scheduling system at least 40 hours weekly between Monday and Friday; and

- Respond to service requests within 24 hours (not necessarily provide a ride within 24 hours).

Service Enhancements

Overall, the City of Boardman should continue to monitor the adequacy of the transit service provided to the community and work with the county to extend service as necessary. The local transit program should also seek to meet the 2015 minimum level of service standards identified in the *1997 Oregon Public Transportation Plan*. Three improvement strategies are identified below for further consideration.

Increase Public Awareness

Both the city and the county should promote a greater public awareness of the available public transit services and the need for additional volunteer dispatchers and drivers. Greater awareness of the service and its needs will likely result in increased usage and availability. Provision of better recognition for drivers and/or driver meetings would be an additional avenue by which to encourage more volunteer participation in the program.

Coordinate Trips

Consideration should be given to coordinating trip requests to other neighboring communities and areas outside the county such as Hermiston or the Tri-Cities. For example, a given day of the week could be designated for out-of-town trips. This would then allow the city's residents to visit specialized medical service providers or satisfy other needs on a scheduled basis. Similarly, weekly shopping trips to Hermiston or other communities could be established to allow community members to purchase commodities not available through local commercial and service providers.

A recent survey conducted by transportation provider staff suggests that coordination of medical visits could be difficult due to the unpredictable nature of office visits, though the need for such a service should be more closely examined. Assuming that the demand for such a service exists, a scheduled weekly service would lend itself to greater coordination with service providers in the neighboring communities of Irrigon and Umatilla.

Close coordination between the City of Boardman and adjacent communities is also encouraged and should increase ridership and efficiency through better use of the resources available. Such coordination could prove to be especially fruitful if the weekly trips previously discussed are established as a joint community service. Coordinated trips to local community events would likely generate significant interest. Ultimately, if an increased demand for service can be established and documented, additional resources (i.e. funding, equipment) may be successfully pursued through grant applications or other alternative financing sources.

Provide Commuter Service

It is recommended that a carpool or vanpool service be provided for people who live in Boardman and work in neighboring communities. Provision of a vanpool and/or carpools to major employers in the area could help to reduce the number of single occupant vehicle commute trips from Boardman and help the community to achieve transportation demand management (TDM) objectives.

Vehicle Replacement

The Morrow County Special Transportation Program replaces vehicles on an as-needed basis. No specific plans to replace the current vehicles in use in the City of Boardman are in place. The county has budgeted to replace one vehicle in 1999 though that will not necessarily affect the vehicles in Boardman. The county is pursuing additional funding for vehicles and has, through the Region 5 Public Transit Division, submitted a grant application that would allow the program to purchase a new modified van in 2001 and a

small bus in 2003. In addition, a new bus barn would be built somewhere in the county if the grant were to be approved. The City of Boardman should support the Morrow County Special Transportation Program in its pursuit of additional vehicles and funding.

MARINE SYSTEM PLAN

As previously noted in the **Existing Conditions** section, the Columbia River borders the City of Boardman to the north and serves as a means of both recreational and freight transportation. The city's public marine facility and the Port of Morrow are capable of accommodating future expansion and can be expected to continue to grow with the surrounding community, though no formal expansion plans have been identified to date. The City of Boardman should actively support the continued presence and operation of both the Port and the recreational boat launch as effective means of transportation. The creation of multi-use paths and other facilities that promote the multi-modal use of the recreational areas along the shore of the Columbia River should be encouraged.

RAIL TRANSPORTATION SYSTEM PLAN

Freight rail service will continue to be a prominent component of the city's transportation system. Union Pacific's main line through the city is expected to serve as a major western freight hub for the foreseeable future. Given that it is highly unlikely that the Union Pacific's mainline between the Pacific Northwest and Chicago would be abandoned; there is no potential for rail banking or alternative uses.

Future development in the Port of Morrow's industrial area should be planned to interface with the adjacent rail system to promote the safe and efficient transportation of freight. It should be noted that although the Port of Morrow has currently rail spurs, the rail line does not serve the port's barge container facility located north of the tracks. According to ODOT's Rail Section, the port plans to extend a spur line into the container facility. This extension would require the reconstruction of the existing bridge that connects the city to the container and wood chip facilities because there is insufficient space under the existing structure to accommodate the access track.

There is some potential for passenger service to be reinstated sometime in the future if funding resources can be found to support the train. At the time this TSP was prepared Amtrak and the Union Pacific Railroad had no plans to reintroduce passenger service on this line in the foreseeable future. If new service were to be introduced, it would probably be operated by a long distance train running between Portland and Salt Lake City, Denver or Chicago. A new passenger train might be configured as a package/express train carrying a few passenger coaches.

AIR TRANSPORTATION SYSTEM PLAN

Existing regional air service for passengers and freight is provided via a full service commercial airport in neighboring Pendleton and also at the Tri-Cities Airport located in Pasco, Washington. Air transport charter service is also available through the Port of Morrow's airport near Boardman and the Hermiston Municipal Airport. The continued use and appropriate expansion of these facilities is recommended.

PIPELINE SYSTEM PLAN

Existing pipeline facilities should be maintained and enhanced as necessary.

EVACUATION PLAN

The Morrow County Planning Department, in conjunction with several local and state agencies, has developed response plans in the unlikely event of an incident at the Umatilla Ordinance Depot. According

to county officials, in the event of an incident at the ordinance depot, area residents will be notified of the event and will have two response options.

The first response option will be to shelter in place. Planning officials indicate that sheltering in place, by sealing up a room, may be safer than trying to evacuate in some instances. If, however, a decision is made by emergency coordinators to initiate an evacuation, the second response option is to conduct an orderly exodus from affected areas. County planning staff note that it is important for persons in an evacuation area not to enter into an "mindset" with only one course of action because specific evacuation routes are subject to change based on the nature of the emergency and climatic conditions such as temperature and wind speed.

If an evacuation were to be necessary, appropriate directions would be provided by local alarms, changeable message signs, and tone-alert radio. The directions would then instruct persons to a safe destination, potentially involving reception areas that have been designated in the Dalles, Heppner, and Pendleton.

IMPLEMENTATION PLAN

This section has outlined specific transportation system improvement recommendations as well as a corresponding timeline for implementation of the identified improvements. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather ranks projects to be developed over 0 to 5 year, 5 to 10 year, and 10 to 20 year horizon periods. In this manner, the implementation of identified system improvements has been staged to spread investment in this infrastructure over the 20-year life of the plan.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the City of Boardman is to develop in an orderly and efficient way. Consequently, the plans presented in the TSP should be considered in light of developing infrastructure sequencing plans, and may need to be modified accordingly.

SUMMARY

The adoption and implementation of this Transportation System Plan will enable the City of Boardman to rectify existing transportation system deficiencies while also facilitating growth in the study area population and employment levels assumed in this study.

Section 6

Transportation Funding Plan

Transportation Funding Plan

INTRODUCTION

The Transportation Planning Rule (OAR 660-12-040) requires that the City of Boardman Transportation System Plan (TSP) include a transportation financing program. These programs are to include:

- a list of planned transportation facilities and major improvements;
- a general estimate of the timing for planned transportation facilities and major improvements;
- determination of rough cost estimates for the transportation facilities and major investments identified in the TSP (intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan(s) and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms); and,
- a discussion of existing and potential financing sources to fund the development of each transportation facility and major improvement (which can be described in terms of general guidelines or local policies).

Section 5 of this TSP identified the recommended improvement projects, an implementation timeline, and estimated improvement costs. This section provides an overview of the City of Boardman's historic funding levels and available funding sources at a federal, state, county, and local level.

The timing and financing provisions in the transportation financing program are not considered a land use decision as defined by the TPR and ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under State law. In addition, the transportation financing program is intended to implement the comprehensive plan policies, which provide for phasing of major improvements to encourage infill and redevelopment of urban lands, prior to facilities that would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

CITY OF BOARDMAN FUNDING HISTORY

Most of the city's transportation budget is derived from the city's share of the Morrow County road tax. The city also receives funding through the state-wide gasoline tax and motor vehicle fees. This revenue sharing is based on population and distributed on a proportional share basis to all cities and counties.

During the recent past, the City of Boardman's funding for capital projects has been relatively limited. For example, $3,500 was allocated to capital projects during the 1996-1997 fiscal year while $9,900 was budgeted during the 1998-1999 fiscal year. The 1998-1999 fiscal year budget also included a $60,000 expenditure to pave Locust Street and a $25,000 small city allotment grant. The Locust Street budget allocation was expected to be carried through into the 1999-2000 fiscal year budget due to the anticipated project completion date of September/October 1999.

At the time this TSP was prepared, the city had recently introduced a $60,000 budget item for street improvements/capital reserve fund for streets and parks. The new budget item was still under consideration by the City Council at the time this TSP was prepared and had not been approved.

The opportunity to make incremental improvements to the existing transportation system in Boardman is primarily facilitated by development/redevelopment. When a building permit is requested, the city examines the needs of the transportation facilities along the site frontage and identifies what should be improved/provided in association with the issuance of the permit. Prior to building permit issuance a site

analysis is completed and, for commercial and subdivision proposals, a site review team is assembled to review the proposed development.

The City of Boardman currently does not have a transportation system development charge (SDC), which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Boardman TSP study, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements.

OREGON TRANSPORTATION FUNDING HISTORY

Road-Related Funding

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the State. Through the fiscal year 1996, the matching ratio in Oregon for Interstate Funds was: Federal 92.22 percent and State 7.78 percent (Reference 7).

During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last three Oregon Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption. Nevertheless, fuel taxes are the largest single source of highway revenues at approximately $390 million annually (Reference 7). Weight-miles taxes are the second largest source of revenue to the Highway Fund, at approximately $215 million annually (Reference 7).

Oregon Highway Trust Fund revenues are distributed among State (60.05 percent), County (24.38 percent) and City (15.57 percent) governments to fund their priority road needs. Under the 1997-1999 legislatively adopted Department of Transportation budget, a total of $2,284 million revenue dollars was identified. Of the total available revenue, approximately $317 million dollars was allocated to counties and $185 million to cities (Reference 8).

Oregon law allows local government, in addition to receiving state highway trust fund revenues, to levy local fuel taxes for street related improvements. Multnomah and Washington Counties, and some small cities (Tillamook, The Dalles, Woodburn) have used this authorization. Several attempts have been made by other jurisdictions, but have not been supported by the local electorate. As few local governments have implemented this option, non-user road revenues tend to be relied upon to supplement the funds received from state and federal user revenues. Other local funding sources have included property tax levies, local improvement district assessments, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other miscellaneous sources.

Oregon's current fee for cars and other light vehicles weighing 8,000 pounds or less is $30 biennially (Reference 7). Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities in Oregon have relied more on transfers from their general funds to support roadway improvements, than have counties. Ballot Measure 5, however, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the property tax rate for purposes other than for payment of certain general obligation indebtedness to $15 per $1,000 of assessed value. The measure further divided the $15 per $1,000 property tax authority into two components: $5 per $1,000 dedicated to the public schools; the remaining $10 dedicated to other local government units, including cities, counties, special service districts, and other non-school entities. The tax rate limitation for cities and counties went into effect in July 1991. The school portion of the measure was phased in over a five-year period beginning in July 1991.

In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which further impacted the ability of cities and counties to pay for needed infrastructure through historic or traditional means. Ballot Measure 50 was then approved by Oregon voters in May of 1997 and, through implementing legislation, became law in July 1997. Ballot Measure 50 repealed Measure 47 and made efficiency changes to Measure 5. Measure 50 limits taxes on each property by rolling back the 1997-1998 assessed value of each property to 90 percent of its 1995-1996 value. Measure 50 also limits future growth on taxable value to three percent per year, with exceptions for new items such as new construction, remodeling, subdivisions, and rezoning. Permanent tax rates for Oregon's local taxing districts are also established in Measure 50 that replace the former tax base amounts of the district. Measure 50 allows voters to approve new short-term levies outside the permanent rate limit if approved by a double majority.

At the same time that increased growth and increased transportation demands are occurring, cities and counties have lost another traditional source of revenue for infrastructure construction and modernization - timber harvest receipts. Under a 1993 negotiated mitigation plan, federal forest receipts to support county roads are decreasing 3 percent per year. In 1996, counties received 74 percent of their 1986-90 average receipts, and by 2003 they will receive 55 percent of the late 1980s average receipts.

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, counties, or cities, for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the State, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996.

A result of these recommendations was the appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal included a process for identifying a "base" transportation system, with a priority of maintenance, preservation, and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. Other components included provisions for realizing efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. The State Legislature was unable to reach consensus on the means to collect and distribute the funds and the package failed.

A part of future transportation funding will include identification of relationships and responsibilities relative to delivery of projects and services. In Oregon, the primary state role has been to construct and maintain the state highway system and to assist local government with funding of other modes. The State also has a role in intercity passenger services and airports. This has historically been minor but would grow significantly, if serious efforts were put into intercity transportation improvements. Local governments provide local transit and airport support, in addition to providing maintenance, preservation,

and construction for local roads, streets, and bridges. The Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) began moving decision-making for federal programs to states and this program and other state policies incorporated in the Oregon Transportation Plan (OTP) encourage reassessment of responsibilities and obligations for funding. The Transportation Equity Act for the 21st Century (TEA21), passed in 1998, has continued the efforts first initiated by ISTEA.

These changing relationships have resulted in two significant issues for State and local governments. First, there is no clear definition of State responsibility. At one time, the State operated on an informal consensus that it should provide one-half the match on federally funded, local, and other projects that served statewide needs. No similar consensus seems to exist today. The State's responsibility for transit, airports, and other local transportation infrastructure and services is not clear. The question of regional equity is raised in considering especially high-cost project needs, such as the Bend Parkway or the Portland area light rail program. Regional equity will probably require consideration of all modes together, because different regions may have different modal needs and financial arrangements.

Given this dynamic transportation funding environment, it is clear that local governments need to reassess traditional methods of funding projects and look creatively at ways to meet public expectations of high quality transportation services.

Transit Funding

Transit service in Oregon has evolved from private development and reliance on user fees for operating revenue, to public ownership with public subsidy for operations. No clear philosophy of the State role in providing transit services is evident and the State is discussing how it should raise revenue in support of transit. The State has used general funds, lottery funds, cigarette tax revenue, and other funds at various times to support transit service. These efforts have largely been targeted towards supplying half the required match to federal capital improvement grants. To date, the State has provided no operating funds for transit, other than the elderly and disabled program. The State role has been one of granting authority to local governments to raise locally-generated operating revenue.

While the state's role in transit funding is limited, the ODOT Public Transit Section does currently administer three public transit funding sources. These include Small City and Rural Transit Assistance (Section 18), the Special Transportation Fund (STF), and Section 16.

The Small City and Rural Transit Assistance program is a federally funded initiative that provides capital to operate and acquire vehicles for public transportation systems in cities with populations of less than 50,000 and rural areas. This assistance program is funded annually through an appropriation from the Federal Transit Administration (FTA) to each state with funds allocated to eligible providers based on a three-part formula. Fifty percent of the funds are distributed based on population, 25 percent are based on ridership, and 25 percent are based on service hours. There is a 50 percent local match requirement for operating costs and a 20 percent match for capital costs. The program stipulates that service must be marketed as "public transit": exclusive transportation services such as those limited strictly to senior citizens or employers are not eligible for funding under this program. Additional funding details, application information, and general assistance with the Small City and Rural Transit Assistance is available through ODOT's Public transit Division.

The Special Transportation Fund is intended for elderly and disabled citizens and is funded through the State cigarette tax. Funding for the purchase of vehicles and equipment for special transportation providers (i.e., servicing the elderly and disabled) is provided through a federal funding program known as Section 16.

POTENTIAL TRANSPORTATION FUNDING SOURCES

There are a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state, and local governments. Appendix E (Table E-1) provides a summary of federal, state, and local highway, bridge, sidewalk, and bicycle funding programs respectively, which have typically been used in the past. Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 47 severely limit the opportunities for this funding source.

Appendix E (Table E-2) presents details of the revenue sources for streets, bridges, sidewalks, and bicycle facilities currently used by cities. The information is summarized by type of facility, and indicates the percent of revenue each funding source represents for all cities in Oregon, likely trends for the source, known constitutional or other limitations, and their respective rates. The general status of each funding source is summarized in Table E-3.

Funding Program

Based on the identified improvement needs, major expenditures for transportation improvements are anticipated throughout the 20-year planning horizon. These transportation needs exist at a time when funding options available to make improvements are constrained. The city can expect to make significant investments to improve transportation facilities for existing development and to improve collectors and arterials that serve the entire area. However, the burden for future expansion of the transportation network should be borne by the development community creating the additional demand and this is reflected in the project costs/responsibilities previously summarized in Table 8.

Based on the recommended roadway improvement projects identified in Table 8, at least $206,000 of roadway improvements have been identified for completion within the next five years by the city. Within the 10 to 15-year planning horizon, the Future Boulevard along the BPA easement and the extension of Olson Road across Interstate 84 are anticipated. While the estimated $3.5 million dollar cost of the Future Boulevard is expected to be addressed by private development, the estimated $8-10 million expenditure associated with the Olson Road extension will be shared by the city and ODOT. For the remainder of the projects identified for completion within the 20-year planning horizon, it is anticipated that the cost of transportation improvements will be borne by private developers in conjunction with new development and/or redevelopment.

Pedestrian and bicycle improvement projects are expected to be implemented on a gradual basis as roadways are reconstructed, development activities occur, or alternative funding becomes available through grant projects or some other financing mechanism. Pedestrian and Bicycle improvement projects that would likely be completed by the city total $46,000 in the near-term, $83,500 in the mid-term, and $230,000 in the long-term. The remaining $186,500+ in identified pedestrian and bicycle improvement projects are expected to be financed by developers as appropriate. Funding programs such as the Transportation Enhancement Program provide funds for enhancing pedestrian and bicycle facilities, landscaping, and other scenic beautification that may be a source of funding for adding sidewalks, multi-use paths, and bicycle facilities. Additional funding may be available through the creation of Local Improvement Districts or through grant projects.

State Funding

Due to funding limitations, ODOT is currently in a preservation/maintenance funding mode. The only roadway facility that ODOT operates and maintains in the City of Boardman is Interstate 84. The interstate does, however, impact the local transportation system, especially with respect to north-south connectivity and interchange operations. Although limited, state and federal funds administered through

ODOT will be the primary sources of funding for improvements to Interstate 84 and its interchanges. Further, most Federal funding is passed through ODOT to local jurisdictions. While improvement projects affecting ODOT facilities are documented in this TSP, the inclusion of such projects in the TSP does not obligate ODOT to finance them.

A good working relationship with ODOT Region 5 planning staff and the Region Manager will be important to ensure that major roadway improvement projects on state facilities within the city are included in ODOT's State Transportation Improvement Plan (STIP) when it is updated. The city and Morrow County should take an active role in jointly representing the transportation priorities of Boardman to ODOT during its process of formally incorporating priorities into the STIP. For its part, the City of Boardman's Transportation System Plan will provide ODOT with highway-related transportation projects of importance to the city and should be used as a basis for discussion with ODOT.

Local funding participation in projects on state facilities may enable the ODOT to accelerate the priority of an improvement identified in the STIP. While not normally a requirement of project funding, local participation does demonstrate a strong commitment to ODOT and the local funds may be used to leverage state funds.

Local Funding

The City of Boardman should continue to pursue federal, state, and county transportation funds for transportation projects. Given the high level of annual expenditures needed for construction of the transportation projects identified, existing sources of transportation revenue are not expected to be adequate to meet the demand for new projects. To meet the additional funding needs, the city may wish to consider additional revenue-generating options such as systems development charges, local improvement districts, and street maintenance fees as discussed below. It should be noted that, even with increased funding, it may prove difficult to fund all of the projects identified in this TSP within the 20-year planning horizon. Accordingly, the city should review the identified improvement projects on a periodic basis to prioritize local transportation system funding such that it most appropriately reflects current and projected needs.

Transportation System Development Charge

The City of Boardman does not currently have a transportation system development charge, which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. The City of Pendleton has successfully implemented a SDC for transportation improvements.

As a follow up to the Boardman TSP, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements. The study should determine the feasibility of implementing SDC fees, particularly with respect to evaluating equitability with neighboring cities both in economic and political terms.

Local Improvement Districts

Local improvement districts could be formed to improve currently substandard and unimproved roads. These projects may or may not be fully completed within the 20-year planning horizon.

Street Maintenance Fee

The City of Boardman could investigate local adoption of a street maintenance fee to raise revenues to be dedicated toward street rehabilitation projects. These revenues could also be used to supplement the

current State Highway Fund (State gas tax and vehicle registration fees) revenues already used for on-going maintenance.

Additional Considerations

There are important limitations that should be considered with respect to additional funding options. For example, the dollar amount of SDCs that can be assessed must meet legal requirements for establishing SDCs. Also, the success of any funding plan will be reliant on the approval of the community. Accordingly, the involvement of citizens of the community in developing and implementing a funding package is essential.

Section 7

Transportation Planning Rule Ordinances and Policies for the City of Boardman

Transportation Planning Rule Ordinances and Policies for the City of Boardman

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APPROVAL PROCESSES FOR TRANSPORTATION FACILITIES

Section 660-12-045(1) of the Transportation Planning Rule requires that cities and counties amend their land use regulations to conform with the jurisdiction's adopted Transportation System Plan. This section of the Transportation Planning Rule is intended to clarify the approval process for transportation-related projects.

Recommended Policies for Approval Process

- *The Transportation System Plan is an element of the Boardman Comprehensive Plan. It identifies the general location of transportation improvements. Changes in the specific alignment of proposed public road and highway projects that shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan.*

- *Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.*

- *Dedication of right-of-way, authorization of construction and the construction of facilities and improvements, for improvements designated in the Transportation System Plan, the classification of the roadway and approved road standards shall be allowed without land use review.*

- *Changes in the frequency of transit, rail and airport services that are consistent with the Transportation System Plan shall be allowed without land use review.*

- *For State projects that require an Environmental Impact Study (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review, if local review is required.*

(1) Where the project is consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent or subsequent compliance with applicable development standards or conditions;

(2) Where the project is not consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent completion of necessary goal exceptions or plan amendments.

Recommended Ordinances for Approval Process

__.__ *Standards for Transportation Improvements*

__.__.__ *Uses Permitted Outright. Except where otherwise specifically regulated by this ordinance, the following improvements are permitted outright:*

A. Normal operation, maintenance, repair, and preservation activities of existing transportation facilities.

B. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way.

C. Projects specifically identified in the Transportation System Plan as not requiring further land use regulation.

D. Landscaping as part of a transportation facility.

E. Emergency measures necessary for the safety and protection of property.

F. Acquisition of right-of-way for public roads, highways, and other transportation improvements designated in the Transportation System Plan except for those that are located in exclusive farm use or forest zones.

G. Construction of a street or road as part of an approved subdivision or land partition approved consistent with the applicable land division ordinance.

__.__.__ *Conditional Uses Permitted*

A. Construction, reconstruction, or widening of highways, roads, bridges or other transportation projects that are: (1) not improvements designated in the Transportation System Plan or (2) not designed and constructed as part of a subdivision or planned development subject to site plan and/or conditional use review, shall comply with the Transportation System Plan and applicable standards, and shall address the following criteria. For State projects that require an Environmental Impact Statement (EIS) or EA (Environmental Assessment), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria:

1. *The project is designed to be compatible with existing land use and social patterns, including noise generation, safety, and zoning.*

2. *The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.*

3. *The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.*

4. *Project includes provision for bicycle and pedestrian circulation as consistent with the comprehensive plan and other requirements of this ordinance.*

B. If review under this Section indicates that the use or activity is inconsistent with the Transportation System Plan, the procedure for a plan amendment shall be undertaken prior to or in conjunction with the conditional permit review.

__.__.__ Time Limitation on Transportation-Related Conditional Use Permits

C. Authorization of a conditional use shall be void after a period specified by the applicant as reasonable and necessary based on season, right-of-way acquisition, and other pertinent factors. This period shall not exceed three years.

PROTECTING EXISTING AND FUTURE OPERATION OF FACILITIES

Recommended Policies for Protection of Transportation Facilities

- *The City of Boardman shall protect the function of existing and planned roadways as identified in the Transportation System Plan.*

- *The City of Boardman shall include a consideration of their impact on existing or planned transportation facilities in all land use decisions.*

- *The City of Boardman shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.*

- *The City of Boardman shall consider the potential to establish or maintain accessways, paths, or trails prior to the vacation of any public easement or right-of-way.*

- *The City of Boardman shall preserve right-of-way for planned transportation facilities through exactions, voluntary dedication, or setbacks.*

Recommended Access Control Ordinances

Section 1. Intent and Purpose

The intent of this ordinance is to manage access to land development while preserving the flow of traffic in terms of safety, capacity, functional classification, and level of service. Major roadways, including highways, arterials, and collectors serve as the primary network for moving people and goods. These transportation corridors also provide access to businesses and homes and have served as the focus for commercial and residential development. If access points are not properly designed, these roadways will be unable to accommodate the needs of development and retain their primary transportation function. This ordinance balances the right of reasonable access to private property with the right of the citizens of the City of Boardman and the State of Oregon to safe and efficient travel.

To achieve this policy intent, state and local roadways have been categorized the Transportation System Plan by function and classified for access purposes based upon their level of importance and function. Regulations have been applied to these roadways for the purpose of reducing traffic accidents, personal injury, and property damage attributable to poorly designed access systems, and to thereby improve the safety and operation of the roadway network. This will protect the substantial public investment in the existing transportation system and reduce the need for expensive remedial measures. These regulations also further the orderly layout and use of land, protect community character, and conserve natural resources by promoting well-designed road and access systems and discouraging the unplanned subdivision of land.

Section 2. Applicability

This ordinance shall apply to all arterials and collectors within City of Boardman and to all properties that abut these roadways.

Section 3. Conformance with Plans, Regulations, and Statutes

This ordinance is adopted to implement the access management policies of the City of Boardman as set forth in the Transportation System Plan.

Section 4. Definitions

1. *Access. A way or means of approach to provide pedestrian, bicycle, or motor vehicular entrance or exit to a property.*

2. *Access Classification. A ranking system for roadways used to determine the appropriate degree of access management. Factors considered include functional classification, the appropriate local government's adopted plan for the roadway, subdivision of abutting properties, and existing level of access control.*

3. *Access Connection. Any driveway, street, turnout or other means of providing for the movement of vehicles to or from the public roadway system.*

4. *Access Management. The process of providing and managing access to land development while preserving the regional flow of traffic in terms of safety, capacity, and speed.*

5. *Accessway. A walkway that provides pedestrian and bicycle passage either between streets or from a street to a building or other destination such as a school, park, or transit stop. Accessways generally include a walkway and additional land on either side of the walkway, often in the form of an easement or right-of-way, to provide clearance and separation between the walkway and adjacent uses. Accessways through parking lots are generally physically separated from adjacent vehicle parking or parallel vehicle traffic by curbs or similar devices and include landscaping, trees, and lighting. Where accessways cross driveways, they are generally raised, paved, or marked in a manner that provides convenient access for pedestrians.*

6. *Corner Clearance. The distance from an intersection of a public or private road to the nearest access connection, measured from the closest edge of the pavement of the intersecting road to the closest edge of the pavement of the connection along the traveled way.*

7. *Cross Access. A service drive providing vehicular access between two or more contiguous sites so the driver need not enter the public street system.*

8. *Easement. A grant of one or more property rights by a property owner to or for use by the public, or another person or entity.*

9. *Frontage Road. A public or private drive which generally parallels a public street between the right-of-way and the front building setback line. The frontage road provides access to private properties while separating them from the arterial street. (see also Service Roads)*

10. *Functional Area (Intersection). That area beyond the physical intersection of two roads that comprises decision and maneuver distance, plus any required vehicle storage length.*

11. *Functional Classification. A system used to group public roadways into classes according to their purpose in moving vehicles and providing access.*

12. *Joint Access (or Shared Access). A driveway connecting two or more contiguous sites to the public street system.*

13. *Lot. A parcel, tract, or area of land whose boundaries have been established by some legal instrument, which is recognized as a separate legal entity for purposes of transfer of title, has frontage upon a public or private street, and complies with the dimensional requirements of this code.*

14. *Lot, Corner. Any lot having at least two (2) contiguous sides abutting upon one or more streets, provided that the interior angle at the intersection of such two sides is less than one hundred thirty-five (135) degrees.*

15. *Lot Depth. The average distance measured from the front lot line to the rear lot line.*

16. *Lot, Flag. A lot not meeting minimum frontage requirements and where access to the public road is by a narrow, private right-of-way line.*

17. *Lot, Through. (also called a double frontage lot). A lot that fronts upon two parallel streets or that fronts upon two streets that do not intersect at the boundaries of the lots.*

18. *Lot Frontage. That portion of a lot extending along a street right-of-way line.*

19. *Nonconforming Access Features. Features of the property access that existed prior to the date of ordinance adopting and do not conform with the requirements of this ordinance.*

20. *Parcel. A division of land comprised of one or more lots in contiguous ownership.*

21. *Plat. An exact and detailed map of the subdivision of land.*

22. *Private Road. Any roadway for vehicular travel which is privately owned and maintained and which provides the principal means of access to abutting properties.*

23. *Public Road. A road under the jurisdiction of a public body that provides the principal means of access to an abutting property.*

24. *Reasonable Access. The minimum number of access connections, direct or indirect, necessary to provide safe access to and from the roadway, as consistent with the purpose and intent of this ordinance and any applicable plans and policies of the City of Boardman.*

25. *Right-of-Way. Land reserved, used, or to be used for a highway, street, alley, walkway, drainage facility, or other public purpose.*

26. *Significant Change in Trip Generation. A change in the use of the property, including land, structures or facilities, or an expansion of the size of the structures or facilities causing an increase in the trip generation of the property exceeding: (1) local–10 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under local jurisdiction; or (2) State exceeding 25 percent more trip generation (either peak or daily) and 100 vehicles per day more than the existing use for all roads under state jurisdiction.*

27. *Stub-out (Stub-street). A portion of a street or cross access drive used as an extension to an abutting property that may be developed in the future.*

28. *Substantial Enlargements or Improvements. A 10 percent increase in existing square footage or 50 percentage increase in assessed valuation of the structure.*

Section 5. Corner Clearance

1. *Corner clearance for connections shall meet or exceed the minimum connection spacing requirements for that roadway.*

2. *New connections shall not be permitted within the functional area of an intersection or interchange as defined by the connection spacing standards of this ordinance, unless no other reasonable access to the property is available.*

3. *Where no other alternatives exist, the (permitting department) may allow construction of an access connection along the property line farthest from the intersection. In such cases, directional connections (i.e. right in/out, right in only, or right out only) may be required.*

Section 6. Joint and Cross Access

1. *Adjacent commercial or office properties classified as major traffic generators (i.e. shopping plazas, office parks), shall provide a cross access drive and pedestrian access to allow circulation between sites.*

2. *A system of joint use driveways and cross access easements shall be established wherever feasible and shall incorporate the following:*

   a. *A continuous service drive or cross access corridor extending the entire length of each block served to provide for driveway separation consistent with the access management classification system and standards.*

   b. *A design speed of 10 mph and a maximum width of 20 feet to accommodate two-way travel aisles designated to accommodate automobiles, service vehicles, and loading vehicles;*

   c. *Stub-outs and other design features to make it visually obvious that the abutting properties may be tied in to provide cross-access via a service drive;*

   d. *A unified access and circulation system plan for coordinated or shared parking areas is encouraged.*

3. *Shared parking areas shall be permitted a reduction in required parking spaces if peak demands do not occur at the same time periods.*

4. *Pursuant to this section, property owners shall:*

   a. *Record an easement with the deed allowing cross access to and from other properties served by the joint use driveways and cross access or service drive;*

   b. *Record an agreement with the deed that remaining access rights along the roadway will be dedicated to the City of Boardman and pre-existing driveways will be closed and eliminated after construction of the joint-use driveway;*

   c. *Record a joint maintenance agreement with the deed defining maintenance responsibilities of property owners.*

5. *The City of Boardman may reduce required separation distance of access points where they prove impractical, provided all of the following requirements are met:*

   a. *Joint access driveways and cross access easements are provided in accordance with this section.*

b. The site plan incorporates a unified access and circulation system in accordance with this section.

c. The property owner enters into a written agreement with the City of Boardman, recorded with the deed, that pre-existing connections on the site will be closed and eliminated after construction of each side of the joint use driveway.

6. The City of Boardman may modify or waive the requirements of this section where the characteristics or layout of abutting properties would make a development of a unified or shared access and circulation system impractical.

Section 7. Access Connection and Driveway Design

1. Driveways shall meet the following standards:

a. If the driveway is a one way in or one way out drive, then the driveway shall be a minimum width of 10 feet and shall have appropriate signage designating the driveway as a one way connection.

b. For two-way access, each lane shall have a minimum width of 10 feet.

2. Driveway approaches must be designed and located to provide an exiting vehicle with an unobstructed view. Construction of driveways along acceleration or deceleration lanes and tapers shall be avoided due to the potential for vehicular weaving conflicts.

3. The length of driveways shall be designed in accordance with the anticipated storage length for entering and exiting vehicles to prevent vehicles from backing into the flow of traffic on the public street or causing unsafe conflicts with on-site circulation.

Section 8. Requirements for Phased Development Plans

1. In the interest of promoting unified access and circulation systems, development sites under the same ownership or consolidated for the purposes of development and comprised of more than one building site shall be reviewed as single properties in relation to the access standards of this ordinance. The number of access points permitted shall be the minimum number necessary to provide reasonable access to these properties, not the maximum available for that frontage. All necessary easements, agreements, and stipulations shall be met. This shall also apply to phased development plans. The owner and all lessees within the affected area are responsible for compliance with the requirements of this ordinance and both shall be cited for any violation.

2. All access must be internalized using the shared circulation system of the principal development or retail center. Driveways shall be designed to avoid queuing across surrounding parking and driving aisles.

Section 9. Nonconforming Access Features

1. *Legal access connections in place as of (date of adoption) that do not conform with the standards herein are considered nonconforming features and shall be brought into compliance with applicable standards under the following conditions:*

   a. *When new access connection permits are requested;*

   b. *Change in use or enlargements or improvements that will increase trip generation.*

Section 10. Reverse Frontage

1. *Lots that front on more than one street shall be required to locate motor vehicle accesses on the street with the lower functional classification.*

2. *When a residential subdivision is proposed that would abut an arterial, it shall be designed to provide through lots along the arterial with access from a frontage road or interior local road. Access rights of these lots to the arterial shall be dedicated to the City of Boardman and recorded with the deed. A berm or buffer yard may be required at the rear of through lots to buffer residences from traffic on the arterial. The berm or buffer yard shall not be located with the public right-of-way.*

Section 11. Flag Lot Standards

1. *Flag lots shall not be permitted when the result would be to increase the number of properties requiring direct and individual access connections to the State Highway System or other arterials.*

2. *Flag lots may be permitted for residential development when necessary to achieve planning objectives, such as reducing direct access to roadways, providing internal platted lots with access to a residential street, or preserving natural or historic resources, under the following conditions:*

   a. *Flag lot driveways shall be separated by at least twice the minimum frontage requirement of that zoning district.*

   b. *The flag driveway shall have a minimum width of 10 feet and maximum width of 20 feet.*

   c. *In no instance shall flag lots constitute more than 10 percent of the total number of building sites in a recorded or unrecorded plat, or three lots or more, whichever is greater.*

   d. *The lot area occupied by the flag driveway shall not be counted as part of the required minimum lot area of that zoning district.*

e. No more than one flag lot shall be permitted per private right-of-way or access easement.

Section 12. Lot Width-to-Depth Ratios

1. To provide for proper site design and prevent the creation of irregularly shaped parcels, the depth of any lot or parcel shall not exceed 3 times its width (or 4 times its width in rural areas) unless there is a topographical or environmental constraint or an existing man-made feature such as a railroad line.

Section 13. Shared Access

1. Subdivisions with frontage on the state highway system shall be designed into shared access points to and from the highway. Normally a maximum of two accesses shall be allowed regardless of the number of lots or businesses served. If access off of a secondary street is possible, then access should not be allowed onto the state highway. If access off of a secondary street becomes available, then conversion to that access is encouraged, along with closing the state highway access.

2. New direct accesses to individual one and two family dwellings shall be prohibited on all but District-level State Highways.

Section 14. Connectivity

1. The street system of proposed subdivisions shall be designed to connect with existing, proposed, and planned streets outside of the subdivision as provided in this Section.

2. Wherever a proposed development abuts unplatted land or a future development phase of the same development, street stubs shall be provided to provide access to abutting properties or to logically extend the street system into the surrounding area. All street stubs shall be provided with a temporary turn-around unless specifically exempted by City Officials, and the restoration and extension of the street shall be the responsibility of any future developer of the abutting land.

3. Minor collector and local residential access streets shall connect with surrounding streets to permit the convenient movement of traffic between residential neighborhoods or facilitate emergency access and evacuation. Connections shall be designed to avoid or minimize through traffic on local streets. Appropriate design and traffic control such as four-way stops and traffic calming measures are the preferred means of discouraging through traffic.

4. *In order to maintain the existing grid street system and street connectivity, the perimeter length of one block shall not exceed 880 square feet.*

Section 15. Subdivisions

1. A subdivision shall conform to the following standards:

a. Each proposed lot must be buildable in conformance with the requirements of this ordinance and all other applicable regulations.

b. Each lot shall abut a public or private street for the required minimum lot frontage for the zoning district where the lots are located.

c. If any lot abuts a street right-of-way that does not conform to the design specifications of this ordinance, the owner may be required to dedicate up to one-half of the total right-of-way width required by this ordinance.

2. Further subdivision of the property shall be prohibited unless the applicant submits a plat or development plan in accordance with requirements in this ordinance.

3. The City of Boardman shall consider a proposed Subdivision upon the submittal of the following materials.

a. An application form provided by the City of Boardman;

b. Five copies of the proposed Subdivision plat;

c. A statement indicating that water and/or sanitary sewer service is available to the property; and

d. Land descriptions and acreage or square footage of the original and proposed lots and a scaled drawing showing the intended divisions and proposed street system shall be prepared by a professional land surveyor registered in the State of Oregon. In the event a lot contains any principal or accessory structures, a survey showing the structures on the lot shall accompany the application.

4. Review Procedure

a. The City of Boardman shall transmit a copy of the proposed Subdivision to the appropriate (departments or officials) for review and comment.

b. If the proposed Subdivision meets the conditions of this section and otherwise complies with all applicable laws and ordinances, the City of Boardman shall approve the Subdivision by signing the application form.

c. Upon approval of the Subdivision, the City of Boardman shall record the plat on the appropriate maps and documents, and shall, at the applicant's expense, record the plat in the official county records.

Section 16. Site Plan Review Procedures for Access Management

1. Applicants shall submit a preliminary site plan for review by the City of Boardman. At a minimum, the site plan shall show:

a. Location of existing and proposed access point(s) on both sides of the road where applicable;

b. Distances to neighboring constructed access points, median openings (where applicable), traffic signals (where applicable), intersections, and other transportation features on both sides of the property;

c. Number and direction of lanes to be constructed on the driveway plus striping plans;

d. All planned transportation features (such as sidewalks, bikeways, auxiliary lanes, signals, etc.);

e. Parking and internal circulation plans including walkways and bikeways;

f. A detailed description of any requested variance and the reason the variance is requested.

2. Subdivision and site plan review shall address the following access criteria:

a. All proposed roads shall follow the natural topography and preserve natural features of the site as much as possible. Alignments shall be planned to minimize grading.

b. Access shall be properly placed in relation to sight distance, driveway spacing, and other related considerations, including opportunities for joint and cross access.

c. The road system shall provide adequate access to buildings for residents, visitors, deliveries, emergency vehicles, and garbage collection.

d. An internal pedestrian system of sidewalks or paths shall provide connections to parking areas, entrances to the development, and open space, recreational, and other community facilities associated with the development. Streets shall have sidewalks on both sides. Pedestrian linkages shall also be provided to the peripheral street system.

e. The access shall be consistent with the access management standards adopted in the Transportation System Plan.

3. Any application that involves access to the State Highway System shall be reviewed by the Oregon Department of Transportation for conformance with state access management standards.

Section 17. Variance Standards for City/County Facilities

1. *The granting of the variation shall be in harmony with the purpose and intent of these regulations and shall not be considered until every feasible option for meeting access standards is explored.*

2. *Applicants for a variance from these standards must provide proof of unique or special conditions that make strict application of the provisions impractical. Applicants shall include proof that:*

   a. *Indirect or restricted access cannot be obtained;*

   b. *No engineering or construction solutions can be applied to mitigate the condition; and*

   c. *No alternative access is available from a street with a lower functional classification than the primary roadway.*

3. *No variance shall be granted where such hardship is self-created.*

PROCESS FOR COORDINATED REVIEW OF LAND USE DECISIONS

Recommended Policies for Coordinated Review

- *The City of Boardman shall coordinate with the Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Transportation System Plan and comprehensive plan.*

- *The City of Boardman shall consider the findings of ODOT's draft Environmental Impact Statements and Environmental Assessments as integral parts of the land use decision-making procedures. Other actions required, such as a goal exception or plan amendment, will be combined with review of the draft EA or EIS and land use approval process.*

Process for Applying Conditions to Development Proposals

- *The proposed use shall impose an undue burden on the public transportation system. For developments that are likely to generate more than 200 average daily motor vehicle trips (ADTs), the applicant shall provide adequate information, such as a traffic impact study or traffic counts, to demonstrate the level of impact to the surrounding street system. The developer shall be required to mitigate impacts attributable to the project.*

- *The determination of impact or effect and the scope of the impact study should be coordinated with the provider of the affected transportation facility.*

- *Dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or accessways shall be required where the existing transportation system will be impacted by or is inadequate to handle the additional burden caused by the proposed use.*

- *Improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, accessways, paths, or streets that serve the proposed use where the existing transportation system may be burdened by the proposed use.*

Regulations to Provide Notice to Public Agencies

Information required with development proposals to be conveyed to reviewers:

- *Project location.*

- *Proposed land use action.*

- *Location of project access point(s).*

Additional information to the review required upon request (provided the information is available) includes a site plan showing the following:

- *Distances to neighboring constructed access points, median openings, traffic signals, intersections, and other transportation features on both sides of the property;*

- *Number and direction of lanes to be constructed on the driveway, plus striping plans;*

- *All planned transportation features (lanes, signals, bikeways, sidewalks, crosswalks, etc.);*

- *Trip generation data or appropriate traffic studies;*

- *Parking (motor vehicle and bicycle) and internal circulation plans for vehicles and pedestrians;*

- *Plat map showing property lines, right-of-way, and ownership of abutting properties; and*

- *A detailed description of any requested variance.*

Recommended Regulations to Assure that Amendments are Consistent with the Transportation System Plan

Comprehensive Plan Policy

- *All development proposals, plan amendments, or zone changes shall conform with the adopted Transportation System Plan.*

Zoning Ordinance Requirement

- *The applicant must show that the proposed change conforms with the Comprehensive Plan.*

Ordinance and Policy Language Governing Zone Changes and Plan Amendments:

- *A plan or land use regulation amendment significantly affects a transportation facility if it:*

a. *Changes the functional classification of an existing or planned transportation facility;*

b. *Changes standards implementing a functional classification system;*

c. *Allows types or levels of land use that would result in levels of travel or access what are inconsistent with the functional classification of a transportation facility; or*

d. Would reduce the level of service of the facility below the minimum acceptable level identified in the Transportation System Plan.

■ *Amendments to the comprehensive plan and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. This shall be accomplished by one of the following:*

(a) Limiting allowed land uses to be consistent with the planned function of the transportation facility;

(b) Amending the Transportation System Plan to ensure that existing, improved, or new transportation facilities are adequate to support the proposed land uses consistent with the requirement of the Transportation Planning Rule; or,

(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.

SAFE AND CONVENIENT PEDESTRIAN AND BICYCLE CIRCULATION

Recommended Policies for Pedestrian and Bicycle Circulation

- *It is the policy of the City of Boardman to plan and develop a network of streets, accessways, and other improvements, including bikeways, sidewalks, and safe street crossings to promote safe and convenient bicycle and pedestrian circulation within the community.*

- *The City of Boardman shall require streets and accessways where appropriate to provide direct and convenient access to major activity centers, including downtown, schools, shopping areas, and community centers.*

- *In areas of new development the City of Boardman shall investigate the existing and future opportunities for bicycle and pedestrian accessways. Many existing accessways such as user trails established by school children distinguish areas of need and should be incorporated into the transportation system.*

- *Bikeways shall be included on all new arterials and collectors within the Urban Growth Boundary except on limited access freeways.*

- *Retrofitting existing arterials and collectors with bike lanes shall proceed on a prioritized schedule as appropriate and practical (i.e., bike lanes may not be appropriate in downtown core areas where it would require the removal of parking).*

- *Sidewalks shall be included on all new streets within the Urban Growth Boundary except on limited access freeways.*

- *Retrofitting existing streets with sidewalks shall proceed on a prioritized schedule.*

- *Priority shall be given to developing accessways to major activity centers within the Urban Growth Boundary, such as the downtown commercial center, schools, and community centers.*

- *Bikeways and pedestrian accessways shall connect to local and regional travel routes.*

- *Bikeways and pedestrian accessways shall be designed and constructed to minimize potential conflicts between transportation modes. Design and construction of such facilities shall follow the guidelines established by the Oregon Bicycle and Pedestrian Plan.*

- *Maintenance and repair of existing bikeways and pedestrian accessways (including sidewalks) shall be given equal priority to the maintenance and repair of motor vehicle facilities.*

- *Bicycle parking facilities shall be provided at all new residential multifamily developments of four units or more, commercial, industrial, recreational, and institutional facilities.*

- *A citizens advisory committee shall be established to protect and promote bicycle and pedestrian transportation within the Urban Growth Boundary.*

Recommended Ordinances for Bicycle Parking

- *A minimum of 2 bicycle parking spaces per use (one sheltered and one unsheltered) shall be required.*

- *The following Special Minimum Standards shall be considered as supplemental requirements for the number of required bicycle parking spaces.*

  - *Multi-Family Residences. Every residential use of four (4) or more dwelling units shall provide at least one sheltered bicycle parking space for each unit. Sheltered bicycle parking spaces may be located within a garage, storage shed, basement, utility room or similar area. In those instances in which the residential complex has no garage or other easily accessible storage unit, the required bicycle parking spaces shall be sheltered under an eave, overhang, an independent structure, or similar cover.*

  - *Parking Lots. All public and commercial parking lots and parking structures shall provide a minimum of one bicycle parking space for every 10 motor vehicle parking spaces.*

  - *Schools. Elementary and middle schools, both private and public, shall provide one bicycle parking space for every 10 students and employees. High schools shall provide one bicycle parking space for every 5 students and employees. All spaces shall be sheltered under an eave, overhang, independent structure, or similar cover.*

  - *Colleges. Colleges, universities, and trade schools shall provide one bicycle parking space for every 10 motor vehicle spaces plus one space for every dormitory unit. Fifty percent of the bicycle parking spaces shall be sheltered under an eave, overhang, independent structure, or similar cover.*

  - *Downtown Areas. In downtown areas with on-street parking, bicycle parking for customers shall be provided along the street at a rate of at least one space per use. Spaces may be clustered to serve up to six (6) bicycles; at least one cluster per block shall be provided. Bicycle parking spaces shall be located in front of the stores along the street, either on the sidewalks in specially constructed areas such as pedestrian curb extensions. Inverted "U" style racks are recommended. Bicycle parking shall not interfere with pedestrian passage, leaving a clear area of at least 5 feet. Customer spaces are not required to be sheltered. Sheltered parking (within a building, or under an eave, overhang, or similar structure) shall be provided at a rate of one space per 10 employees, with a minimum of one space per store.*

- *Rural Schools, Service Centers, and Industrial Parks. Where a school, service center, or industrial park is located 5 or more miles from the closest urban area or rural residential subdivision with a density of more than one dwelling unit per 20 acres, a minimum of two bicycle parking spaces per use shall be required.*

■ *The following formulas for Calculating the Number of Required Bicycle Parking Spaces are recommended.*

- *Fractional numbers of spaces shall be rounded up to the next whole space.*

- *For facilities with multiple uses (such as a commercial center), the bicycle parking requirements shall be calculated by using the total number of motor vehicle parking spaces required for the entire development.*

Recommended Ordinances for Bicycle and Pedestrian Circulation and Access

Definitions:

1. *Accessway. A walkway that provides pedestrian and bicycle passage either between streets or from a street to a building or other destination such s a school, park, or transit stop. Accessways generally include a walkway and additional land on either side of the walkway, often in the form of an easement or right-of-way, to provide clearance and separation between the walkway and adjacent uses. Accessways through parking lots are generally physically separated from adjacent vehicle parking or parallel vehicle traffic by curbs or similar devices and include landscaping, trees, and lighting. Where accessways cross driveways, they are generally raised, paved, or marked in a manner that provides convenient access for pedestrians.*

2. *Bicycle. A vehicle designed to operate on the ground on wheels, propelled solely by human power, upon which any person or persons may ride, and with two tandem wheels at least 14 inches in diameter. An adult tricycle is considered a bicycle.*

3. *Bicycle Facilities. A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities and all bikeways.*

4. *Bikeway. Any road, path, or way that is some manner specifically open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are shared with other transportation modes. The five types of bikeways are:*

   a. *Multi-use Path. A paved 10 to 12-foot wide way that is physically separated from motorized vehicular traffic; typically shared with pedestrians, skaters, and other non-motorized users.*

   b. *Bike Lane. A 4 to 6-foot wide portion of the roadway that has been designated by permanent striping and pavement markings for the exclusive use of bicycles.*

c. *Shoulder Bikeway. The paved shoulder of a roadway that is 4 feet or wider; typically shared with pedestrians in rural areas.*

d. *Shared Roadway. A travel lane that is shared by bicyclists and motor vehicles.*

e. *Multi-use Trail. An unpaved path that accommodates all-terrain bicycles; typically shared with pedestrians.*

5. *Pedestrian Facilities. A general term denoting improvements and provisions made to accommodate or encourage walking, including sidewalks, accessways, crosswalks, ramps, paths, and trails.*

6. *Neighborhood Activity Center. An attractor or destination for residents of surrounding residential areas. Includes, but is not limited to existing or planned schools, parks, shopping areas, transit stops, employment areas.*

7. *Reasonably direct. A route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.*

8. *Safe and convenient. Bicycle and pedestrian routes that are:*

a. *Reasonably free from hazards, and*

b. *Provides a reasonably direct route of travel between destinations, considering that the optimum travel distance is one-half mile for pedestrians and three miles for bicyclists.*

9. *Walkway. A hard-surfaced area intended and suitable for pedestrians, including sidewalks and the surfaced portions of accessways.*

Required elements for a site plan:

1. *Bicycle Parking. The development shall include the number and type of bicycle parking facilities required in the Off-Street Parking and Loading section of this Title. The location and design of bicycle parking facilities shall be indicated on the site plan.*

2. *Pedestrian Access and Circulation.*

a) *Internal pedestrian circulation shall be provided in new commercial, office, and multi-family residential developments through the clustering of buildings, construction of hard surface walkways, landscaping, accessways, or similar techniques.*

3. Commercial Development Standards.

a) New commercial buildings, particularly retail shopping and offices, shall be oriented to the street, near or at the setback line. A main entrance shall be oriented to the street. For lots with more than two front yards, the building(s) shall be oriented to the two busiest streets.

b) Off-street motor vehicle parking for new commercial developments shall be located at the side or behind the building(s).

4. All site plans (industrial and commercial) shall clearly show how the site's internal pedestrian and bicycle facilities connect with external existing or planned facilities or systems.

Subdivision Ordinances Requirements

■ *Approval of Subdivision Tentative Plans and Final Plats. Information required shall include the location and design of all proposed pedestrian and bicycle facilities, including accessways.*

Design Standards

1. Pedestrian and Bicycle Circulation.

a) On-site facilities shall be provided that accommodate safe and convenient pedestrian and bicycle access within new subdivisions, multi-family developments, planned development, shopping centers, and commercial districts, and connecting to adjacent residential areas and neighborhood activity centers within one-half mile of the development. Residential developments shall include streets with sidewalks and accessways. Pedestrian circulation through parking lots shall be provided in the form of accessways.

b) Bikeways shall be required along arterials and collectors with ADTs greater than 3,000. Sidewalks shall be required along arterials, collectors, and most local streets, except that sidewalks are not required along controlled access roadways (freeways).

Subdivision Ordinance Requirements for Cul-de-Sac Design

2. Cul-de-Sacs and Accessways.

a) Cul-de-sacs or permanent dead-end streets may be used as part of a development plan; however, through streets are encouraged except where topographical, environmental, or existing adjacent land use constraints make connecting streets infeasible. Where cul-de-sacs are planned, accessways shall be provided connecting the ends of cul-de-sacs to each other, to other streets, or to neighborhood activity centers.

b) Accessways for pedestrians and bicyclists shall be 10 feet wide and located within a 20-foot-wide right-of-way or easement. If the streets within the subdivision are lighted, the accessways shall also be lighted. Stairs or switchback paths may be used where grades are steep.

c) Accessways for pedestrians and bicyclists shall be provided at mid-block where the block is longer than 600 feet.

d) The Hearings Body or Planning Director may determine, based upon evidence in the record, that an accessway is impracticable. Such evidence may include but is not limited to:

i) Physical or topographic conditions make an accessway connection impractical. Such conditions include but are not limited to freeways, railroads, extremely steep slopes, wetlands, or other bodies of water where a connection cannot reasonable be provided.

ii) Buildings or other existing development on adjacent lands physically preclude a connection now or in the future, considering potential for redevelopment.

iii) Where accessways would violate provisions of leases, easements, covenants, restrictions, or other agreements existing as of May 1, 1995 that preclude a required accessway connection.

Street Standards

Table 1

Recommended Street Standards

Classification	Travel Lane Width	Center Turn Lane/Median Width	Parking Width	Planter	Sidewalk Width	Right-of-Way Width
Arterial	12′ (2)	12′	None	12′	10′	80′
Collector A	12′ (2)	8′ swale/path	8′	None	6′	52′
Collector B	12′ (2)	None	8′	4′	6′	60′
Local Commercial/Resid.	12′ (2)	None	8′	4′	6′	60′
Local Residential	14′ (1)	--	7′	6′	6′	52′
Alley	15-20′	--	--	--	--	20′
Multi-use Path	10′	--	--	--	10′	10′

Section 8

Transportation Planning Rule Compliance

Transportation Planning Rule Compliance

In April 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the Transportation Planning Rule (TPR), OAR 660 Division 12. The TPR requires local jurisdictions to prepare and adopt a Transportation System Plan (TSP) by 1997. Outlined below is a list of recommendations (designated by *italics*) and requirements for a TSP for an urban area with a population between 2,500 and 25,000, and how each of those were addressed in the City of Boardman TSP. The comparison demonstrates that the City of Boardman TSP is in compliance with the provisions of the TPR.

DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

TPR Recommendations/Requirements	City of Boardman TSP Compliance
Public and Interagency Involvement	
• Establish Advisory Committees.	A Management Team and Technical Advisory Committee was established at the outset of the project. Membership on the Management Team included members of the City, County, and ODOT staff. Membership on the Technical Advisory Committee included representatives from all facets of the community. A group of Community Stakeholders was also identified and participated in project development.
• Develop informational material.	Technical memoranda and current status reports of work undertaken and completed by the advisory committee were published and made available to the public throughout the project. Press releases concerning the project and opportunities for participation at public workshops were published and materials (including report text, charts, and maps) were prepared for review defining critical components of the City's TSP.
• Schedule informational meetings, review meetings and public hearings throughout the planning process. Involve the community.	Three Management Team/TAC meetings were held through the planning process. The meetings were advertised by distribution of meeting notices. All TAC meetings were advertised and open to the public.
• Coordinate Plan with other agencies.	Coordination with the City, ODOT, and Morrow County was accomplished by including agency representatives on the project mailing list, individual project briefings/meetings, and participation on the Management Team and the TAC.

Review Existing Plans, Policies, Standards, and Laws

• *Review and evaluate existing comprehensive plan.*	The following plans were reviewed as part of the development of the TSP: *1991 Oregon Highway Plan,* (June, 1991); 1996 *Oregon Bicycle Plan*; *City of Boardman Comprehensive Plan,* (1991); Draft *Statewide Transportation Improvement Program* (2000-2003).
• *Land use analysis - existing land use/vacant lands inventory.*	In developing the forecast of transportation needs, an analysis was conducted of current land use designations and land status within the project area to determine the capacity for growth, which would increase demand for transportation services. Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and the city's economic role in the region. Estimates of needed housing, commercial, and employment lands were derived from these forecasts. An inventory of vacant buildable lands within the city was also conducted.
• *Review existing ordinances - zoning, subdivision, engineering standards.*	Existing City Subdivision Ordinances, Zoning Ordinances, and Comprehensive Plan engineering standards were reviewed for adequacy in the development of the City of Boardman TSP.
• *Review existing significant transportation studies.*	Significant transportation studies reviewed as part of the City of Boardman TSP include the above mentioned comprehensive plans and their associated transportation elements, and the Morrow County TSP.
• *Review existing capital improvements programs/public facilities plans.*	The City of Boardman CIP, Morrow County CIP, and the State TIP were reviewed as part of City of Boardman TSP development.
• Americans with Disabilities Act requirements.	The ADA requirements were reviewed and acknowledged as part of the City of Boardman TSP development.

Inventory Existing Transportation System

• Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, *truck routes, number and location of accesses, safety, substandard geometry*).	An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and levels of service is provided in Section 2: Existing Conditions.
• Bicycle ways (type, location, width, condition, *ownership/jurisdiction*).	An inventory of the existing bicycle ways is provided in Section 2: Existing Conditions.
• Pedestrian ways (location, width, condition, ownership/jurisdiction).	An inventory of the existing pedestrian facilities is provided in Section 2: Existing Conditions.
• Public Transportation Services (transit ridership, volumes, route, frequency, stops, fleet, intercity bus, passenger rail, special transit services).	A summary of the existing public transportation services is presented in Section 2: Existing Conditions. Only Special Transit and Intercity Bus services exist within the City of Boardman.
• Intermodal and private connections.	A summary of the existing intermodal and private carrier transportation services is presented in Section 2: Existing Conditions.
• Air transportation.	A summary of existing air transportation facilities is provided in Section 2: Existing Conditions.
• Freight rail transportation.	Section 2: Existing Conditions, documents freight rail transportation services within the City of Boardman.
• Water transportation.	A summary of water transportation services is provided in Section 2: Existing Conditions.
• Pipeline transportation.	A summary of pipeline transportation services is provided in Section 2: Existing Conditions.
• *Environmental constraints.*	Wetland issues were noted in development of the TSP. Development of the TSP did not include the identification of other environmental constraints.
• Existing population and employment.	As outlined Section 1: Introduction, the 1998 City of Boardman population was estimated at 2,795 persons. This information and employment data cited in Section 3: Future Conditions Analysis, is included in Future Conditions as the basis for the forecasts that were performed for this TSP.

Determine Transportation Needs

• Forecast population and employment	Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and City of Boardman's economic role. This information is summarized in Section 3: Future Conditions.
• Determination of transportation capacity needs (cumulative analysis, *transportation gravity model*).	Travel demand forecasts were undertaken as part of this project. The methodology for travel forecasting and assumptions used in the transportation model are contained in Section 3: Future Conditions, which presents an analysis of future transportation conditions and identifies capacity needs.
• Other roadway needs (safety, bridges, reconstruction, operation/maintenance).	Non-capacity related transportation needs are identified and recommended for implementation in Section 5: Transportation System Plan.
• Freight transportation needs.	Freight transportation needs are adequately met via motor carrier freight services.
• Public transportation needs (special transportation needs, general public transit needs).	Public transportation needs are documented in Section 5: Transportation System Plan
• Bikeway needs. • Pedestrian needs.	Future bicycle and pedestrian improvements are to be made in conjunction with roadway improvements to provide cyclists and pedestrians with full accessibility to City of Boardman's street system. Plans for these facilities are shown in Figure 14 of Section 5: Transportation System Plan.

Develop and Evaluate Alternatives

• Update community goals and objectives.	Goals were established as part of the TSP development (see Section 1: Introduction).
• Establish evaluation criteria.	Evaluation criteria was established from the study goals and objectives and used to develop the Preferred Alternative presented in Section 5: Transportation System Plan.
• Develop and evaluate alternatives (no-build system, all build alternatives, transportation system management, transit alternative/feasibility, improvements/additions to roadway system, land use alternatives, combination alternatives).	Section 4: Alternatives Analysis includes a summary of the land use and transportation alternatives considered and analyzed for City of Boardman's TSP. Land uses, roadway alternatives, transportation system management options, bike and pedestrian options were analyzed.
• Select recommended alternative.	A recommended alternative for roadways, bikeways, and pedestrian facilities is contained in Section 5: Transportation System Plan.
Produce a Transportation System Plan	
• Transportation goals, objectives and policies.	Specific recommendations regarding transportation goals and policies are outlined in Section 7: Policies and Land Use Ordinance Modifications.
• Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).	The streets plan element is outlined in Section 5: Transportation System Plan.
• Public transportation element (transit route service, transit facilities, special transit services, intercity bus and passenger rail).	The public transportation element is outlined in Section 5: Transportation System Plan.
• Bikeway system element.	The bikeway plan is outlined in Section 5: Transportation System Plan, and shown in Figure 14.
• Pedestrian system element.	The pedestrian plan is outlined in Section 5: Transportation System Plan, and shown in Figure 14.
• Airport element (land use compatibility, future improvements, accessibility/ connections/conflicts with other modes).	The airport element is outlined in Section 5: Transportation System Plan.
• Freight rail element (terminals, safety).	The rail element is outlined in Section 5: Transportation System Plan.
• Water transportation element (terminals).	The water transportation element is outlined in Section 5: Transportation System Plan

Produce a Transportation System Plan (Continued)

• *Transportation System Management element (TSM).*	TSM element not applicable per OAR 660-12-020(2)(f) and (g).
• *Transportation Demand Management element (TDM).*	TDM element not applicable per OAR 660-12-020(2)(f) and (g).

Implementation of a Transportation System Plan

Plan Review and Coordination

• Consistent with ODOT and other applicable plans.	See Section 7: Policies and Land Use Ordinance Modifications

Adoption

• Is it adopted?	*To follow.*

Implementation

• Ordinances (facilities, services and improvements; land use or subdivision regulations).	Included in Section 7: Policies and Land Use Ordinance Modifications.
• Transportation financing/capital improvements program.	The transportation finance plan is summarized in Section 6: Transportation Funding Plan.

Section 9

References

References

1. Oregon Department of Transportation. *Oregon Highway Plan* 1991 and *1999 Plan*.
2. KCM, Inc. *Morrow County Transportation System Plan Final Report*. March 1998.
3. Transportation Research Board. *Highway Capacity Manual,* Special Report No. 209. 1994.
4. Oregon Department of Transportation. *1997 Oregon Public Transportation Plan.* April 1997.
5. Oregon Department of Transportation. *State Transportation Fiscal and Statistical Data for 1997.* September 1998.
6. Oregon Department of Transportation. *Financial Services Website, http://www.odot.state.or.us/fspublic.* May 1999

Appendix A

Plan and Policy Review

Plans and Policies Review

Existing plan policies and other actions will influence the analysis of land use and transportation issues and the alternatives to address these issues as well as other community objectives.

Boardman's Comprehensive Plan and implementing regulations were acknowledged by the Land Conservation and Development Commission (LCDC) in 1978. They were amended in 1991 as part of the city's first periodic review. In March 1998, the city completed a strategic plan to guide community and economic development activities in the coming years. The city is currently undertaking its second periodic review that will incorporate the results of the strategic plan as well a number of planning efforts.

JOINT MANAGEMENT AGREEMENT BETWEEN CITY OF BOARDMAN AND MORROW COUNTY

Morrow County and the City of Boardman adopted a new agreement for management of the urban growth boundary (UGB) in April 1997. The agreement provides that the City shall have responsibility for the comprehensive plan, implementing ordinances and implementation within the city limits and the County, for the urban growth area (UGA is defined as the area outside the city limits within the UGB). The agreement has a number of provisions related to coordination of land use processes. There are several provisions with particular relevance to this project:

[Section] 5. Public Facility Planning

5.3 The City and County shall jointly prepare and amend the transportation and storm water management elements of the public facility plan, with the County having primary responsibility for the UGA, and the City for the area within the city limits. Transportation plans shall be coordinated and consistent in road classification and construction standards.

[Section] 9. Road Jurisdiction and Standards

9.1. The City and County agree to adopt a joint standard for non-arterial roads equivalent to the County's Rural Collector II standard developed for the County's Transportation System Plan (TSP). All future non-arterial roads within the Urban Growth Boundary (UGB) will be constructed and maintained to this standard unless housing densities warrant a higher standard. In such cases, roads will be constructed and maintained to the County's Rural Collector I standard, also adopted by both the City and the County. Estimates of average daily traffic, based on number of proposed housing units served by a given road, will be used to determine whether the Rural Collector I or II standard will be required. Road standards subject to this agreement are shown in Exhibit C and the County Road Classification Map is shown as Exhibit D.

9.2. If any future arterials are constructed within the UGA the County and City will develop and adopt a joint arterial road standard for construction and maintenance.

9.3. Upon annexation, the City will assume jurisdiction and ownership of any county road improved to at least the minimum standards described above.

9.4. These provisions do not prevent the City or County from improving any road within the UGB to a higher standard, as needed or appropriate, subsequent or prior to annexation.

COMPREHENSIVE PLAN

The Plan consists of 15 chapters as follows:

Chapter I: Citizen Involvement

Chapter II: Land Use Planning

Chapter III: Agricultural Land

Chapter IV: Forest Lands

Chapter V: Natural Resources

Chapter VI: Air, Water and Land Resources Quality

Chapter VII: Natural Hazards

Chapter VIII: Recreational Needs

Chapter IX: Economic Needs

Chapter X: Housing

Chapter XI: Public Facilities

Chapter XII: Transportation

Chapter XIII: Energy

Chapter XIV: Urbanization

Chapter XV: Administrative Procedures

Comprehensive Plan Map

The Recreation Chapter discusses concerns about developing an adequate bike path plan, as follows:

- Bike paths on both sides of the street may not be feasible in many areas without additional pavement width, at great expense to the City.
- Bike lanes on one side of the street would force the bike riders to travel against vehicular traffic half of the time. This would be in violation of existing traffic laws.
- Bike lanes on just the right side of the streets with the traffic flow and designated as one-way lanes would provide complete loop capabilities but it would be virtually impossible and undesirable to enforce.
- The Economic Development Chapter recognizes that the city is well positioned for economic development because of its proximity to several modes of transportation. Policies include:
- Advance the position of Boardman as a regional center for industry, power generation, commerce, recreation, and culture.
- Encourage tourist commercial activity near Interstate 84.
- Encourage industrial park development with adequate off-street parking, landscaping, and site screening.
- Promote cooperation among the city, the Port of Morrow, and other interested parties to facilitate the most effective uses of public facilities serving the planning area.

- One housing policy addresses the relation of housing to arterial streets:
- Locate high-density multiple-family developments in areas to offer a buffer between single-family residential and commercial or industrial uses, close to schools and shopping, and with quick access to arterial streets.

The Transportation Chapter makes the following findings:

- Because transportation is not restricted to a single mode, the City has a key advantage for economic development.
- Because of Boardman's small population, a mass transit system is not currently feasible.
- An interim and ultimate master arterial street plan has been adopted and implemented by the City. This plan provides for the safe movement of large traffic volumes connecting the central business district with residential areas and provides through traffic access from residential areas to the Port of Morrow industrial area, according to the plan. The interim plan provides for 36-foot wide street widths in residential areas and 44-foot wide streets in commercial, industrial and high-density residential areas. The concept of the interim versus ultimate plan is that the City would gain widening to the ultimate plan when streets are overlaid.
- Bike paths are needed for transportation alternatives to the automobile and for recreation. The City has constructed several bike paths.
- Transportation policies include:
- Adopt an interim and ultimate master arterial street plan, including provisions for bicycles and pedestrians.
- The City shall allow for street oversizing, intersections, and traffic control.
- Sidewalks shall be required (as part of the subdivision process) along all City streets as per City standards. Property already subdivided and developed without sidewalks shall be encouraged to add sidewalks.

The following is a policy from the Energy Chapter:

- Consider alternative modes of travel to automobiles, such as bike paths.
- Urbanization policies within the Plan are important in this analysis:
- Encourage orderly conversion of rural land in a pattern to assure economical extension of municipal services.
- Avoid sprawl and leapfrog development.
- Provide for a variety of residential housing types, tourist and business, commercial, light and heavy-industrial uses.
- The land use plan will provide for controlled growth and separation of incompatible uses.
- The City MAY, on a case by case basis and upon approve of the City Council, extend utilities (water, sewer, storm drainage) outside the city limits. Normally, extension of facilities will be only within the Urban Growth Boundary; however, the City Council may provide utilities for special projects outside the UGB. The utilities shall be sized to only serve the identified project.

IMPLEMENTING REGULATIONS

The Zoning Ordinance (Ordinance No. 159) as amended, implements the Comprehensive Plan by establishing specific standards for use of the land by zoning districts and other development standards. The ordinance contains regulations for off-street parking, loading and internal access but does not have development standards related to streets, use of streets or access standards.

The Subdivision Ordinance (Ordinance 44), adopted in 1964, requires the dedication of streets in subdivisions and contains street standards including street widths, as follows:

Type of Street	Minimum ROW	Minimum Roadway
Major (e.g., arterial, collector)	80	44
Minor	60	36
Minor (unusual cases)	50	28
Radius of cul-de-sac turnaround	50	45
Alley	20	20

Other provisions include reserve strips; future extension of streets; intersection angles (no less than 80 degrees with 12-foot corner radii); existing streets; half streets; cul-de-sacs (maximum length of 400 feet); street names; grades and curves; and streets adjacent to railroad right-of-way. The ordinance provides for block length "preference" standards of 800 to 1,200 feet for residential and 800 feet or less for commercial except blocks bordering arterial streets, which are to be 1,200 feet long. The Planning Commission can require 10-foot wide pedestrian ways through unusually long blocks. The ordinance also has provision for planned unit developments.

The ordinance also provides that streets can be approved by deed as well as by platting; conditions are established for this approach. The ordinance was amended in 1997 to include the provision for master development plans for phased developments. This ordinance contains provisions that permit the Planning Commission to require a traffic impact analysis and a "street development pattern" for adjoining lands where the impact from the proposed development is unknown. A criteria for approval of the master development plan includes: the transportation plan provides access to adjacent properties that allows efficient and reasonable future land divisions and promotes orderly efficient circulation pattern for the City.

STRATEGIC PLAN

The City completed a Strategic Plan in March 1998. The plan identifies strengths, weaknesses, opportunities and threats to the community in a number of areas: economic development; community services and development; infrastructure; and health and safety. Goals and Attendant Strategies are identified as part of the Strategic Foundation. The following are specific actions proposed by the Strategic Plan that could affect the TSP and land use alternatives.

GOAL: Fully develop the business and economic potential of the Boardman community.

Strategy: Provide adequate infrastructure in water, sewer, and transportation.

Project: Street Improvement Program

GOAL: Develop quality community services and facilities.

Strategy: Develop community facilities in partnership with local and public financial resources.

Statement: Business District Plan

GOAL: Effectively manage land use and transportation needs.

Strategy: Establish transportation and facility standards.

Project: Community Development Program

Project: Street Improvement Program

Strategy: Promote and support development which is consistent with a comprehensive growth and development plan.

Project: Community Development Program

GOAL: Promote and foster a high quality of life

Strategy: Develop and support programs which promote personal and property health and safety.

Project: Street Improvement Program

The Community Development Program referenced in the plan is described to include the TSP, an infill and redevelopment strategy and the identification of a central downtown area. The Street Improvement Program includes the paving and redevelopment of Locust Road, widening, sidewalks, curbs and gutters on West Columbia Avenue/Boardman Avenue and improvement of the Marine Drive overpass to include pedestrian and bike facilities.

Appendix B

Description of Level-of-Service Methods and Criteria

Appendix B

LEVEL OF SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various LOS from A to F.[1]

SIGNALIZED INTERSECTIONS

The six LOS grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average stopped delay per vehicle. Using this definition, LOS D is generally considered to represent the minimum acceptable design standard.

Table B1
Level of Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stop delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stop delay is in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

1 Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual*, Special Report 209 (1994).

Table B2
Level of Service Criteria for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (Seconds)
A	≤ 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The *1994 Highway Capacity Manual* provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of LOS for unsignalized intersections is presented in Table B4. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard.

Table B3
Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in queue.
B	• Some drivers begin to consider the delay an inconvenience. • Occasionally there is more than one vehicle in queue.
C	• Many times there is more than one vehicle in queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in queue. • Drivers feel quite restricted.
E	• Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B4
Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Total Delay per Vehicle (Seconds)
A	< 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. **While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections.** No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

Appendix C

Employment and Population Forecast Methodology

320 WOODLARK BUILDING
813 SW ALDER STREET
PORTLAND, OREGON 97205-3111
503/225-0192 • FAX 503/225-0224

COGAN
OWENS
COGAN

PLANNING,
COMMUNICATIONS,
GOVERNMENTAL AND
COMMUNITY RELATIONS,
ENVIRONMENTAL STUDIES

MEMORANDUM

DATE: February 3, 1999

TO: Julie Kuhn

FROM: Matt Hastie MH

RE: **Morrow County Population and Employment Projections**

We have completed projections to be incorporated in Technical Memorandum #3 for the Morrow County TSP project. This memo outlines the methodology and assumptions used to develop projections for the cities of Boardman, Heppner, Ione, Irrigon and Lexington. For Boardman and Irrigon, we have estimated future population for the City and urban growth area (area between the existing city limits and urban growth boundary (UGB)). For the other cities, we have provided projections for the city limits only. All employment projections are for the cities only.

METHODOLOGY

Population

The Oregon Office of Economic Analysis (OEA) has developed population and employment forecasts through the year 2040for each county in Oregon. These are recognized as the official projections to be used by state agencies and local jurisdictions for planning purposes. Counties are responsible for allocating population to their cities and unincorporated areas. For the purposes of buildable lands and other planning studies, local jurisdictions may modify the OEA projections if agreed to by the appropriate coordinating state agency. In 1997, Morrow County, in coordination with the Oregon Department of Land Conservation and Development (DLCD) and the cities of Boardman and Irrigon, agreed to a modified set of 1997 population estimates and future projections. These projections assumed a higher rate of growth than forecast by the OEA through the year 2002 and incorporate the OEA growth rates from 2002 through 2020. The higher growth rates are based on substantial recent/ ongoing population and employment growth in the region. In addition, growth rates for specific cities are assumed to fluctuate from the county average in the near term.

We used these 1997 estimates and modified growth rates in our projections. In addition, we estimated the number of people within the urban growth areas of Boardman and Irrigon (based on the number of dwelling units and the average number

of people per dwelling unit in Morrow County) to estimate and project the population within the UGB for these two cities.

Employment

Current estimates of employment for individual cities are not available through the County, state or any of the individual jurisdictions involved in this project. As noted above, the state has developed county-wide employment projections for non-agricultural employment which can be used to estimate future growth rates for the county. In estimating current and future employment, we assumed the following:

- Between 1990 and 1997, employment growth rates mirrored those for population growth with these exceptions:
  - The rate of employment growth was slightly lower than population growth in Boardman, where employment growth was high but population growth was likely higher, due to significant employment growth in Umatilla County (i.e., some new Boardman residents in the workforce work in Umatilla County).
  - The rate in Irrigon was significantly lower than the rate of population growth, given Irrigon's "bedroom community" characteristics and the high rate of population growth there.
- Between 1997 and 2002, we also estimate a somewhat higher rate of employment growth than the original OEA projections, following the same logic used to develop population estimates, as well as the assumptions stated above.
- For 2002 - 2020, as with the population estimates, we assumed the employment growth rates projected by the OEA.

The attached tables show the projections.

POPULATION PROJECTIONS

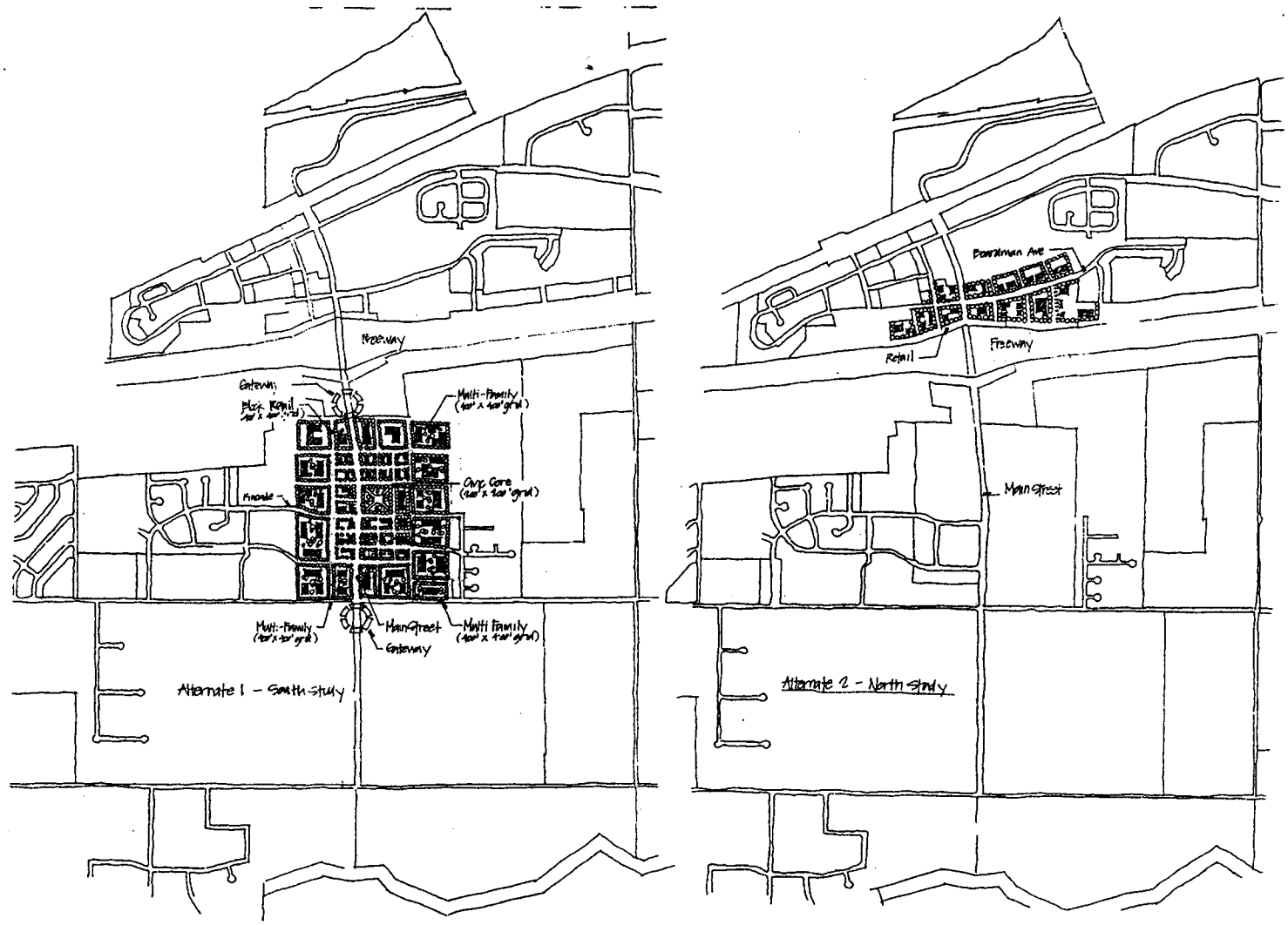
County/City		1997	2000	2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow		9,895	9,828	11,179	2.5%	10,723	1.8%	11,594	1.6%	12,463	1.5%	13,322	1.3%
Adjusted Morrow		9,895	11,131	12,039	4.0%	12,701	1.8%	13,750	1.6%	14,812	1.5%	15,801	1.3%
Boardman	City and	2700	3,126	3,446	5.0%	3,635	1.8%	3,936	1.6%	4,240	1.5%	4,523	1.3%
	City and UGA	3062	3,545	3,908	5.0%	4,123	1.8%	4,463	1.6%	4,808	1.5%	5,129	1.3%
Heppner	City and	1480	1,502	1,517	0.5%	1,601	1.8%	1,733	1.6%	1,867	1.5%	1,992	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Ione	City and	310	319	326	1.0%	344	1.8%	372	1.6%	401	1.5%	428	1.3%
	City and UGA		-	-	1.0%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Irrigon	City and	1200	1,470	1,683	7.0%	1,776	1.8%	1,922	1.6%	2,071	1.5%	2,209	1.3%
	City and UGA	1444	1,769	2,025	7.0%	2,137	1.8%	2,313	1.6%	2,492	1.5%	2,658	1.3%
Lexington	City and	290	294	297	0.5%	325	1.8%	352	1.6%	379	1.5%	404	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%

EMPLOYMENT PROJECTIONS

County/City	1990	1997	2000 % change		2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow Co. Proj.	2232	2,924	3,283	3.9%	3,449	2.5%	3,613	1.9%	3,890	1.5%	4,097	1.0%	4,290	0.9%
Boardman	641	1,029	1,261	7.0%	1,444	7.0%	1,528	1.9%	1,646	1.5%	1,730	1.0%	1,809	0.9%
Heppner	580	601	610	0.7%	616	0.5%	652	1.9%	702	1.5%	738	1.0%	772	0.9%
Ione	121	125	127	0.6%	128	0.5%	136	1.9%	146	1.5%	154	1.0%	161	0.9%
Irrigon	236	290	317	3.0%	336	3.0%	356	1.9%	384	1.5%	403	1.0%	422	0.9%
Lexington	108	110	110	0.2%	111	0.2%	117	1.9%	126	1.5%	133	1.0%	139	0.9%

Appendix D

Boardman Downtown Concept



BOARDMAN URBAN DESIGN CONCEPTS

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE D-1

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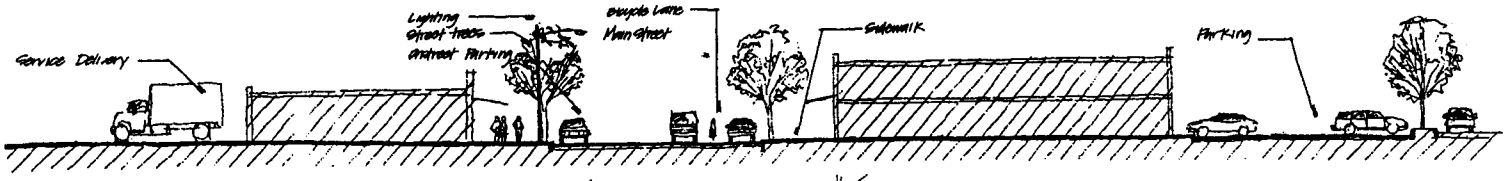
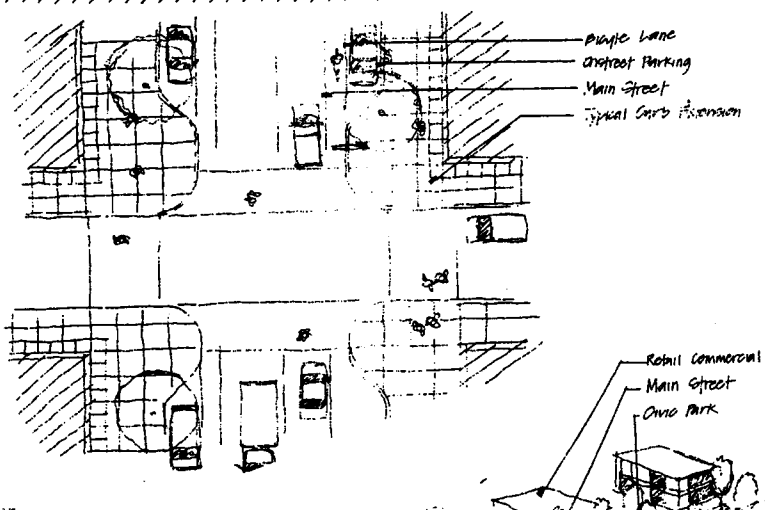
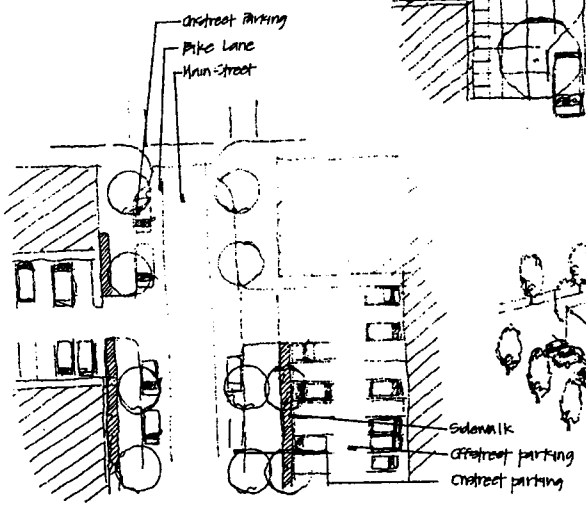
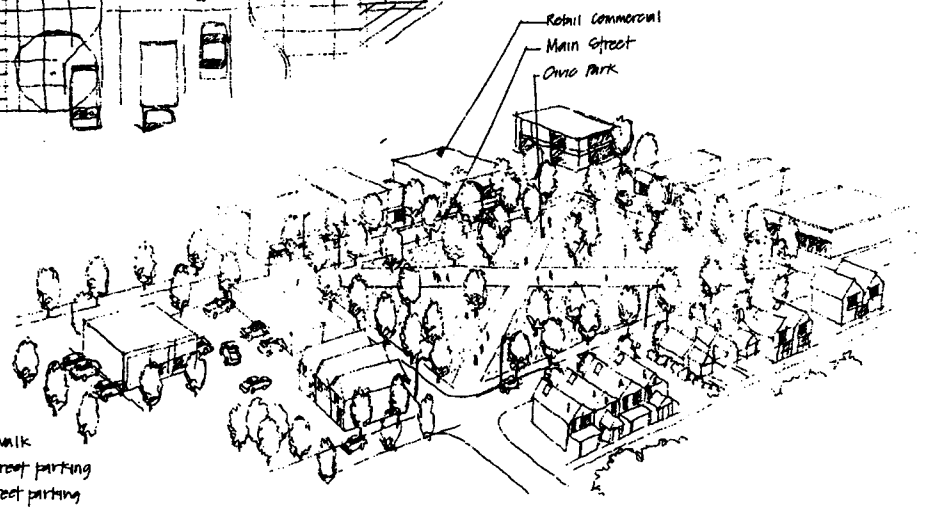


Street Section





Typical Main Street Plan



Main Street City Park Sketch

BOARDMAN DOWNTOWN ALTERNATIVES

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE D-2

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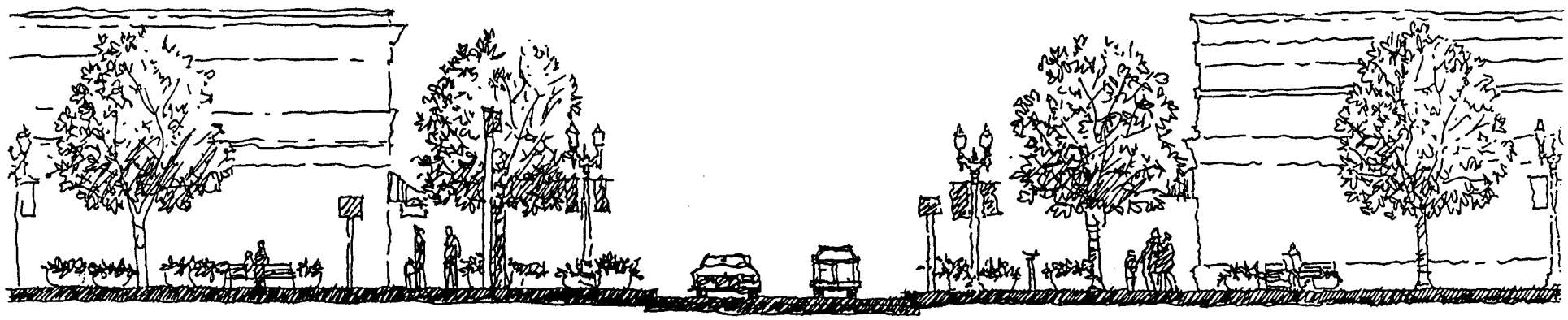

BOARDMAN DOWNTOWN STREETSCAPE

CITY OF BOARDMAN, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE D-3

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Appendix E

Supplemental Funding Information

Table E-1
Boardman Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Federal Sources

Program Name	Description
Community Development block Grants (CDBG)	Community Development Block Grants (CDBG) are administered by the Department of Housing and Urban Development (HUD) and potentially be used for transportation improvements in eligible areas.

Table E-1 (Continued)
Boardman Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: State Level

Program Name	Description
State Highway Fund	The State Highway Fund composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carrier. In 1994, the state gas tax was $0.24 per gallon. Vehicle registration fees were $15 annually. Revenues are divided as follows: 15.57 percent to cities, 24.38 percent to counties, and 60.05 percent to ODOT. The city share of the State Highway Fund is allocated based on population. ORS 366.514 requires at least one percent of the State Highway Fund received by ODOT, counties and cities be expended for the development of footpaths and bikeways. ODOT administers the bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.
Special Public Works Fund (SPWF)	The State of Oregon allocates a portion of revenues from the state lottery for economic development. The Oregon Economic Development Department provides grants and loans through the SPWF program to construct, improve and repair infrastructure to support local economic development and create new jobs. The SPWF provides a maximum grant of $500,000 for projects that will help create a minimum of 50 jobs.
Transportation Access Charges	The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed, limited access corridors; service in high-demand corridors; and bypass facilities to avoid congested areas. Congestion pricing, where drivers are charged electronically for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements; but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods. The Oregon Revised Statutes allow ODOT to construct toll bridges to connect state highways and improve safety and capacity. The Statues also allow private development of toll bridges. Recent actions by the Oregon legislature provide authority for developing toll roads. State authority for congestion pricing does not exist; new legislation would be required.
Immediate Opportunity Fund (IOF)	Financed at a level of $5 million per year to a maximum of $40 million through FY96. The fund is to support specific economic developments in Oregon through the construction and improvement of roads and is restricted for use in situations that require a quick response and commitment of funds. It is anticipated that the maximum amount available for a single project is $500,000 or 10 percent of the annual program level. This fund may be used only when other sources of financial support are unavailable or insufficient and are not a replacement or substitute for other funding sources.
OR Transportation Infrastructure Bank	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.

Table E-1 (Continued)
Boardman Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: State Level

Program Name	Description
OR Transportation Infrastructure Bank	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.

Table E-1 (Continued)
Boardman Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Local Sources

Program Name	Description
Special Assessments/Local Improvements Districts	Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works projects as street paving, drainage, parking facilities and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct and/or financial benefit to its owners. Local Improvement Districts (LIDs) are legal entities established by the City to levy special assessments designed to fund improvements that have local benefits. Through a local improvement district (LID), streets or other transportation improvements are constructed and a fee is assessed to adjacent property owners.
Systems Development Charges (Impact Fees)	Systems Development Charges (SDCs) are fees paid by land developers intended to reflect the increased capital costs incurred by a municipality or utility as a result of a development. Development charges are calculated to include the costs of impacts on adjacent areas or services, such as increased school enrollment, parks and recreation use, or traffic congestion. Numerous Oregon cities and counties presently use SDCs to fund transportation capacity improvements. SDCs are authorized and limited by ORS 223.297 - 223.314.
Local Gas Tax	A local gas tax is assessed at the pump and added to existing state and federal taxes. Tillamook, The Dalles and Woodburn are Oregon cities that have a local gas tax. Multnomah and Washington Counties also have gas taxes.
Local Parking Fees	Parking fees are a common means of generating revenue for public parking maintenance and development. Most cities have some public parking and many charge nominal fees for use of public parking. Cities also generate revenues from parking citations. These fees are generally used for parking-related maintenance and improvements.

Table E-1 (Continued)
Boardman Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Local Sources

Program Name	Description
Street Utility Fee	Most city residents pay water and sewer utility fees. Street user fees apply the same concept to city streets. A fee would be assessed to all businesses and households in the city for use of streets based on the amount of use typically generated by a particular use. For example, a single-family residence might, on average, generate 10 vehicle trips per day compared to 130 trips per 1,000 square feet of floor area for retail uses. Therefore, the retail use would be assessed a higher fee based on higher use. Street services fees differ from water and sewer fees because usage cannot be easily monitored. Street user fees are typically used to pay for maintenance more than for capital projects.
Vehicle Registration Fees	Counties can implement a local vehicle registration fee. The fee would operate similar to the state vehicle registration fee. A portion of the County fee would be allocated to the City.
Property Taxes	Local property taxes could be used to fund transportation, although this is limited by Ballot Measure 5 and 47.
Revenue Bonds	Revenue Bonds are bonds whose debt service is financed by user charges, such as service charges, tolls, admissions fees, and rents. If revenues from user charges are not sufficient to meet the debt service payments, the issuer generally is not legally obligated to levy taxes to avoid default, unless they are also based by the full faith and credit of the insuring governmental unit. In that case, they are called indirect general obligation bonds. Revenue bonds could be secured by a local gas tax, street utility fee, or other transportation-related stable revenue stream.

Table E-2
Currently Used Revenue Sources For Cities (millions of 1995 dollars)

Facility	Revenue Source	Importance (not 100%)	3-Year Trend	Dedication	Rate
Streets/Bridges/ Sidewalks/ Bike Lanes	Oregon Highway Trust Fund	51% of total road or $89.	Growing about 1.75% per year.	Constitutionally limited to funding activities that benefit autos & trucks.	24¢/gal. for gas; $30/biennium registration fee.
	General Fund Transfers	9% or $15.	Varies but assume growth @ 3%/yr. But not used by all cities.	May be used for any purpose.	Varies widely.
	Special Property Tax Levies	5% or $7.	Increasing, only used by about 18 cities.	May be used for purpose described in election.	Varies widely.
	Improvement District Assessments	7% or $12.5.	Varies but increases when local development increases.	May be used for construction of adjacent streets-sidewalks.	Varies with construction cost & local ordinances.
	Systems Development Charges/Traffic Impact Fees	4% or $7.	Varies but increases when local development increases, only used by about 2 dozen cities.	May be used for construction of new streets.	Varies with construction cost & local ordinances. Rates generally higher in Portland Metro area.
	Utility Franchise Fees	3% or $4.	Grows roughly w/population and inflation.	Is a general revenue used by some cities for streets.	Statutory limit of 5% of utility gross receipts.
	Interest Earnings	4% or $6.	Varies w/current interest rates.	Have same Constitutional limits as Highway Fund.	Used as general street revenue.
	Local Gas Tax	0.44% or $0.7	Unchanged.	Have same Constitutional limits as Highway Fund.	Used by Tillamook, The Dalles, and Woodburn.
	Private Contributions	3% or $4.3	Varies widely.	Usually contributions are related to specific development street impacts.	Negotiated individually.

Table E-2: (Continued)
Currently Used Revenue Sources For Cities (millions of 1995 dollars)

Facility	Revenue Source	Importance (not 100%)	3-Year Trend	Dedication	Rate
	Misc. - permit fees, finds, fines, parking, Motel Tax, other	8% or $14.5.	Gradual growth.	General revenues used for streets.	Varies widely by City.
	Federal - FHWA+HUD	3% or $5.6.	Relatively stable	Used mainly for new construction w/some rehab.	Based on federal allocation to Oregon.
	Misc. State Revenues - mainly Lottery funds.	2% or $3.	Varies, no trend.	Used mainly for economic development capital improvements.	Specific grants to individual cities each year.
Off-street Bike Paths	Misc. general funds & ISTEA	??	Varies from year to year.	ISTEA & General Funds used for construction, General Funds used for maintenance & repair.	Varies from year to year.

Table E-3
Boardman Area Transportation System Plan
Currently Used Revenue Sources in Oregon

Transit Service Type/Function	Funding Source	Status
Urban Public Transportation (Portland & Eugene) (operating & capital)	1. Local Payroll Tax - operating 2. Federal grants - capital 3. Federal grants - operating 4. Fares & advertising	1. Major Source - $100 million/yr. Growing - Sensitive to Economic Conditions 2. Major source - $10 million/yr - Stable 3. Minor source - $5 million/yr - Declining 4. Minor source - Growing w/ridership
Urban Public Transportation (Salem, Corvallis, Medford, K-Falls)	1. Property tax (typically a taxbase or stand-alone levy w/in $10 cap for local gov't services) 2. Federal grants - capital 3. Federal grant - operating 4. Fares & advertising	1. Major Source - Growing Slowly 2. Major Source - $2 million/yr. - Stable 3. Major Source - $2 million/yr. - Declining 4. Minor Source - Growing w/ridership
Small City & Rural (Astoria, Union County, etc.) (operating & capital)	1. Federal grants - capital & operating 2. Local Property Tax (typically w/in city or county operating levy) 3. Fares, donations & advertising	1. Major Source - Declining 2. Major Source - Stable 3. Minor Source - Stable
Mobility for Seniors & People with Disabilities - (operating & capital)	1. Special Transportation Fund (2¢ state cigarette tax) - operating & capital 2. Social Service Agency grants / contracts - operating 3. Local Property Tax (typically w/in city or county operating levy) 4. Federal grants - capital & operating 5. Fares, donations advertising	1. Major Source - $5 million/yr. - Declining 2. Major Source - Declining 3. Minor Source - Stable 4. Major Source - Declining 5. Minor - Stable
Intercity Bus (operating & capital)	1. Major Interstate Routes: Fares 2. Branch & feeder routes: Private capital, Fares	1. Sole Source - Declining 2. Private

MEMORANDUM

TO: Mayor and Council
City of Boardman

FROM: Citizens' Committee to review
City of Boardman Transportation Plan

DATE: February 8, 2002

RE: Proposed amendments to Attachment A, Boardman Comprehensive Plan Technical Appendix, Transportation System Plan (TSP)

INTRODUCTION:

The committee has met to discuss certain aspects of the draft TSP, to consider specific language changes we can recommend to you, and have endorsed our recommendations on the signature page(s) attached hereto.

Our methodology is as follows:

1. Existing language in the draft TSP appears in standard typeface with indented margins,
2. Language we propose to be stricken appears in standard typeface ~~strike through~~,
3. Language to be inserted appears in *italic typeface*,
4. Language to be inserted which is quoted from some official source appears in ***bold italic typeface***,
5. An Explanation of the suggested amendment, and citation to quoted official source documentation, appears in standard typeface [enclosed in brackets.],
6. Each suggested amendment is numbered and intended for your consideration independent of any other suggested amendment, and
7. The signatories to these proposed amendments have appointed a spokesperson to speak on their behalf at the public hearing on February 19, 2002, should you have inquiry regarding any of these proposed amendments.

The draft of the TSP approved by the Planning Commission and now before the Council includes several grammatical errors. This Committee recommends a careful editing prior to final adoption. For the convenience of the Council and Staff, we are noting suggested editorial corrections on a separate memo and are supplying a corrected copy of the TSP both in hard copy and in electronic form.

PROPOSED AMENDMENTS:

1. Page 1, **Recommended Policies for Approval Process**, last bulleted item:

> For State projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review, if local review is required.
> (1) Where the project is consistent with the Transportation system Plan (TSP), formal review of the draft EIS or EA and concurrent or subsequent compliance with

ate, ~~will~~ *may* require half-street improvements as part of a given project's conditions of approval. ...

[Explanation: This amendment is intended to change the mandatory "will" to the permissive "may" even in the event half-street improvements may be appropriate. This change enables the City to make other provisions for half-street improvements that may be more appropriate than a build-now alternative. At the same time it does not prohibit the City from requiring half-street improvements.]

5. Page 15, **Access Management Strategies** (continued from page 14) first paragraph:

.... From a policy perspective, the Oregon Department of Transportation has legal authority to regulate access points ~~along~~ *to* Interstate 84 within the city's urban growth boundary. ...

[Explanation: This amendment is intended to clarify ultimate permitting authority between ODOT and the City of Boardman. The word "along" may imply more than is intended while the word "to" is more specific and consistent with legal authority to regulate as opposed to goal setting and planning.]

6. Page 15, **V. Impact on Local Development Activities:**

Future developments along Interstate 84 (zone changes, comprehensive plan amendments, redevelopment and/or new development) ~~will~~ *may* be required to meet the *1999 Oregon Highway Plan* (italics in original) *(State TSP)* Level of Importance and Access Management policies and standards.

To protect the function of the I-84 Interchange (italics in original) *s*, access management ~~will~~ *may* need to be evaluated in the future. This should include evaluation of access spacing, turning movements, turning movements within ¼ mile of the interchange, and opportunities for consolidating existing access.

[Explanation: This amendment is intended to change the mandatory "will" to the permissive "may" since under OAR 734 section 51, not all new developments will require consideration of the goals and policies of the State TSP. Specifically, OAR 734-051-0180(3)(e) requires a Transportation Impact Study of "Any road segment or intersection where the additional traffic created by the proposed development is greater than 10 percent of the current traffic volume for road segments or the current entering volume for intersections."]

7. Page 16, first paragraph following **Table 9A**, second to last paragraph:

In addition to the standards shown in Table 9 (sic. 9A), according to the *1999 Oregon Highway Plan*, (italics in original) the impact in traffic generation from land uses must allow a major street level of service "C" to be maintained for interstate segments within the development's influence area along the highway. The influence area is defined as the area in which the ~~average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property line of the development (whichever is greater).~~ ***additional traffic created by the proposed development is greater than 10 percent of the current traffic volume for road segments or the current entering volume for intersections.***

9. Page 17, following the last paragraph of **V. Impact on Local Development Activities,** (or the above paragraph if amendment 8. is adopted), insert the following new paragraph:

Considering the following factors:

- *The City of Boardman, particularly its freeway dependent commercial district, is bisected by Interstate 84,*
- *Two interchanges on I-84, namely the Boardman interchange and the Port of Morrow interchange provide nearly exclusive vehicular ingress and egress to and from the City.*
- *The City is also bisected by a BPA power line which lies within 1320 feet south of I-84 at both interchanges.*
- *The City is further bisected by Union Pacific Railroad mainline and is bounded by the Columbia River north of the Boardman interchange.*
- *Main Street is a two-lane crossroad, interchanging with I-84, and serves a system of streets and direct land access to commercial and residential uses both north and south of I-84, within 1320 feet of the Boardman interchange.*
- *Laurel Lane is a two-lane crossroad, interchanging with I-84, and serves commercial, residential and industrial uses both north and south of I-84, within 1320 feet of the Port of Morrow interchange.*
- *The City Limits and Urban Growth Boundaries extend less than 1320 feet south from the Port of Morrow interchange and Laurel Lane is the only public street or road extending into the area of the City lying south of that interchange.*
- *The existing public and private investment in streets, utilities, buildings and other improvements within 1320 feet of both interchanges is substantial.*
- *Many of the existing streets, roads and access thereto, do not comply with the standards shown in Table 9A.*
- *Many of the existing streets, roads and valuable private investment in improvements served by those streets and roads, have no other public access.*
- *Providing alternative access that will comply with the standards shown in Table 9A would be impractical, inefficient, prohibitively expensive and in many cases impossible.*

Therefore the City of Boardman finds that meeting the access spacing standards within the Interchange Access Management Areas at the Boardman interchange and the Port of Morrow interchange is not possible within the planning period.

[Explanation: The proposed finding is consistent with the unique characteristics of the City of Boardman, its historic development and the most likely limitations these factors have upon the City's ability to meet the planning goals of both LCDC and ODOT within the planning period. As explicitly provided in the State TSP, Goal 3C, spacing standards should be applied wherever possible (emphasis supplied). By incorporating this finding in the City of Boardman's TSP, efforts can be concentrated on meeting the other alternative of the goal "by at the very least, to improve the current conditions by moving in the direction of the spacing standards," and to emphasize the need for other mitigation measures such as traffic controls as provided in Action 3C.6. This finding is also important in determining the circumstances which may require a variance as proposed below.]

[Explanation: OAR 734 Division 51 and its goals and regulations for Interchange Access Management has the potential for seriously jeopardizing both public and private investment and development potential for a substantial portion of the City. The City of Boardman has some unique characteristics that cannot be easily accommodated by strict application of the goal and rules that may attend it. The TSP fails to adequately address these unique characteristics in a way that gives landowners security in knowing the extent to which future development or redevelopment may occur. The urgency with which the TSP must be adopted does not allow time to develop access plans, secure variances therefore (if variances are required) and identify future events that will require both public and private investment. The extensive proposed Street Improvement Plans are preliminary steps toward development of Access Management Master Plans that with appropriate participation, can be incorporated in the City's Comprehensive plan and will give both the City of Boardman and affected landowners notice of future requirements.]

12. Page 17, **VI Variance Process:**

Access Variances *will be provided to parcels that have no reasonable access or cannot obtain reasonable alternative access to the public road system. Access Variances* may be provided to parcels whose highway frontage, topography, or location would otherwise prelude issuance of a conforming permit and ~~would either have no reasonable access or~~ cannot obtain reasonable alternative access to the public road system. ~~In such a situation a conditional access permit may be issued by ODOT and the City of Boardman for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards.~~

~~The permit~~ *Access Variances* may carry ~~a~~ condition*s*

(1) that the access may be closed at such time that reasonable access becomes available to a local public street, ~~Approval conditions might also require a given land owner to work in cooperation with adjacent land owners to provide either~~

(2) the applicant dedicate right-of-way for joint access points, front and rear crossover easements, or a rear-access upon future redevelopment *and,* ~~In addition, approval of a conditional permit might require ODOT-approved turning movement~~

(3) the applicant include appropriate design standards to ensure safety and managed access. Under special circumstances, *the City and/or* ODOT may purchase property in order to prevent safety conflicts.

[Explanation: This amendment recognizes the "common law" right of access, while at the same time preserves the City's right to control access in a reasonable manner. Two instances are recommended where variances would be appropriate: (1) a mandatory variance where no other access exists nor can be obtained, and (2) a permissive variance where frontage, topography and location makes alternative access unreasonable. Both types of variances could be conditioned upon other reasonable access becoming available, dedication of right-of-way for alternative access and installation of appropriate safety and design features. The "work in cooperation with" language is thought to be so subjective that it is impossible to know when the condition is met. The suggested language makes clear that no parcels will become "land locked" while at the same time the City retains maximum flexibility to develop alternative access, and to require safety and traffic management design elements.]

ATTACHMENT A

Boardman Comprehensive Plan Technical Appendix
Transportation System Plan

Introduction

This section describes the individual elements of the City of Boardman Transportation System Plan. The preferred alternative presented in this TSP consists of those transportation and land use improvements necessary to support the City of Boardman's Comprehensive Land Use Plan. The policies within the TSP are as follows:

Recommended Policies for Approval Process

- The Transportation System Plan is an element of the Boardman Comprehensive Plan (as a Technical Appendix). It identifies the general location of transportation improvements. Changes in the specific alignment of proposed public road and highway projects that shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan.
- Operation, maintenance, repair and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.
- Dedication of right-of-way, authorization of construction and the construction of facilities and improvements for improvements designated in the Transportation System Plan, the classification of the roadway and approved road standards shall be allowed without land use review.
- Changes in the frequency of transit, rail and airport services that are consistent with the Transportation System Plan shall be allowed without land use review.
- For State projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall serve as the documentation for local land use review, if local review is required.

  (1) Where the project is consistent with the Transportation System Plan (TSP), formal review of the draft EIS or EA and concurrent or subsequent compliance with applicable development standards or conditions;

  (2) Here the project is not consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent completion of necessary goal exceptions or plan amendments.

Policies for Protection of Transportation Facilities

- The City of Boardman shall protect the function of existing and planned roadways as identified in the Transportation System Plan.
- The City of Boardman shall include a consideration of their impact on existing or planned transportation facilities in all land use decisions.

- Bikeways and pedestrian acessways shall be designed and constructed to minimize potential conflicts between transportation modes. Design and construction of such facilities shall follow the guidelines established by the Oregon Bicycle and Pedestrian Plan.
- Maintenance and repair of existing bikeways and pedestrian accessways (including sidewalks) shall be given equal priority to the maintenance and repair of motor vehicle facilities.

The individual plans and policies presented in the TSP were developed specifically to address the requirements of Oregon's Transportation Planning Rule. Projects associated with each plan element have been identified and costs have been estimated as described herein. The recommendations set forth by this plan reflect the findings of the existing and forecast future conditions analyses, the alternatives analysis, and the concerns expressed by both the citizens of Boardman and the public agencies that serve them.

Roadway System Plan

Based on the identified existing and anticipated operational and circulation needs, the roadway system plan was developed. The city's roadway system plan provides guidance as to how to best facilitate travel within the city by addressing two key issues:

- A roadway functional classification system and corresponding roadway design standards, and
- Roadway connectivity, including new and improved streets to meet future capacity, circulation, and safety needs.

Functional Classification

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation. A given roadway's functional classification determines its intended purpose, the amount and character of traffic that it is expected to carry, commitment to serve and promote non-auto travel, and its design standards.

The classification of a given street is intended to convey the requirements, capabilities, and capacity of each respective roadway while recognizing that roadway's contribution to the overall transportation system. It is imperative that the classification of streets is considered in relation to adjacent properties, the land uses that they serve, and the modes of transportation that can be accommodated. Further, each street must be appropriately designed so as to accommodate local travelers (i.e., passenger cars, heavy trucks, pedestrians, and bicycles). The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

The City of Boardman Comprehensive Plan, through Chapter 12, identified the need to develop an interim and ultimate roadway classification system. The intent of the interim plan was to provide adequate capacity and reasonable levels of service for low volume conditions through use of relatively narrow streets and simplified traffic control devices. The intent of the ultimate plan was to provide for a more robust roadway network capable of handling increased traffic volumes through a system of arterials and intersection improvements. The comprehensive plan did not, however, present a functional classification system for roadways within the city.

Freeways
- Interstate 84

Arterials
- Main Street (between Columbia Avenue and Kunze Road)
- Columbia Avenue (between North Main Street and urban growth boundary)
- Wilson Road
- Olson Road (between Marine Drive and Kunze Road)
- Laurel Road (from curve south of interchange ramp north to Columbia Ave.)

Minor Collectors
- Marine Drive
- North Front Street
- North Main Street (between Columbia Avenue and Marine Drive)
- West 1st Street (between North Front Street and Boardman Avenue)
- East 1st Street (between North Front Street and Boardman Avenue)
- Future Boulevard (between Smith Road and Olson Road)
- Laurel Road (south from the curve located south of the interchange ramp)

Neighborhood Collectors
- Paul Smith Road (south to Kunze Road)
- Faler Road (between the future east-west roadway and Wilson Road)
- Willow Fork Drive
- Kinkade Road
- Locust Road
- Anderson Road
- Kunze Road
- Boardman Avenue
- Puskarich Avenue
- Columbia Avenue (west of North Main Street)

Local Streets
The remaining roads in the city are designated as local streets.

New Roadways
As part of the TSP development process, conceptual alignments for future collector roadways were identified as shown in Figure 11. The purpose of identifying these potential future roadways was to:

Figure 11
Roadway Network and Functional Classification System

impervious surface and provide site-specific standards for roadway improvement projects that reflect local conditions. Narrower streets may also be desirable in some neighborhood areas for use as a deterrent to through or speeding traffic on local streets. It should be noted that ODOT would have the ultimate authority as to which improvements are made along Main Street in the area of the Interstate 84 interchange.

Under the street standards, arterial streets will have a right-of-way requirement of 80 feet. The street cross-section will consist of two 12-foot travel lanes, a center left-turn lane, and appropriate pedestrian and bicycle facilities as identified in the Pedestrian and Bicycle System Plan presented later in this section. The provision of 8 foot landscape strips will provide stormwater will be made at the discretion of the city.

Neighborhood collector streets will have a right-of-way requirement of 60 feet and a required cross-section consisting of two 10-foot wide travel lanes. Sidewalks and bike lanes will not be required where a multi-use path is available, in accordance with the Pedestrian and Bicycle System Plan presented later in this section. Optional landscape strips and on-street parking may also be required at the discretion of the city. It should be noted that a minimum ten-foot landscape strip will be required on one side of the road in conjunction with each multi-use path.

Figure 12
Street Cross-Sections

Neighborhood collector streets will have a right-of-way requirement of 60 feet and a required cross-section consisting of two 10-foot wide travel lanes. No bike lanes will be required; however, landscape strips/stormwater facilities and on-street parking will be required.

Two local street provisions are included: Local Street Option 1, will have a right-of-way requirement of 60 feet, two nine foot travel lanes, parking on both sides of the street and five-foot wide sidewalks.

The landscaping strips/stormwater facilities are located between street and sidewalk on arterial and collector facilities to provide a buffer between cars and pedestrians. The provision of a landscaping strip between the street and sidewalk will allow for an area with no obstructions or impediments that would prevent or discourage pedestrian movements. Further, the landscape strips can be used for the location of street signs, power poles, utility easements, etc. to provide for unimpeded pedestrian movements.

Comments from the City of Boardman revealed that, for maintenance purposes, it is desirable to place landscape strips next to the adjacent property line rather than between the roadway and the sidewalks. The adjacent resident maintains the landscaping as part of their property (e.g., lawns, etc.). Further, city comments revealed that a minimal amount of impeding objects will occur on local streets. For this reason, landscaping strips will be placed behind sidewalks.

Guidelines for Arterial/Collector Intersection Improvements

In addition to roadway cross-section standards, the city should adopt standards for intersection improvements. As intersection improvements are made at arterial/collector intersections in the city, the following general guidelines are suggested for consideration:

- Maintain adequate signing of side-streets (stop signs and visible street signs);
- Provide street lighting at intersections to increase visibility; and,
- Provide proper channelization (striping, raised medians, etc.) of movements to/from the arterial.

III. Relation to Development Activities

At the time development activities are proposed, the City of Boardman, when appropriate, will require half-street improvements as part of a given project's conditions of approval. The conditions of approval should require that roadways adjacent to development activities be constructed to comply with the street standards presented as policies earlier in this document.

IV. Relation to County Facilities

The Morrow County Transportation System Plan (Reference 3) identified roadway standards for county facilities. The county's right-of-way requirement for Rural Access Roadways is 60 feet and Option 2, Local Streets, contains a 56 foot option in this TSP. Although the county's Rural Access Roadways may be applicable to some roadways within the City of Boardman Urban Growth Area, the roadway standards contained in the City of Boardman TSP do not conflict with the county's standards. The county's Rural Access Roadway standards are intended for roads that do not exhibit substantial traffic volumes now but may be expected to expand in the future, hence the additional right-of-way requirement.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access management categories. One objective of the Boardman TSP was to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the city's streets. From a policy perspective, the Oregon Department of Transportation has legal authority to regulate access points along Interstate 84 within the city's urban growth boundary. The City of Boardman will manage access on other collector and local streets within its jurisdiction to ensure the efficient movement of traffic and enhance safety.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways in the upper echelon of the functional classification system (i.e. arterials) tend to have stringent spacing standards, while facilities ranked lower in the functional classification system allow more closely spaced access points. The following discussion presents the hierarchical access management system for roadways in Boardman.

ODOT Access Management Standards

The *1999 Oregon Highway Plan* specifies an access management classification system for state facilities and has classified Interstate 84 as being of an *Interstate Level of Importance.* The recently adopted update to the *Oregon Highway Plan* did not change the *Interstate* designation. Although Boardman may designate state highways as arterial roadways within their transportation system, the access management categories for these facilities should generally follow the guidelines of the Oregon Highway Plan.

V. Impact on Local Development Activities

Future developments along Interstate 84 (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the *1999 Oregon Highway Plan* Level of Importance and Access Management policies and standards.

To protect the function of the I-84 Interchange, access management will need to evaluated in the future. This should include evaluation of access spacing, turning movements, turning movements within ¼ mile of the interchange, and opportunities for consolidating existing access.

As shown in Table 9, within urban or urbanizing areas, a new development will need to maintain a 3-mile spacing (centerline-to-centerline) between interchanges and no private access points or traffic signals will be allowed. Full median control is required on the interstate.

TABLE 9
INTERSTATE HIGHWAY ACCESS MANAGEMENT STANDARDS*

Classification	Intersection				Signal Spacing	Median Control
	Public Road		Private Drive			
	Type	Spacing	Type	Spacing		
Interstate	Interchange	3 miles	None	Not Applicable	None	Full

*Source: 1999 Oregon Highway Plan, Appendix C, Table 12

time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, the City of Boardman and ODOT are required to ensure that all safety and capacity issues are addressed. Proposed land use actions that do not comply with the designated access spacing policy will be required to apply for an access variance from the City of Boardman and/or ODOT.

VI. Variance Process

Access variances may be provided to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming permit and would either have no reasonable access or cannot obtain reasonable alternate access to the public road system. In such a situation, a conditional access permit may be issued by ODOT and the City of Boardman for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards.

The permit may carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. Approval conditions might also require a given land owner to work in cooperation with adjacent land owners to provide either joint access points, front and rear cross-over easements, or a rear-access upon future redevelopment. In addition, approval of a conditional permit might require ODOT-approved turning movement design standards to ensure safety and managed access. Under special circumstances, ODOT may purchase property in order to prevent safety conflicts.

City Standards

Table 10 identifies the minimum public street intersection and private access spacing standards for the City of Boardman roadway network as they relate to new development and redevelopment. Table 11 identifies standards for private access driveway widths. In cases where physical constraints or unique site characteristics limit the ability for the access spacing standards listed in Tables 10 and 11 to be met, the City of Boardman should retain the right to grant an access spacing variance. County facilities within the city's urban growth boundary should be planned and constructed in accordance with these street design standards.

TABLE 10
MINIMUM INTERSECTION SPACING STANDARDS*

Functional Classification	Public Street (feet)	Private Access Drive (feet)
Arterial	600**	300
Collector	300	75
Neighborhood Collector	200	50
Local	150	15

*Spacing measured from centerline to centerline

** To promote circulation in the downtown, public streets can be spaced at 200-feet intervals.

Figure 13
Example of Crossover Easements and Conditional Access Policy/Process

Figure 14
Pedestrian and Bicycle System Plan

TABLE 12
PEDESTRIAN AND BICYCLE SYSTEM IMPROVEMENTS

General Alignment	Project Start/End Point	Improvement Description	Estimated Cost*	Responsible Jurisdiction
Near-Term, High Priority Projects (0-5 years)				
Main Street	Interstate 84 to Marine Drive	Sidewalk and Bicycle Lanes	$46,000	City
Mid-Term Projects (5-10 years)				
Future Boulevard	Paul Smith Road to Olson Road	Sidewalk and Bike Lanes	Included in cost of new street	Private
Marine Drive	Main Street to Olson Road	Multi-use Path	$27,500	City
Columbia Ave.	Main Street to east UGB	Multi-use Path	$56,000	City
Long-Term Projects (10-20 years)				
Olson Road	Kunze Road to Marine Drive	Sidewalk and Bike lanes	$230,000	City
Concurrent with Local Development				
Boardman Ave.	Riverside High School to Olson Road	Sidewalk	$60,000	Private
Front Street	West of W. First Street to Olson Road	Sidewalk	$80,000	Private
Second Street	Boardman Avenue to Front Street	Sidewalk	Not Estimated	Private
Third Street	Boardman Avenue to Front Street	Sidewalk	Not Estimated	Private
Wilson Road	West of Faler Road and East of Anderson	Multi-use Path	$21,500	Private
Smith Road	Future Boulevard to Kunze Road	Sidewalk or Multi-use Path	$25,000	Private

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

Public Transportation System Plan

Transit service provides mobility to community residents who do not have access to automobiles and provides an alternative to driving for those who do. Transit service should meet the needs both of travelers within the city and those of travelers making trips outside of the community.

The *1997 Oregon Public Transportation Plan* identifies minimum level of service standards for rural and frontier communities such as the City of Boardman (Reference 4). Under the *1997 Oregon Public Transportation Plan*, public transportation in small communities and rural areas in the year 2015 (under Level 3-Respond to State and Federal Mandates and Goals) should:

- Provide public transportation service to the general public based on locally established service and funding priorities;
- Provide an accessible ride to anyone requesting service;
- Provide a coordinated centralized scheduling system in each county and at the state level;

Vehicle Replacement
The Morrow County Special Transportation Program replaces vehicles on an as-needed basis. No specific plans to replace the current vehicles in use in the City of Boardman are in place. The county has budgeted to replace one vehicle in 1999 though that will not necessarily affect the vehicles in Boardman. The county is pursuing additional funding for vehicles and has, through the Region 5 Public Transit Division, submitted a grant application that would allow the program to purchase a new modified van in 2001 and a small bus in 2003. In addition, a new bus barn would be built somewhere in the county if the grant were to be approved. The City of Boardman should support the Morrow County Special Transportation Program in its pursuit of additional vehicles and funding.

Marine System Plan
As previously noted in the **Existing Conditions** section, the Columbia River borders the City of Boardman to the north and serves as a means of both recreational and freight transportation. The city's public marine facility and the Port of Morrow are capable of accommodating future expansion and can be expected to continue to grow with the surrounding community, though no formal expansion plans have been identified to date. The City of Boardman should actively support the continued presence and operation of both the Port and the recreational boat launch as effective means of transportation. The creation of multi-use paths and other facilities that promote the multi-modal use of the recreational areas along the shore of the Columbia River should be encouraged.

Rail Transportation System Plan
Freight rail service will continue to be a prominent component of the city's transportation system. Union Pacific's main line through the city is expected to serve as a major western freight hub for the foreseeable future. Given that it is highly unlikely that the Union Pacific's mainline between the Pacific Northwest and Chicago would be abandoned; there is no potential for rail banking or alternative uses.

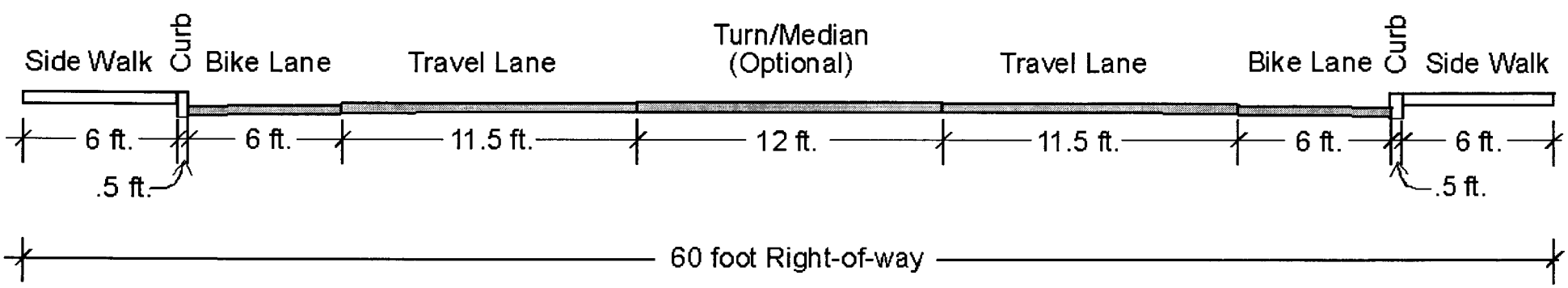
Future development in the Port of Morrow's industrial area should be planned to interface with the adjacent rail system to promote the safe and efficient transportation of freight. It should be noted that although the Port of Morrow has currently rail spurs, the rail line does not serve the port's barge container facility located north of the tracks. According to ODOT's Rail Section, the port plans to extend a spur line into the container facility. This extension would require the reconstruction of the existing bridge that connects the city to the container and wood chip facilities because there is insufficient space under the existing structure to accommodate the access track.

There is some potential for passenger service to be reinstated sometime in the future if funding resources can be found to support the train. At the time this TSP was prepared Amtrak and the Union Pacific Railroad had no plans to reintroduce passenger service on this line in the foreseeable future. If new service were to be introduced, it would probably be operated by a long distance train running between Portland and Salt Lake City, Denver or Chicago. A new passenger train might be configured as a package/express train carrying a few passenger coaches.

Air Transportation System Plan
Existing regional air service for passengers and freight is provided via a full service commercial airport in neighboring Pendleton and also at the Tri-Cities Airport located in Pasco, Washington. Air transport charter service is also available through the Port of Morrow's airport near Boardman and the Hermiston Municipal Airport. The continued use and appropriate expansion of these facilities is recommended.

North Mair Street Arterial

(New Overpass: Eliminate Turn/Median)
(Existing Storm Water Collection System)



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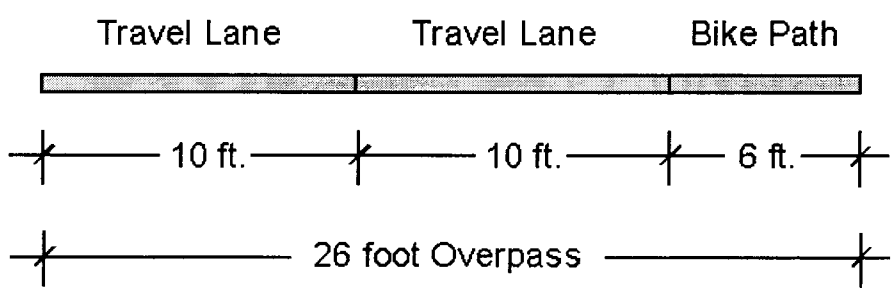
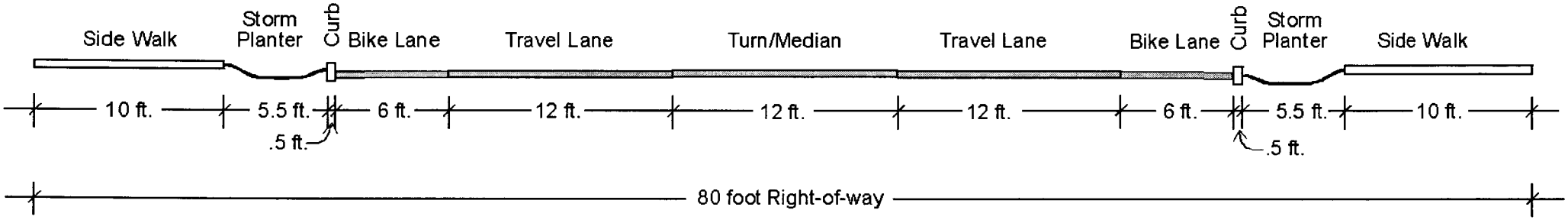
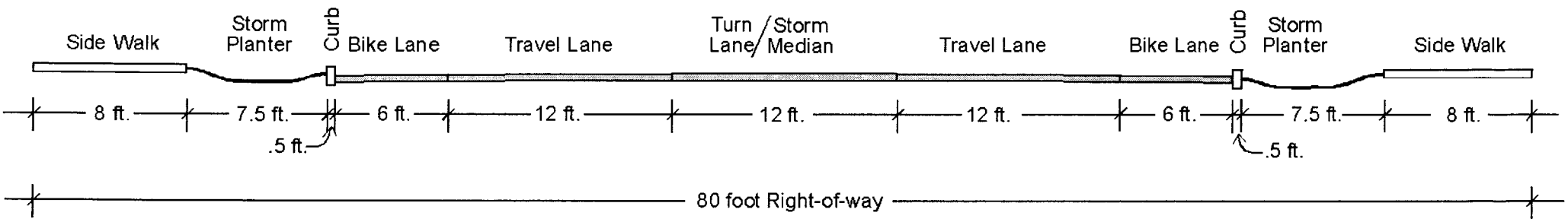
North Main Street Rail Overpass (Existing)



East Columbia A ., Wilson Road
South Main Street
Arterial Standard



New Arterial Standard



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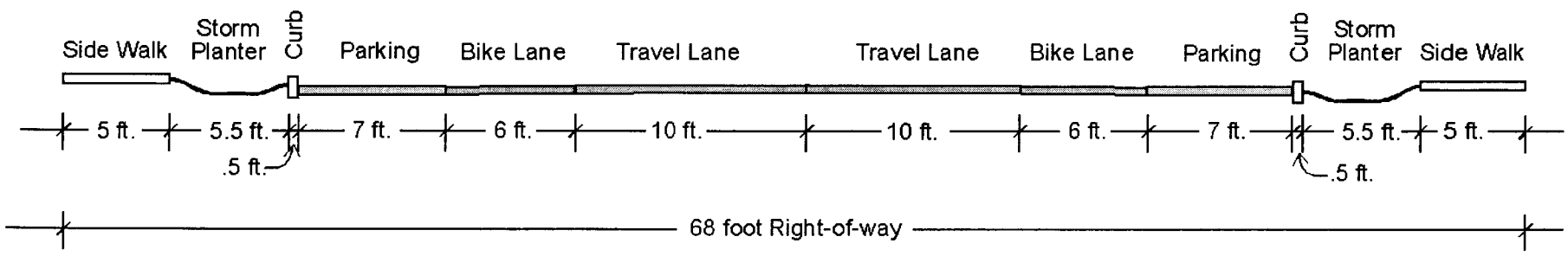
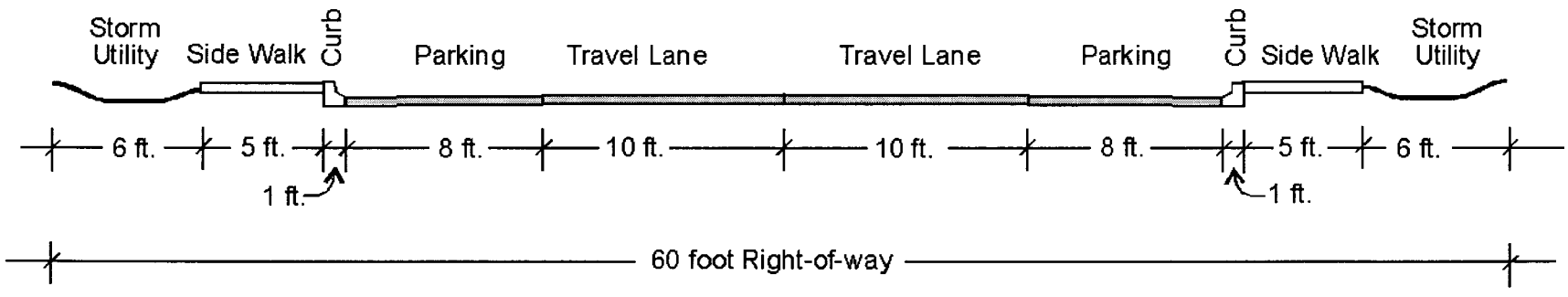
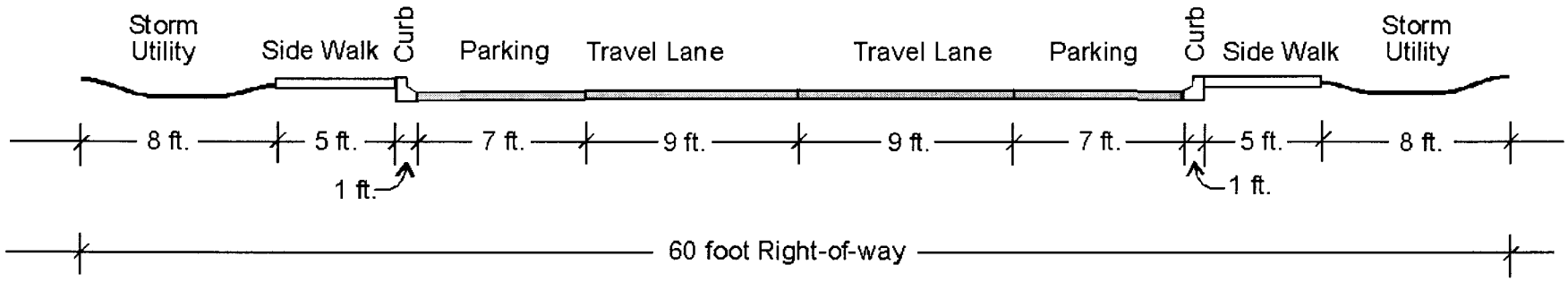
Minor Collector



Neighborhood Collector



Local Street Standard



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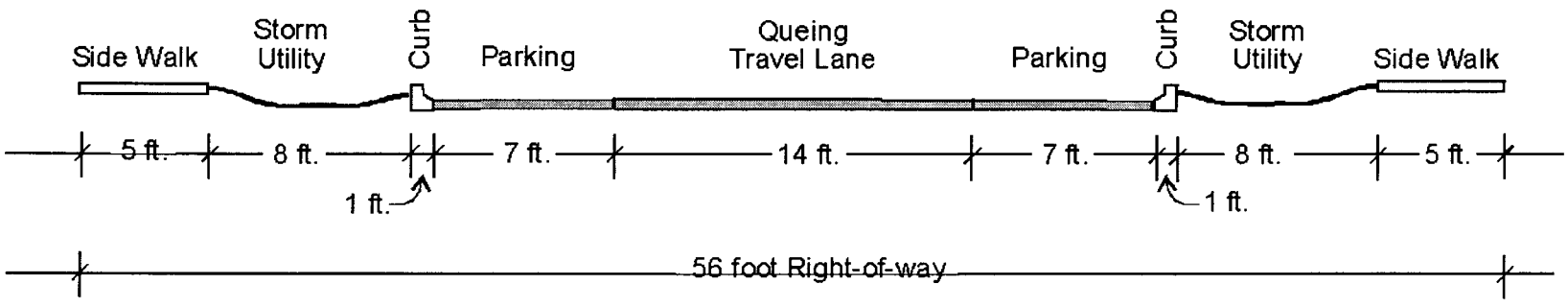
Local Street (Optional/Conditional)



City of Heppner

Transportation System Plan

Heppner, Oregon

Transportation and Growth Management Program Oregon
Department of Transportation

Update June 2003

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List Of Tables

Preface

This project is partially funded by a grant from the Transportation Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds. The contents of this document do not necessarily reflect the views or policies of the state of Oregon.

The progress of the original plan was guided by the Management Team, Transportation Advisory Committee, and Consultant Team identified below.

The 2003 Update and Revision work was funded by a grant from the Transportation Growth Management Program.

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Morrow County Planning Department

Gerald Breazeale
City Administrator

Cheryl Jarvis-Smith
Oregon Department of Transportation

George Ruby
Oregon Department of Transportation

2003 Management Team:

Gerald Breazeale
City Administrator

George Ruby
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Cheryl Jarvis-Smith
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Cyde Marie Estes
Jerry Gentry
Howard Gilliam
Bob Jepsen
Suzanne Jepsen
Bob Kahl
Debra Kendrick
Bill Kuhn
Andrew Lacey
John Murray
Douglas Rathbun
Tom Sly

2003 Planning Commission and City Council Members:

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Andrew Lacey
John Murray
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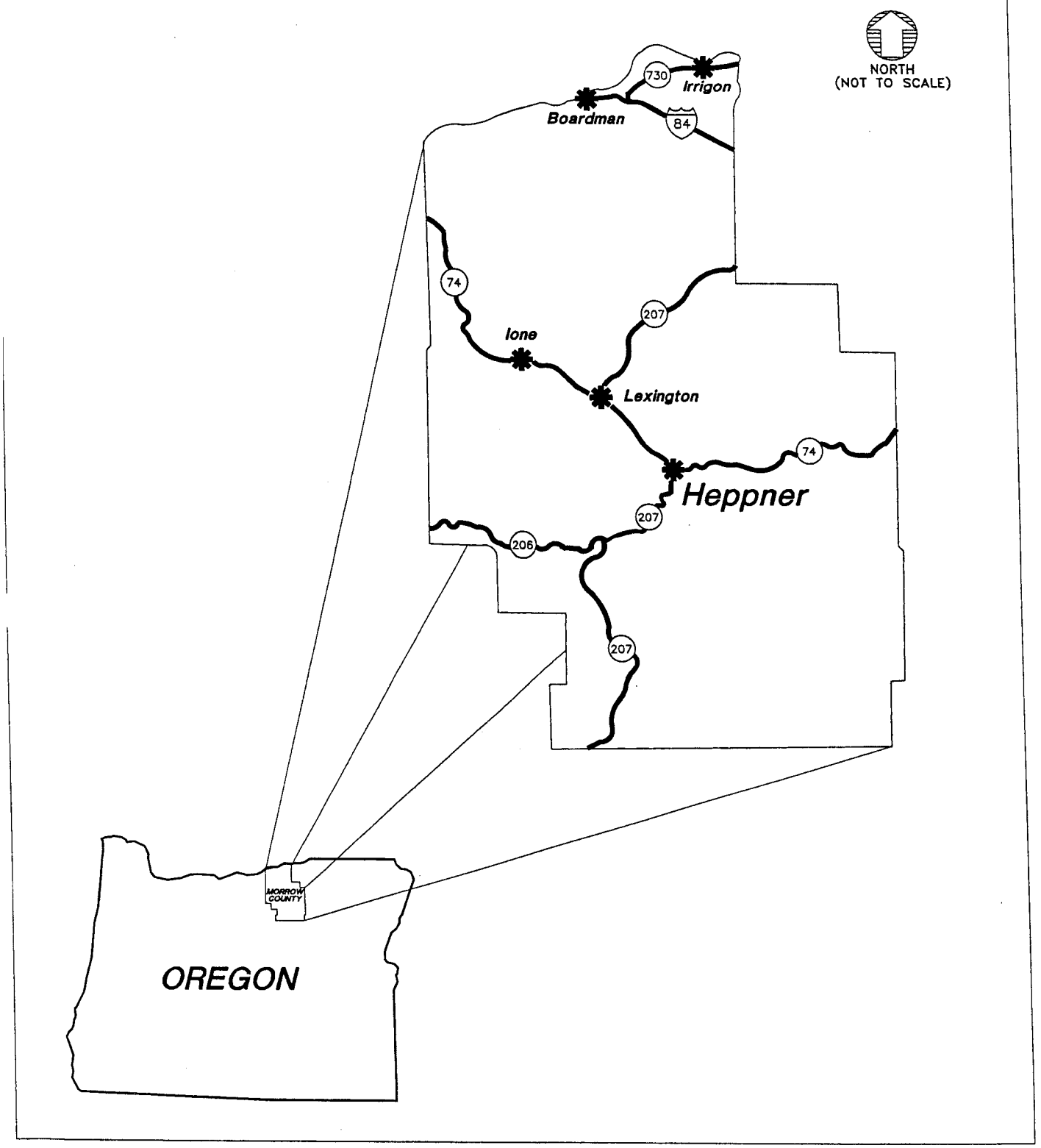
Douglas Rathbun
Tom Sly
Tom Sly

Section 1

Introduction



STUDY AREA MAP

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 1

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2. In conjunction with the functional classification system, identify corresponding street standards that recognize the unique attributes of the local area.
3. Identify existing and potential future capacity constraints and develop strategies to address those constraints, including potential intersection improvements, future roadway needs, and future street connections.
4. Evaluate the need for modifications to and/or the addition of traffic control devices.
5. Identify access spacing standards on Highways 74 and 207 that conform to the Oregon Highway Plan.
6. Provide an acceptable level of service at all intersections in the city, recognizing the rural character of the area. Intersection operations on Highways 74 and 207 should conform with the level of service and volume/capacity ratio requirements identified in the Oregon Highway Plan.
7. Identify existing and potential future safety concerns as well as strategies to address those concerns.

Goal 3

Promote alternative modes of transportation.

Objectives

1. Develop a comprehensive system of pedestrian and bicycle routes that link major activity centers within the study area.
2. Encourage the continued use of public transportation services.

Goal 4

Identify and prioritize transportation improvement needs in the City of Heppner, and identify a set of reliable funding sources that can be applied to these improvements.

Objectives

1. Develop a prioritized list of transportation improvement needs in the study area.
2. Develop construction cost estimates for the identified projects.
3. Evaluate the adequacy of existing funding sources to serve projected improvement needs.
4. Evaluate new innovative funding sources for transportation improvements.

TRANSPORTATION SYSTEM PLAN STUDY METHODOLOGY AND ORGANIZATION

The development of the City of Heppner's Transportation System Plan began with an inventory of the existing transportation system and a review of the local, regional, and statewide plans and policies that guide land use and transportation planning in the city (Appendix "A" contains the plans and policies review). The inventory included documentation of all transportation-related facilities within the study area and allowed for an objective assessment of the current system's physical characteristics, operational performance, safety, deficiencies, and general function. A description of the inventory process, as well as documentation of the existing conditions analyses and their implications, is presented in **Section 2** of this report. The findings of the existing conditions analysis were presented to and verified by the two TSP committees.

Section 2

Existing Conditions

2). The City recently finished Main Street improvements, including the addition of curb extensions, street trees, street lighting, a wide sidewalk, and other amenities and the incorporation of diagonal parking on both sides of the street. The resulting Main Street contributes to a strong sense of the downtown character and charm in Heppner. Additional commercial land is located on the northern end of town along Highway 207/74. Much of this area is undeveloped and within the floodway or has been developed as residential uses.

TRANSPORTATION FACILITIES

The City of Heppner's transportation system includes facilities that serve several different modes. All of these facilities are identified and discussed in detail in the following sections.

ROADWAY FACILITIES

Jurisdictions

All public roadways within the City of Heppner are operated and maintained under the auspices of one of three jurisdictions – the Oregon Department of Transportation (ODOT), Morrow County, and/or the city. The following paragraphs highlight the existing roadway network, which is illustrated in Figure 3. Figure 3 also identifies the jurisdiction responsible for the various roadways.

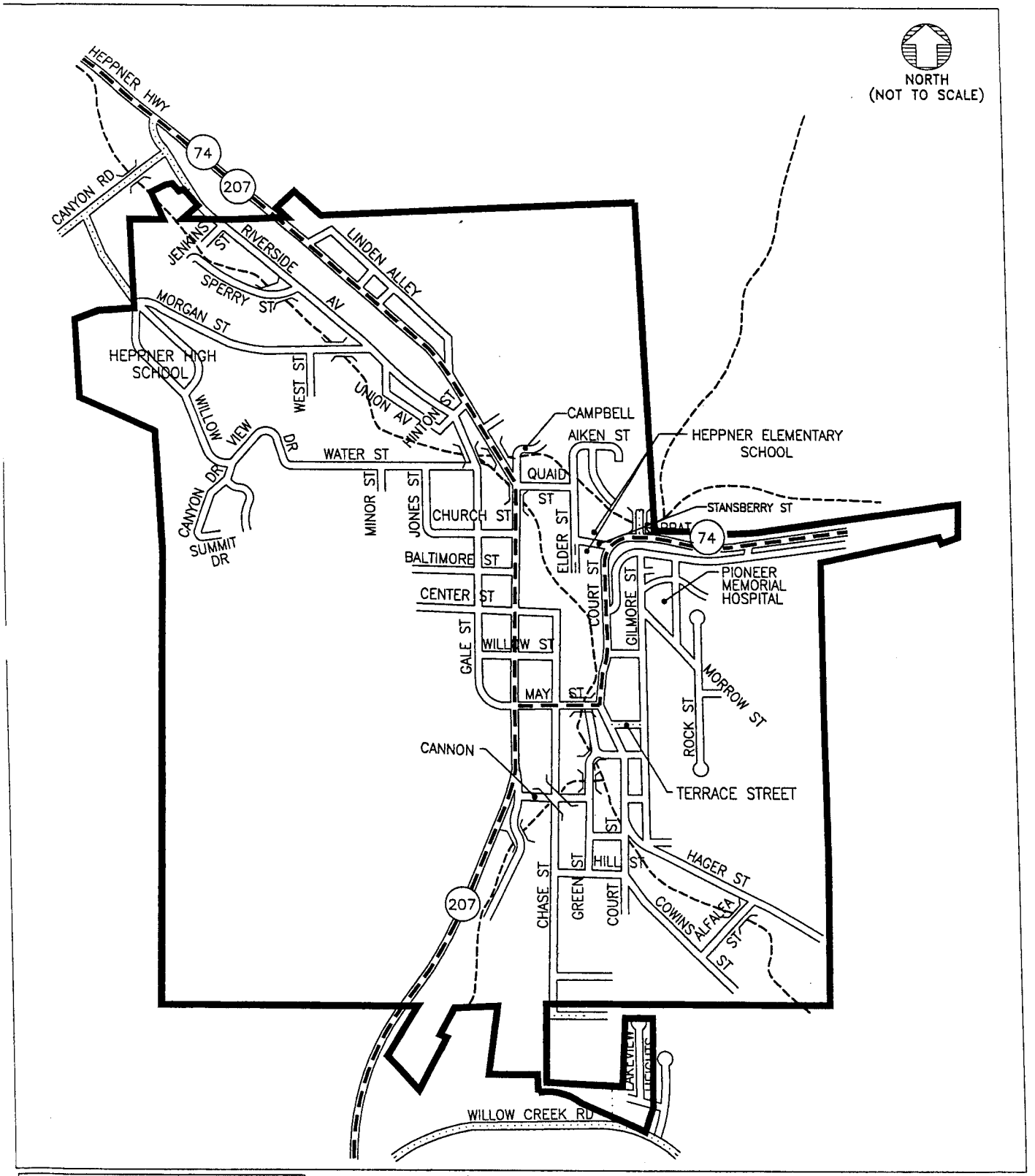
State Facilities

The City of Heppner is served by two state highways, Highway 74 and Highway 207/74. Several members of the local community use these facilities to commute to job opportunities located in surrounding communities such as Boardman, Hermiston, and Umatilla. While the city has highway access, it is not located in the vicinity of major trucking routes. Lack of direct access and the associated limitations on the movement of goods has limited the potential for employment growth since the inception of the city. A more detailed description of the state highways serving the city is presented below.

Highway 207/74

Highway 207/74, the Heppner Highway, passes through the downtown portion of the city and is identified as Main Street within the city. Highway 207/74 is maintained by the Oregon Department of Transportation (ODOT). ODOT designates the portion of Highway 207/74 that is located north of May Street as the Heppner Highway and classifies this section of roadway as being of a *Regional Level of Importance* in the *Oregon Highway Plan* (Reference 1). The section of Highway 74 that begins at May Street and extends to the east is also part of the Heppner Highway, though ODOT classifies this section of roadway as a *District Level of Importance.*

The primary function of a *Regional Highway* is to provide connections and links to areas within regions of the state, between small urbanized areas and larger population centers, and to higher level facilities. *District Highways* primarily serve local traffic and land access and are considered to be of relatively low significance from a statewide perspective.



LEGEND

- STATE (ODOT)
- COUNTY
- CITY
- CITY LIMITS
- CREEK

EXISTING ROADWAY NETWORK AND JURISDICTIONAL OWNERSHIP

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN	FIGURE 3
JUNE 1999	

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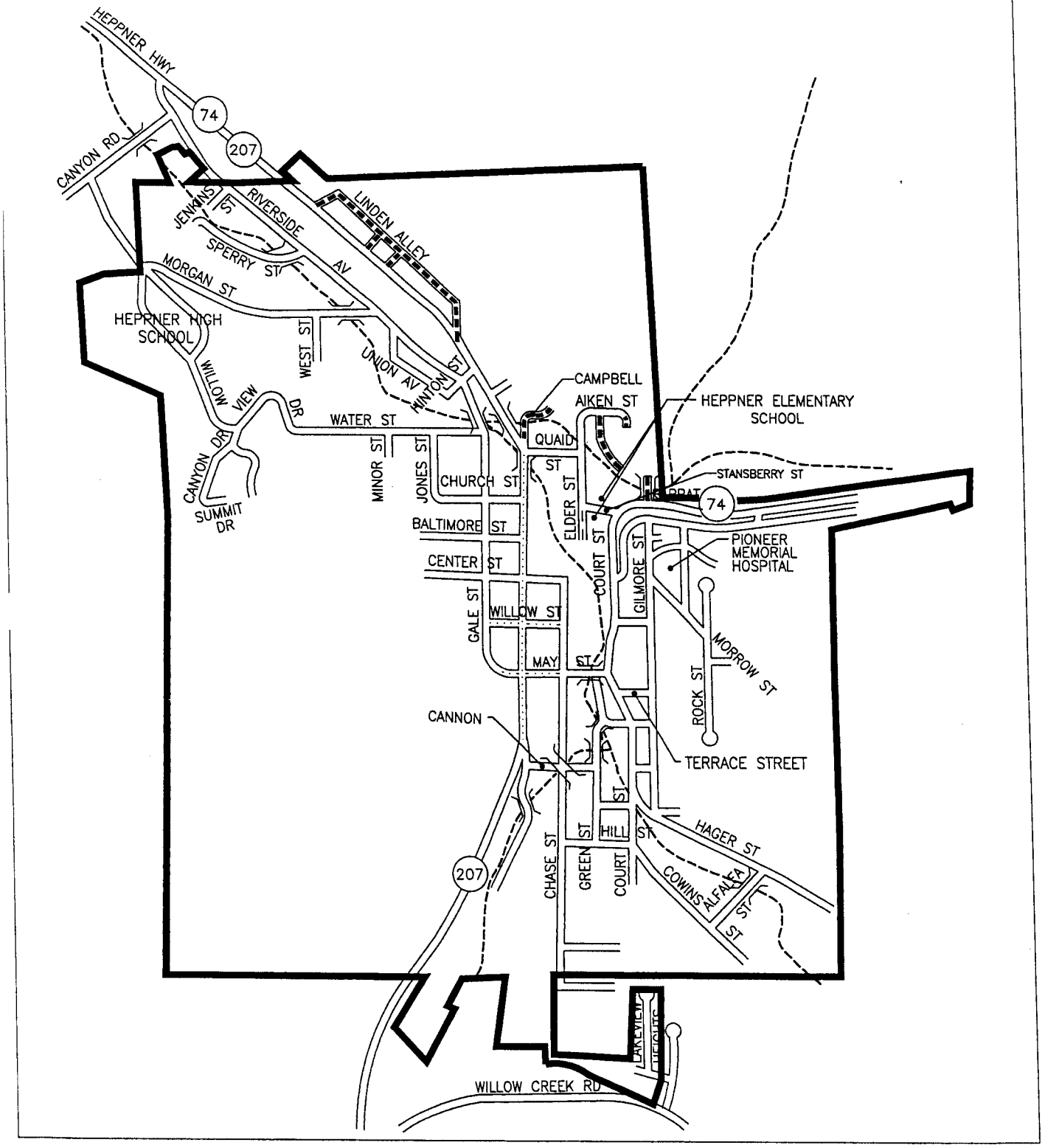

LEGEND

- ON-STREET PARKING
- GRAVEL ROAD
- CITY LIMITS
- CREEK

LOCATIONS OF STRIPED ON-STREET PARKING AND UNPAVED ROADWAYS

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN	FIGURE 4
JUNE 1999	

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Ideally, pedestrian facilities should provide connectivity between major activity centers, such as housing, commercial areas, schools, the hospital, the post office, and recreation areas such as the fair and rodeo grounds. The city has provided such connections in the downtown area but additional facilities are desirable to serve various locations. Currently, no sidewalk facilities are provided to the Heppner Elementary School, the Heppner Junior-Senior High School, or the Pioneer Memorial Hospital. All roadways connecting to the high school and hospital exhibit significant grades and relatively narrow cross sections that do not allow pedestrians to use a shoulder area.

Future sidewalk requirements for new subdivisions were identified in Title 12 of the Comprehensive Plan, including required sidewalk widths.

BICYCLE SYSTEM

The City of Heppner does not currently offer designated bicycle facilities and primarily recreational bicycle activity was noted during visits to the city. Topographical constraints and the remote location of the city in relation to trip generators limit the attractiveness of this mode of transportation. Nevertheless, the city does maintain a Footways and Bikeways Fund for future use.

PUBLIC TRANSPORTATION SYSTEM

Limited public transportation services within the City of Heppner are available through the county, the local school district, and the Retired Senior Volunteer Program (RSVP) sponsored by the Community Action Program of East Central Oregon (CAPECO).

Morrow County Special Transportation Program

Morrow County, through the Morrow County Special Transportation Program, provides two public transportation programs that serve the City of Heppner. A senior bus service is available to groups by appointment and provides service for seniors, disabled persons, and low-income persons. Other users are welcome as long as they do not displace the primary users (i.e., seniors, the disabled, and the disadvantaged). A dial-a-ride service is also available by appointment to serve the same audience. Both programs are funded through Special Transportation Funds and rely on a volunteer pool of drivers. While increased usage of these services is desirable, there are no current or pending plans to expand public transportation services to the area.

Relevant Information

- Program Contact: John Wenholz, County Commissioner, Phone (541) 922-3941
- Program Coordinator: Barbara Hayes, Phone (541) 676-5667
- Ride Scheduling Contact: Heppner Senior Center, Phone (541) 676-9030
- Scheduling Hours: Monday-Friday 9:00 a.m. to 5:00 p.m.
- Service Area: As needed, serves all of Morrow County and has provided trips out of county for medical services including trips to the Tri-Cities area of Washington State.
- Equipment/Facilities in Heppner (As of March 31, 1999):
  1. 1993 Dodge 5 Passenger Van (originally 12 passenger but modified for handicapped accessibility) - 33, 184 miles
  2. 1990 Ford 15 Passenger Bus – 50,652 miles (Handicapped accessible)

RAILROAD TRANSPORTATION SYSTEM

Railroad service is no longer provided to the City of Heppner. Rail service would potentially be available through either the Port of Umatilla or Union Pacific's Hinkle Rail Yard located south of Hermiston, though intermediate non-rail transport would be necessary.

MARINE TRANSPORTATION SYSTEM

Marine transportation is not available within the City of Heppner, though the Port of Morrow maintains a barge area along the Columbia River in Boardman, Oregon. Similarly, The Port of Umatilla maintains two marine facilities along the Columbia River.

PIPELINE TRANSPORTATION SYSTEM

No major pipelines within the City of Heppner were identified as part of the TSP process.

TRAFFIC OPERATIONS ANALYSIS

Seven intersections within the city were selected for operational analysis under 1998 existing conditions. Traveling north to south, those intersections include:

- Highway 207/74/Riverside Avenue
- Highway 207/74/Hinton Street
- Highway 207/74/Quaid Street
- Highway 207/74/Church Street
- Highway 207/74/Center Street
- Highway 207/74/May Street
- Highway 74/Court Street

Traffic Control

All of the study intersections within the City of Heppner are unsignalized, though the intersection of Highway 74 (May Street) and Court Street does have a flashing caution beacon. Figure 6 illustrates the existing lane configurations and traffic control devices at each of the study intersections. Traffic operations at each of the intersections were examined during the weekday p.m. peak hour. The p.m. peak period represents the worst case condition for traffic operations on the transportation system. Travel patterns during this weekday time period typically combine commuting, shopping, and recreational trips, thus generating higher traffic volumes on the transportation system than during any other time period or day of the week.

Traffic Volumes

Weekday p.m. peak hour manual traffic volume counts at the intersections were conducted in October 1998. Manual turning movement traffic counts were conducted between 4:00 p.m. and 5:30 p.m. on a mid-week day. These dates and times represent a seasonal peak traffic flow and are appropriate for use as design traffic volumes. The highest one-hour flows during these periods were used in this study.

Based on the turning movement counts conducted at study area intersections, the systemwide p.m. peak hour of traffic on a typical weekday afternoon was estimated to occur between 4:00 and 5:00 p.m. Existing weekday p.m. peak hour traffic volumes are shown in Figure 7. Traffic volumes have been rounded to the nearest five vehicles per hour. For comparative purposes, average daily traffic (ADT) volume data obtained from ODOT are summarized in Figure 8.

Level of Service Analysis

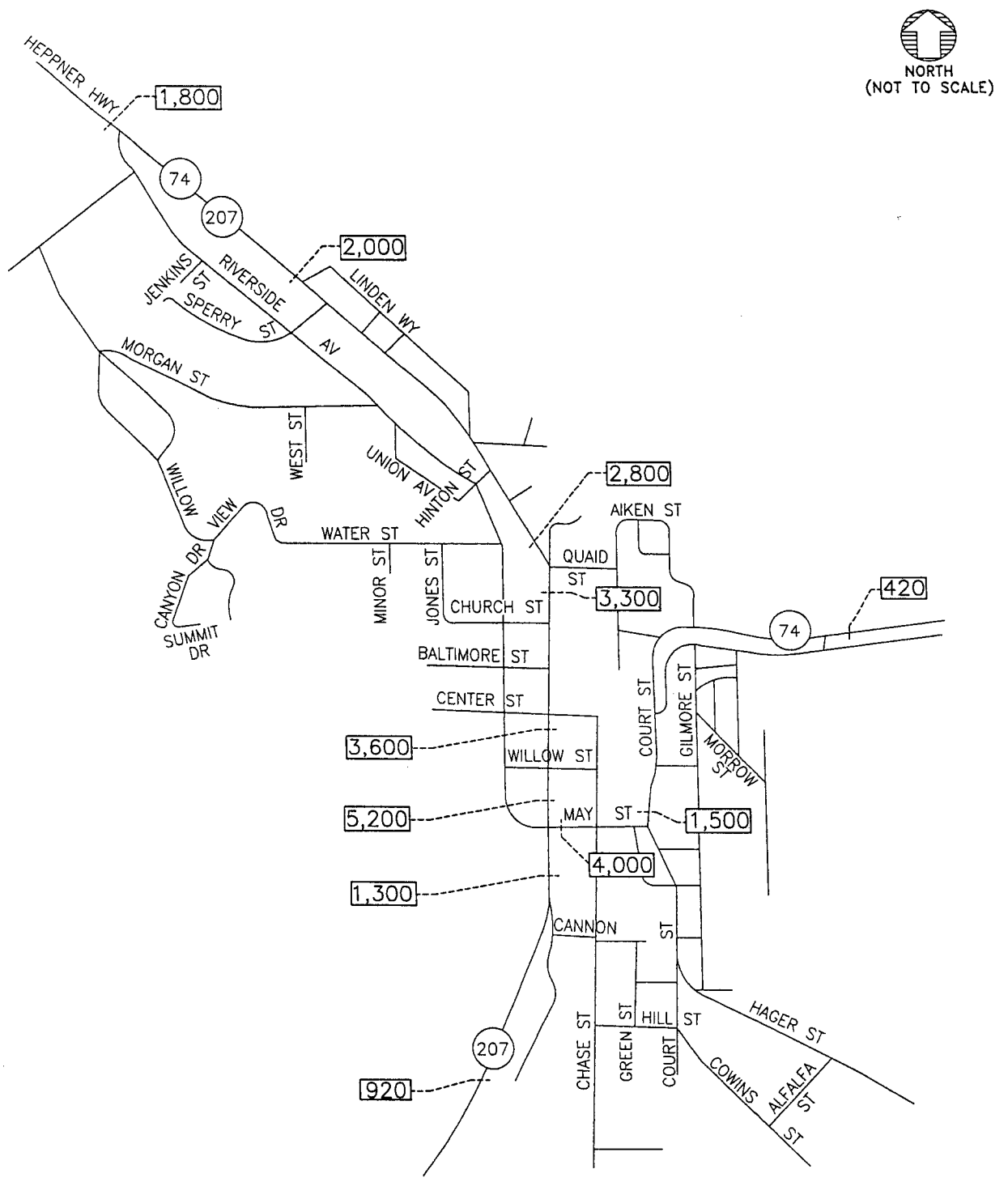
Using the weekday p.m. peak hour turning movement volumes shown in Figure 7, an operational analysis was conducted at each of the study area intersections to determine existing levels of service. All level of service analyses described in this study were conducted in accordance with the 1994 Highway Capacity Manual, published by the Transportation Research Board (Reference 2). Appendix "B" summarizes the level of service concept.

To ensure that this analysis was based on a reasonable worst case scenario, the peak 15 minute flow rate during the weekday p.m. peak hour was used in the evaluation of all intersection level of service analyses. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average weekday p.m. peak hour. Traffic conditions during all other weekday periods will likely operate under better conditions than those described in this report.

Unsignalized Intersections

For unsignalized two-way stop-controlled (TWSC) intersections, level of service (LOS) is based on an intersection's capacity to accommodate the worst, or critical, movement. Typically, the left-turn from the stop-controlled approach is the most difficult movement for drivers to complete at a TWSC intersection. This is due to this movement being exposed to the greatest potential number of conflicting, higher-priority movements at the intersection. Available gaps in the through traffic flow of the uncontrolled approach(es) are used by all other conflicting movements before the side-street left-turn can be negotiated. Therefore, the number of available gaps for the side street left-turn to negotiate its movement safely is likely to be substantially lower than any other movement. As a result, the side-street left-turn typically experiences the highest delays and the worst level of service.

For the portion of Highway 207/74 that is located north and south of May Street, the *Oregon Highway Plan* stipulates that levels of service "A" through "C" on the mainline approaches are considered acceptable (Reference 1). The *Oregon Highway Plan* stipulates that levels of service "A" through "D" on the mainline approaches are considered acceptable for the section of Highway 74 that begins at May Street and extends to the east (Reference 1).



NOTE: TRAFFIC VOLUME DATA BASED ON 1997 ODOT TRANSPORTATION VOLUME TABLES

1997 ESTIMATED AVERAGE DAILY TRAFFIC VOLUMES

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 8

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Table 1 summarizes the level of service results for the unsignalized study intersections.

TABLE 1
1998 EXISTING PM PEAK HOUR LEVEL OF SERVICE, UNSIGNALIZED INTERSECTIONS

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Riverside Avenue/Highway 207/74	Northbound	0.09	4.5	A	A
Hinton Street/Highway 207/74	Northbound	0.12	4.9	A	A
Quaid Street/Highway 207/74	Southbound	0.06	4.7	A	A
Church Street/Highway 207/74	Northbound	0.04	3.5	A	A
Center Street/Highway 207/74	Northbound	0.12	5.0	A	A
May Street/Highway 207/74	Southbound	0.19	7.2	B	B
Court Street/Highway 74 (May Street)	Westbound Left	0.14	5.2	B	B

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 1 indicates, all of the unsignalized study area intersections operate at acceptable levels of service under existing weekday p.m. peak hour conditions.

TRAFFIC SAFETY

Another important aspect of the transportation system is safety. The safety analysis described in the following section focuses on the accident history for Highway 207/74 within the City of Heppner urban growth boundary.

Intersection Accident Analysis

The accident history of the study intersections was examined for potential and existing safety problems. ODOT accident data for the period January 1993 to December 1997 were used for this analysis. In addition, the ODOT District 12's 1996-1998 Safety Priority Index System (SPIS) lists were reviewed. The SPIS lists identify locations with relatively high accident rates and locations that have been the site of one or more fatal accidents.

Review of the three respective annual SPIS lists indicates that no SPIS sites are located within the City of Heppner. Table 2 presents accident rates for the individual study intersections. Accident rates for intersections are calculated by relating the total entering volume of traffic at the intersection, on an average daily basis, to the number of reported accidents for a given period of time. The accident rate for intersections is expressed as the number of accidents per million entering vehicles (acc/mev). As shown in Table 2, the accident data does not indicate a safety problem at the study intersections.

TABLE 2
STUDY INTERSECTION ACCIDENT RATES

Intersection	Number of Accidents	Accidents/MEV
Riverside Avenue/Highway 207/74	0	0
Hinton Street/Highway 207/74	0	0
Quaid Street/Highway 207/74	0	0
Church Street/Highway 207/74	0	0
Center Street/Highway 207/74	0	0
May Street/Highway 207/74	3	0.28
Court Street/Highway 74 (May Street)	1	0.18

*ODOT Accident data search period of 1993 - 1997

Of the three accidents recorded at the May Street/Highway 207/74 intersection during the analysis period, two involved single vehicle collisions with fixed objects (one involved drinking and driving, the other a young driver who cut the corner while turning and hit the curb) and the third was attributed to a driver who failed to yield the right-of-way. Community input during the TAC meeting process indicated that visitors to the city were often confused by the intersection's unique three-way stop control. This confusion was noted to be of concern to the community as some TAC members had observed near-miss situations at the intersection that they attributed to the existing traffic control.

The single recorded accident at the Court Street/Highway 74 intersection was attributed to speeding.

OTHER IDENTIFIED EXISTING TRANSPORTATION DEFICIENCIES

As an extension of the existing conditions analysis, different aspects of the transportation system with existing deficiencies were identified. A description of the deficiencies follows. The summary is based on field observations and information/suggestions that were made by members of the respective transportation agencies and the general public.

Access to the Heppner Junior-Senior High School and Surrounding Area

Community members identified several concerns with respect to access to the Heppner Junior-Senior High School and the surrounding area. This section of the city hosts the school, the Emergency Operations Center, and the Rasmussen-Lott subdivision. Access to the area is currently provided via Water Street and Willow View Drive from the east and East Spruce from the north. Between Willow View Drive and East Spruce, the roadway is owned by the school district.

Community members noted that East Spruce is the only access route to the area in the winter when weather conditions result in the closure of Water Street. Further, community members stated that the school district has been considering closing the access road for safety reasons. Such a closure could effectively eliminate access to the Rasmussen-Lott subdivision during those times when Water Street is closed and thereby disrupt emergency access to the area.

Access to the Pioneer Memorial Hospital and Rock Street Area

The area surrounding the Pioneer Memorial Hospital lacks convenient, readily accessible street connections with Highway 74. The hospital is located on a hill and, because of the local topography, all roads leading to the hospital exhibit significant grades and relatively narrow cross sections. No pedestrian or bicycle facilities are provided to the hospital and the narrow streets in the area do not allow pedestrians

to safely use the shoulder area for walking. Access to residential properties in this area is also limited. The limited street connections to this area, in conjunction with the current lack of local bicycle and pedestrian connections, is a subject of community concerns especially with respect to accessing the hospital.

Travel Speeds on Highway 207/74

One issue raised by the community was the desire to reduce travel speeds on Highway 207/74 in Heppner, especially as drivers are entering town. Two specific locations were noted: in the north part of town (e.g., Linden Way) near the swimming pool and on Highway 74 between the fairgrounds and Heppner Elementary School. The posted highway speed limit is 55 miles per hour (mph) at the north end of the city; south of Riverside it is reduced to 35 mph; and just north of Quaid Street it is further reduced to 25 mph. At the east end of town, the speed limit increases to 55 miles per hour in the vicinity of the fairgrounds. Previous requests by the city to reduce the posted speed limit on the highway have been denied.

Speed limits on roadways are established based on the 85th percentile speed, essentially the speed that 85 percent of the roadway users drive at or below. ODOT (and most other transportation agencies) consider the 85th percentile speed to be the best indicator of prevailing speeds on a given roadway. Posting speed limits based on the 85th percentile recognizes that drivers will travel at a speed that they are comfortable with regardless of the posted speed limit.

Main Street Improvements

As previously noted, the transportation infrastructure within the downtown commercial area of Heppner was reconstructed in 1998 to revitalize the area and emphasize pedestrian access. Continuous sidewalk facilities on Main Street link downtown businesses. Newly installed curb extensions provide shorter roadway crossing distances and a more pedestrian friendly character. Other pedestrian facilities such as textured and/or striped crosswalks have also been provided. Striped on-street parking is provided along Main Street in front of commercial businesses.

Although the improvements have been very effective in enhancing the quality of the urban environment in downtown Heppner, the community noted that additional improvements are desirable to better facilitate vehicular movements and parking maneuvers for large vehicles. One of the most common complaints related to the ability of drivers to clearly see opposing traffic when backing out of the on-street parking stalls. It was also noted that the presence of trucks on Main Street often obscures driver's sight distance when backing out of the angled parking spaces.

On-Street Parking in the Vicinity of Intersections

Field observations revealed that on-street parking is obstructing sight distance at some of the intersections in the vicinity of downtown, especially along Chase and May Streets. Large trucks parked at or near the intersections were observed to be one of the leading culprits in creating sight distance obstructions.

May/Main Street Intersection

The May/Main Street intersection is stop-controlled on the northbound, eastbound, and westbound approaches. The southbound movement along Main Street is uncontrolled and the westbound approach is signed such that the right-turn movement is permitted to occur without stopping. Community members noted that vehicles often fail to observe the stop sign for the westbound movement. Field observations at the intersection and discussions with community members suggest that the existing stop-control creates confusion for unfamiliar drivers, this confusion is especially evident during hunting season.

Court Street/May Street Intersection

The configuration and traffic control at the Court Street/May Street intersection in front of the County Courthouse was also identified as being of concern to the community. The intersection is currently configured such that the May Street to North Court Street (Highway 207) is the through movement at the intersection and South Court Street "tees" into the highway at a skew at a stop sign. Due to the skew, the intersection encompasses a large paved area with ill-defined lane channelization. A flashing beacon was installed at the intersection to caution drivers of its unusual configuration.

Although the existing conditions analysis did not reveal any apparent safety or capacity deficiency at this intersection, the intersection geometry is contrary to drivers' expectations and thus creates confusion for unfamiliar drivers. According to community members, this situation is especially evident during hunting season and in the summer. The City of Heppner has commissioned an engineering study to redesign the intersection.

Vertical Curvature Problems in Southeast Heppner (Terrace Street and Willow Street)

The topography in and around Heppner makes the design of roadways and pedestrian and bicycle facilities difficult in many instances. Many of the streets that provide access to the hospital and residential areas on the southeast part of the community are steep and cut into the embankment in areas that have only provided enough width for vehicular travel lanes, not sidewalks or bicycle lanes.

Terrace Street

The grade on Terrace Street likely exceeds recommended standards for street design (as summarized in *A Policy on Geometric Design of Highways and Streets*, American Association of State Highway and Transportation Officials, 1994). According to community members, during the winter months water and ice on the street create hazardous conditions for motorists, pedestrians, and bicycles. Field observations also revealed that it is difficult for some motorists to maneuver the grade. It was further noted that alternative access to the Morrow County Courthouse, the hospital, and other land uses on the hill are available via Cannon and August Streets to the south and Barratt Boulevard to the north.

Willow Street

The vertical curve on Willow Street at its intersection with Gilmore Street obstructs intersection sight distance. The steep topography in the vicinity of the street makes it difficult to reconstruct Willow Street to improve sight distance. As with Terrace Street, alternative access to Gilmore Street is available via August Street, Cannon Street, and Barratt Boulevard.

Gilmore Street/Hager Street Sight Distance Restriction

The Gilmore Street/Hager Street intersection exhibits an existing sight distance restriction. This sight distance restriction is primarily associated with shrubbery located along the north side of Hager Street but is also influenced by the curvature of Hager Street and the angle at which the two roadways intersect.

Stansberry Street and Heppner Elementary School

Stansberry Street bisects the Heppner Elementary School grounds. To facilitate pedestrian crossing between school uses, the city has installed a stop sign and crosswalk mid-block on Stansberry, between the highway and Elder Street. A crossing guard guides children across the street during hours of school operation. In addition, school buses park in the middle of Stansberry Street to load and unload passengers before and after school. The primary concerns with the existing design are that the stop sign is installed in

the middle of the street (which is not a standard placement and may raise liability issues) and that the buses block traffic on the street completely during loading and unloading periods.

While the current operating practice does offer safety benefits by effectively block the roadway to traffic during bus loading and unloading periods, it could be improved. Community members specifically noted that local traffic uses Stansberry Street as a cut-through route between Highway 74 and Highway 207/74. The use of Stansberry Street as an alternative to highway travel is in conflict with the daily temporary closure of the roadway to serve as a bus loading area. Blocking the roadway to through traffic suggests the road is private property in that public streets would not normally be blocked in such a manner.

Further, the existing practice of blocking the roadway may also provide school children with a false sense of security in that they are used to having no traffic on Stansberry Street during those times when they enter and leave the school buses. During other times of the day, vehicles may be traveling the roadways without the children recognizing that the protective measures they are used to are not necessarily in place. As traffic volumes grow and additional cars use the Stansberry Street connection between Highway 74 and Highway 207/74 as a cut-through route to avoid the downtown, the possibility of pedestrian/vehicle interactions will increase.

Equestrian Facilities

The City of Heppner is the site of the Morrow County Fair and Rodeo grounds. Currently, no equestrian facilities are available outside of the fairgrounds. The community identified a need for equestrian facilities, especially in providing connections to the fairground area. Specifically, interest was expressed in providing appropriate facilities at key equestrian access points such as the intersection of Highway 74/Stansberry Street and Highway 74/Aiken Street.

SUMMARY

Through an inventory of existing conditions, several key findings were identified. Those findings are summarized below.

- The City of Heppner's roadway network is focused around State Highways 74 and 207. Local topographical constraints, flood-prone areas, and the lack of major transportation corridors in the area have shaped the city's transportation system and will continue to present constraints to both growth and transportation improvements.
- Recently reconstructed sidewalk facilities are concentrated in the commercial areas along Main Street. Sidewalk facilities are also available within the residential area west of Main Street as well as along portions of Court Street. Other local roads tend to exhibit disjointed or nonexistent sidewalks.
- A significant portion of Main Street within the city's downtown has been reconstructed. The newly constructed transportation infrastructure offers several pedestrian enhancements that contribute to the character of the downtown and make the area more accessible to non-auto traffic.
- No bicycle facilities were identified.
- Public transit service is primarily available in the form of a senior bus and dial-a-ride service provided through Morrow County. Other transportation services include the local school bus service and a personal vehicle reimbursement program for special needs that is funded through RSVP/CAPECO.

- On a typical weekday afternoon, the transportation system experiences its peak roadway traffic demand between 4:00 and 5:00 p.m. During this peak period, the transportation system operates well within established standards.
- Review of accident data from the study intersections did not identify any specific safety deficiencies.
- Other transportation issues of concern to the community include: access to the Heppner Junior-Senior High School and surrounding area, access to the Pioneer Memorial Hospital and Rock Street area, travel speeds on Highway 74/207, sight distance issues at various locations throughout the city, design of the Court Street/May Street intersection, vertical curvature and sight distance issues on Terrace Street and Willow Street, pedestrian access to Pioneer Memorial Hospital, operational issues on Stansberry Street, and the need for equestrian facilities especially in the area of the fair and rodeo grounds.

Section 3

Future Conditions Analysis

Future Conditions Analysis

INTRODUCTION

This section presents estimates of long-term future travel conditions within the TSP study area. The long-term future transportation needs for the City of Heppner were examined based on available employment and population forecasts, review of the proposed roadway network, results from the operational analysis of the existing street system, and discussions with regional transportation personnel and representatives from the City of Heppner.

TRANSPORTATION DEMAND

Future transportation demand within the City of Heppner was estimated based on expected growth in the study area population, employment, and traffic traveling through the study area for the horizon year 2020. Future growth estimates were developed based on historical traffic volume trends in the study area as well as consideration of the unique trip making characteristics of residential and employment-based activities. The estimation included a review of the land use mix proposed in the city's Comprehensive Plan.

Land Use/Demographics

Year 2020 traffic volumes on the City of Heppner's transportation system were forecast based on population and employment estimates developed by the State of Oregon for Morrow County and the city. These estimates were compared against recent development trends, planned developments, and forecast growth rates provided by local agencies to verify their appropriateness. The 20-year planning horizon was chosen to ensure compliance with the Transportation Planning Rule.

Population and Employment

Tables 3 and 4 summarize population and employment projections prepared for the City of Heppner in conjunction with the TSP process. The population information is based on forecasts prepared by the State Economist's office for Morrow County.

TABLE 3
POPULATION PROJECTIONS

Year	1997	2000	2002	2005	2010	2015	2020	1997-2020 Average
City of Heppner Projections								
Projected Population	1,480	1,502	1,517	1,601	1,733	1,867	1,992	--
Annual Percent Change	--	0.5%	0.5%	1.8%	1.6%	1.5%	1.3%	1.3%
Morrow County Projections								
Projected Population	9,895	11,131	12,039	12,701	13,750	14,812	15,801	--
Annual Percent Change	--	4.0%	4.0%	1.8%	1.6%	1.5%	1.3%	2.1%

TABLE 4
EMPLOYMENT PROJECTIONS

Year	1990	1997	2000	2002	2005	2010	2015	2020
City of Heppner Projections								
Projected Employment	580	601	610	616	652	702	738	772
Annual Percent Change	--	0.5%	0.5%	0.5%	1.9%	1.5%	1.0%	0.9%
Morrow County Projections								
Projected Employment	2,232	2,924	3,283	3,449	3,613	3,890	4,097	4,290
Annual Percent Change	--	3.93%	3.93%	2.5%	1.6%	1.5%	1.0%	0.9%

As shown in Table 3, the City of Heppner's population is forecast to grow by an average annual rate of 1.3 percent (approximately 512 people) between 1997 (estimated population of 1,480) and 2020 (projected population of 1,992). The local economy is forecast to create approximately 170 additional employment opportunities during the same 23-year period. The growth projections suggest that the city's growth will be moderate in the near-term and will increase to over 25 new residents per year in the mid- to long-term future.

Over the course of the same forecasting period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020). Countywide employment is projected to include approximately 1,365 additional employment opportunities over the same 23-year period. The county is anticipating strong growth in the near-term horizon with the annual growth rate more closely paralleling Heppner's after the year 2005.

These findings reflect the current development patterns being experienced in the area. Within the City of Heppner, no significant near-term development or employment activities are anticipated, suggesting that near-term future population increases will continue to be relatively small.

The regional growth phenomenon evidenced by the County's population estimates has been attributed to several new employment and development activities that have occurred in and around the county. These countywide developments have an impact on the local City of Heppner transportation system in the form of increased traffic volumes traveling through the city on Highways 74 and 207.

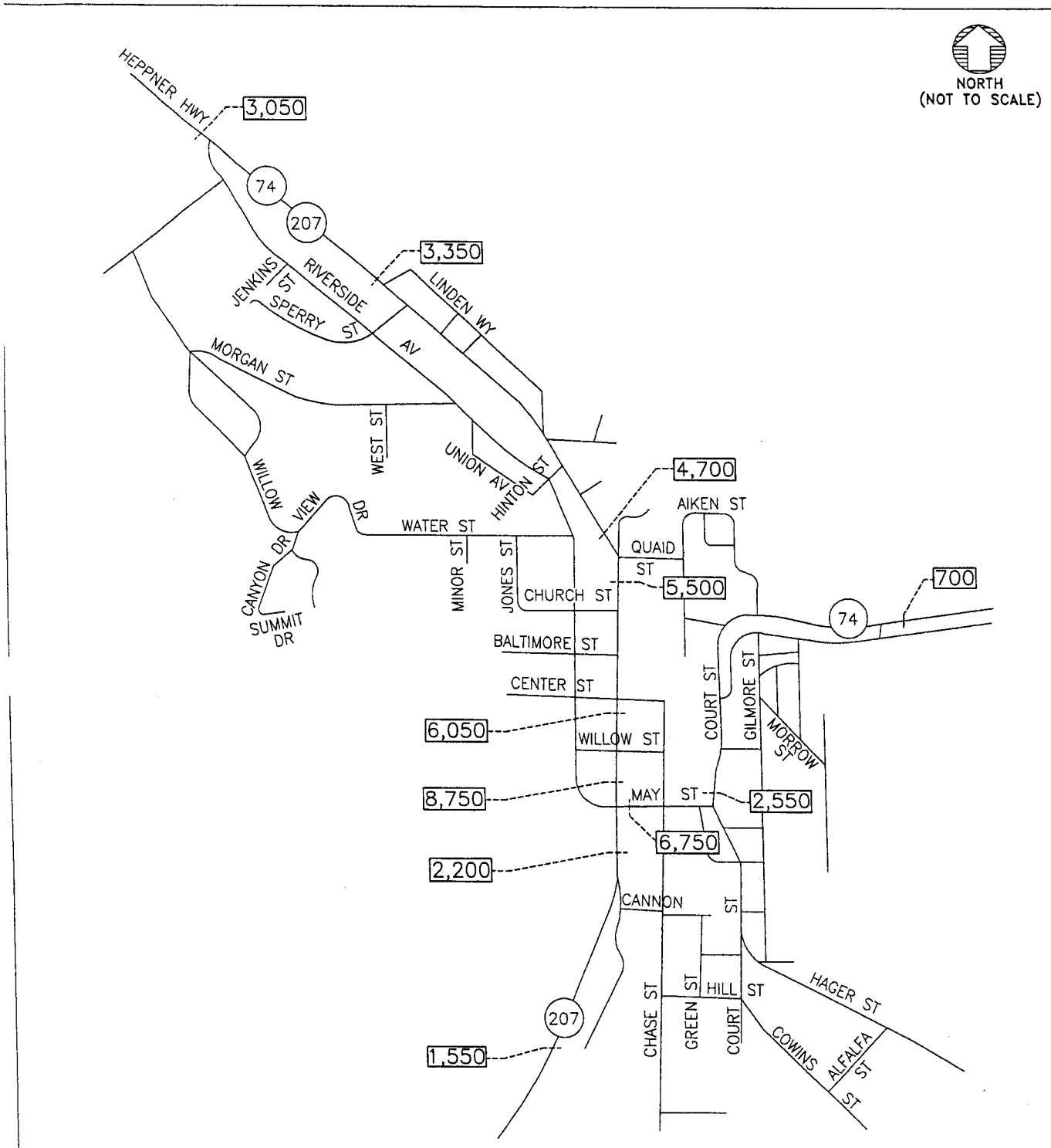
Further details regarding the employment and growth assumptions are detailed in Appendix "C".

Anticipated Future Growth

In an effort to account for regional traffic growth, a net annual growth rate was chosen to forecast the year 2020 traffic analysis. This rate was determined based on a review of historical traffic volume trends, anticipated population and employment growth, regional population densities, and local knowledge of planned development.

Historical Growth

As shown in Figure 9, a review of local Oregon Department of Transportation traffic volume data on Highway 74 indicated a historical 2.3 percent average annual growth rate between 1960 and 1997. It should be noted that the historical traffic volume data was obtained from ODOT's Lexington Automatic



2020 FORECAST AVERAGE DAILY TRAFFIC VOLUMES

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN	FIGURE 10
JUNE 1999	

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Traffic Recorder, Station 25-007, which is located 1.4 miles south of the Town of Lexington on Highway 207/74. While the historical traffic volume data is not specific to the City of Heppner, it is considered to be indicative of the general regional growth trends anticipated for the city and thus was used in this analysis.

PLANNED TRANSPORTATION IMPROVEMENTS

Two planned roadway improvement projects within the City of Heppner urban growth boundary were identified at the time the TSP was prepared as discussed below.

Court Street/ May Street Intersection

As documented in the existing conditions analysis, the Court Street/May Street intersection was cited by the community as exhibiting geometric deficiencies. The City of Heppner has identified this intersection for improvement and an engineering study of the intersection was commissioned. Through the study, a $92,500 intersection improvement project had been designed for the city that would reconstruct curbs and channelization at the intersection in an effort to provide drivers a more definitive driving path. Sidewalks and curb cuts serving adjacent properties (improvements that would bring the intersection into compliance with Americans With Disabilities Act (ADA) standards) would also be provided in conjunction with the project.

Highway 74 Resurfacing/Improvements

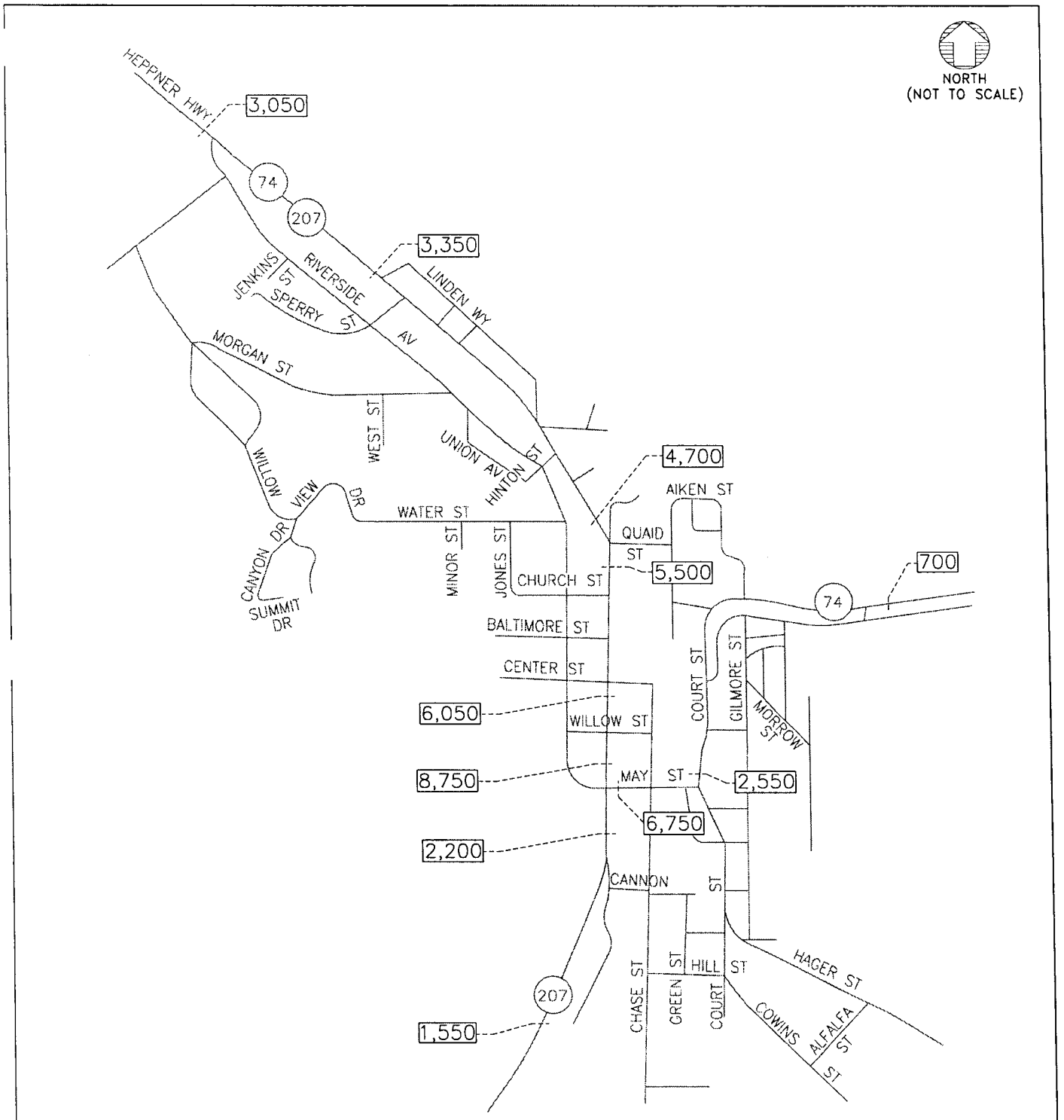
The Oregon Department of Transportation's Region 5 2000-2003 Statewide Transportation Improvement Program (STIP) Update identifies a resurfacing project along Highway 74 between Willow Creek and Hinton Creek. While no specific project information or timeline is identified, the project would reconstruct the highway with a new aggregate base and asphalt surface and is expected to entail shoulder work, ADA complaint sidewalk and curb improvements, and drainage work. ODOT has identified this project as being a "high" priority within Region 5. Construction cost is estimated by ODOT to be $3,000,000 and is currently unfunded.

No other planned improvement projects were identified. It should be noted however, that in 1993 the city adopted a city street replacement priority list and established a street replacement program through Resolution Number 73-93. The resolution was intended to prioritize street improvement projects such that the city's funds were allocated to the worst and most critical streets first. The resolution directs that city staff are to review and update the Street Replacement Priority List on an annual basis prior to the construction season and then seek the City Council's approval of the priority list.

FORECAST FUTURE TRAFFIC VOLUMES

Future conditions within the City of Heppner were forecast by applying the 2.3 percent annual growth rate assuming a "no-build" condition (i.e., no new roadways would be constructed in the 23-year horizon) to the 1997 local average daily traffic (ADT) volume data previously shown in Figure 8. Figure 10 illustrates the resulting forecast year 2020 average daily traffic volumes under the no-build condition.

A similar analysis of traffic volumes at the study intersections was completed by applying the 2.3 percent annual growth factor to the 1998 existing intersection traffic counts previously presented in Figure 7. Figure 11 summarizes the forecast year 2020 weekday p.m. peak hour traffic volumes at the study intersections under the no-build condition.



2020 FORECAST AVERAGE DAILY TRAFFIC VOLUMES

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN	FIGURE 10
JUNE 1999	

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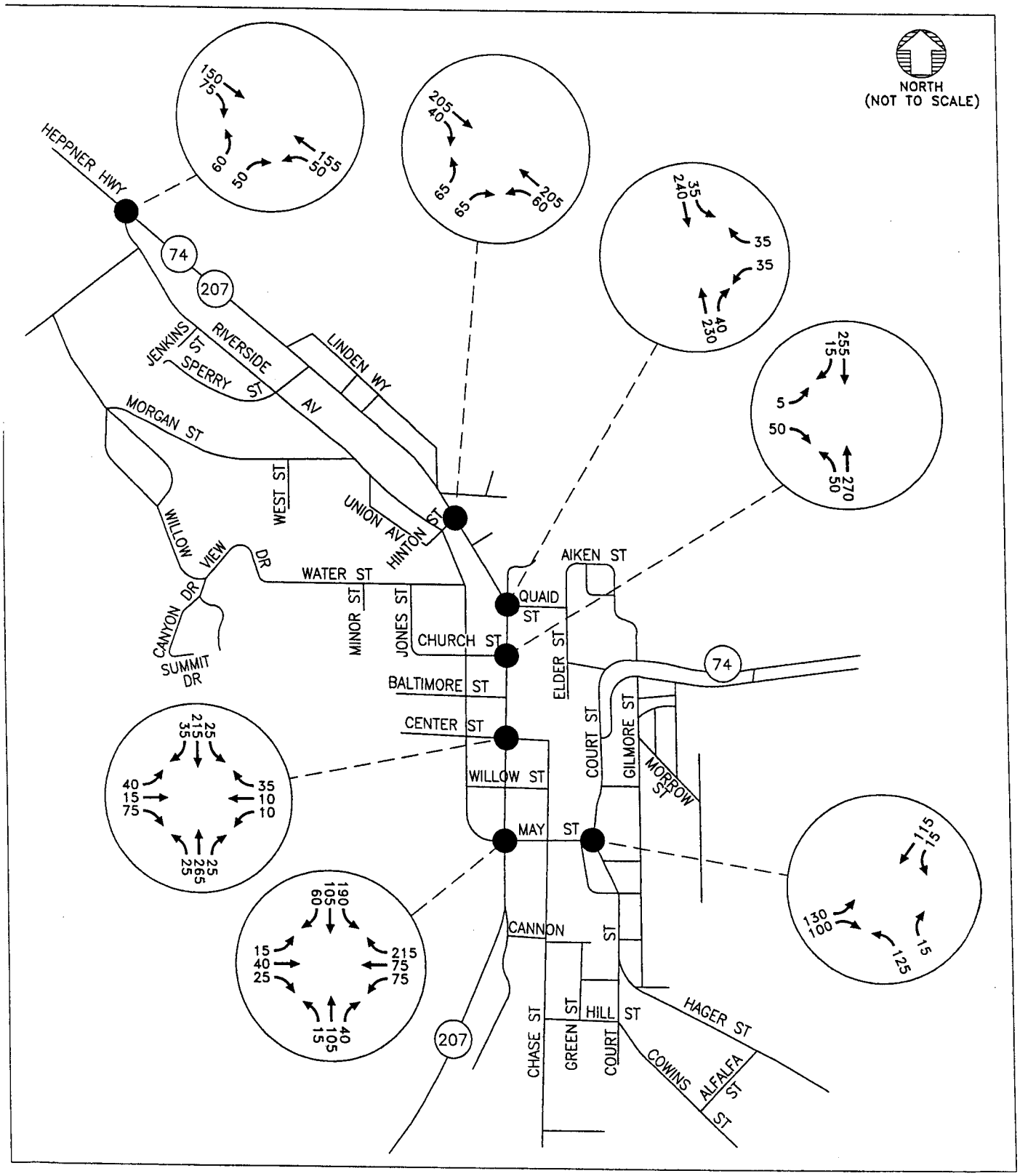

2020 FORECAST TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 11

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Level of Service Analysis

Typically, two-lane rural highways with geographic features similar to Highways 74 and 207/74 can accommodate a maximum of 17,000 to 20,000 vehicles (including vehicles in both directions) daily based on the *Highway Capacity Manual* (Reference 2). Accordingly, the year 2020 forecast average daily traffic volumes shown in Figure 9 can be accommodated by two-lane roadways such as Highways 74 and 207/74. It should, however, be noted that the daily traffic volumes on the two respective highways should be in the range of 5,000 to 7,000 vehicles to maintain the level of service that residents of Heppner are accustomed to.

Reviewing the volumes shown in Figure 9, this suggests that the downtown area of Highway 207/74 between Center Street and Chase Street will experience increased delay in the future that results in a degradation of service below levels currently experienced. While delay will increase, congestion in a central downtown commercial area should be expected. The forecast volumes clearly indicate that no capacity deficiencies are anticipated for highway traffic.

To ensure that the local study area intersections will continue to operate at an acceptable level of service during the peak period, the forecast future traffic volumes were also analyzed at the individual intersections. The findings of this analysis are summarized in Table 5.

TABLE 5
2020 FUTURE FORECAST LEVEL OF SERVICE,
UNSIGNALIZED INTERSECTIONS

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Riverside Avenue/Highway 207/74	Northbound	0.18	6.2	B	A
Hinton Street/Highway 207/74	Northbound	0.25	7.6	B	A
Quaid Street/Highway 207/74	Southbound	0.13	6.7	B	A
Church Street/Highway 207/74	Northbound	0.08	4.7	A	A
Center Street/Highway 207/74	Northbound	0.26	7.9	B	A
May Street/Highway 207/74	Southbound	0.46	16.1	C	A
Court Street/Highway 74 (May Street)	Westbound Left	0.23	7.3	B	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As previously stated, the *Oregon Highway Plan* stipulates that intersection levels of service "A" through "C" on the mainline approaches are considered acceptable for the portion of Highway 207/74 that is located north and south of May Street (Reference 1). The *Oregon Highway Plan* stipulates that levels of service "A" through "D" on the mainline approaches are considered acceptable for the section of Highway 74 that begins at May Street and extends to the east (Reference 1).

As Table 5 indicates, all of the unsignalized study area intersections are forecast to continue operating at acceptable levels of service under year 2020 weekday p.m. peak hour conditions. Given the relatively small average delay for the critical movements of the study intersections, even if side-street volumes were to increase more substantially than suggested in Figure 10, there is more than adequate capacity at the study intersections.

Based on the future conditions analysis results, no roadway capacity-related mitigation measures are anticipated. The next section of the TSP presents an analysis of potential improvement alternatives that would address other existing and future forecast transportation system deficiencies.

SUMMARY

Several significant findings were identified through the future conditions analysis, most notably:

- The City of Heppner's population is forecast to grow by an average annual rate of 1.3 percent (approximately 512 people) between 1997 (estimated population of 1,480) and 2020 (projected population of 1,992). The growth projections suggest that the city's growth will be moderate in the near-term and will increase to over 25 new residents per year in the mid- to long-term future.
- During the same period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020).
- The City of Heppner's transportation system is expected to accommodate forecast future growth in travel demand without triggering the need for major capacity-related roadway improvements.

Section 4

Alternatives Analysis

Alternatives Analysis

INTRODUCTION

This section presents a summary of future transportation improvement alternatives that could be implemented to mitigate existing and projected future transportation system deficiencies. Potential roadway improvement alternatives are presented and recommendations are offered as to their feasibility. As potential deficiency mitigation projects were developed, consideration was given to how a multi-modal approach could contribute to individual projects. Thus, while the primary impetus for a given mitigation alternative may center on increasing vehicular capacity, provision of appropriate bicycle and pedestrian facilities was given equal consideration.

Special effort was provided in considering and recommending improvements to the pedestrian and bicycle systems. Recommendations were developed that create direct linkage to all identified pedestrian/bicycle generators and provide for a core pedestrian and bicycle transportation system. The alternative analysis and subsequent recommendations process were handled separately to ensure that a complete system for each mode was identified without constraint.

It should be noted that, in this section, formal alternatives development and analysis have only been presented for the roadway network and its components. Other elements of the transportation system such as pedestrian access, bicycle access, etc. currently exist at a level such that an entire network needs to be developed. The **Transportation System Plan** section of this report contains the recommended improvements to all of the modal systems.

The remainder of this section is organized into two parts. First, a general discussion of improvement needs and associated ramifications is presented. A discussion of specific improvement alternatives, including estimated costs, then follows.

LAND USE/TRANSPORTATION SYSTEM RELATIONSHIP

The existing and future land uses within the City of Heppner have a substantial impact on the local transportation system. As a result, the city's transportation system will continue to reflect a strong relationship to local land use well into the future. For illustrative purposes, the following discussion presents some of the transportation implications associated with various land use alternatives.

Background

As stated in the **Existing Conditions** section, there is a limited amount of vacant land within the urban growth boundary that is not constrained by either steep slopes or located within the flood plain. There are a significant number of vacant lots within the urban growth boundary; however, a number of them (including some very large properties) suffer from building limitations such as steep slopes, poor soils, location in the floodplain and limited access that effectively land-lock them. Specific land use opportunities and constraints are described below for industrial, commercial, and residential land.

Commercial Land

Most of the commercial land in the city is located in the downtown area, primarily between Riverside Avenue and Chase Street to the west and east, and Church Street and Cannon Street to the north and south. Additional commercially zoned land is located on either side of Highway 207/74 as it enters the city from the north; however much of the land on the southwest side of the highway is located within the

floodplain. This land is currently used for the city's swimming pool and adjacent park facilities. Land on the northeast side of the highway is divided into relatively small lots. Though most of these properties currently are used for residential purposes, this area represents an opportunity for future commercial development. Given its location and orientation to the highway, strip commercial development could occur in this area. Such development could present several potential problems including:

- traffic congestion associated with an increase in the number of turning movements into and out of driveway access points (which can be particularly problematic for businesses that generate high traffic volumes);
- unattractive strip development; and
- loss of business for existing establishments in the central downtown area.

Residential Land

A buildable lands inventory completed by the City of Heppner in 1994 indicates that there were 13 buildable lots within the city limits at that time. Since then, additional land has been platted and planned for residential development, resulting in 30 to 50 buildable lots in the city. In addition, there is a significant amount of land on large vacant lots within the urban growth boundary, thought the 1994 inventory indicates that much of it is limited by development constraints such as steep slopes, poor soils and location in the flood plain. There also are opportunities for infill on several large lots with single houses, particularly in the southwestern corner of the city's urban growth area (between the city limits and urban growth boundary). City representatives state that sufficient land is available within the urban growth boundary for future residential development needs.

According to city representatives, some parcels are more likely than others to be developed in the future, given the current owner's willingness to sell or develop them. While all land within the urban growth boundary that does not suffer from physical constraints must be considered available and buildable in the long term, development could be encouraged in more likely areas in the near term.

Additional development also could be constructed by improving access and potential connections to existing city services for parcels of land within the city that suffer from limited access or similar limitations.

Accessibility of Land Parcels

Several large, vacant parcels on the east side of the city (e.g., east of Morrow Street and south of Highway 74) could be developed in the future with potential connections to the existing street network. These areas could be developed more efficiently by first creating local access or street plans for the area. In addition, several other areas of the city contain buildable parcels of land with access problems (e.g., the parcels north of Hinton Creek between Campbell and Elder Streets are landlocked or not well served by existing roads).

To promote more cost-efficient development, particularly in areas where connections to existing streets and other infrastructure (e.g., sewer and water lines) could be accomplished more easily, these measures could be undertaken:

- develop conceptual local street plans for areas likely to be developed to accommodate future growth; and,
- review zoning and subdivision regulations to identify policies that could inhibit infill and redevelopment.

Such alternatives would be consistent with city policy to encourage development to occur within a relatively compact urban area with controlled outward growth.

Provisions for Access and Provision of Infrastructure

It is important to provide connections between adjacent residential neighborhoods as well as between neighborhoods and commercial and other community services. Such connections provide neighborhood residents with more travel choices, reduce trip lengths and encourage walking and bicycling. In some areas, such connections have not been provided. For example, in the Lakeview Heights area, the city encouraged the provision of a connection to adjacent neighborhoods but was not successful. It is recommended that the city's ordinances be strengthened to include additional requirements related to connectivity, as well as provision of bicycle and pedestrian accessways. Suggested provisions are provided in Section 7, **Policies and Land Use Ordinance Modifications**.

Connectivity Improvements

Previous residential development in Heppner has highlighted the need for improved connectivity between and within residential areas. Several parcels of land on the edge of the city recently have been developed with relatively little consideration for how to effectively provide access and services to adjacent undeveloped land in the future. The result is limited access for pedestrians and drivers to important services and less potential for additional future development in these areas. For example, parcels in the Lakeview Heights area were developed at the end of a long cul-de-sac terminating at the top of the hill overlooking the southern portion of the city's developed street grid. Due to a number of factors, no street connection or accessway for bicyclists and pedestrians was developed between the end of the cul-de-sac and existing city streets to the north, though the city's Planning Commission recommended such a connection. In addition, staff note that the proposed plan for local streets in this area does not provide for the most efficient use and development of remaining land in this area.

Miscellaneous Issues

- According to city staff, development of roads and dwellings in areas with steep slopes has occurred without proper drainage facilities. To correct this situation, the city could review the adequacy of existing stormwater drainage requirements and implement appropriate changes.
- On-street parking of recreational vehicles and boats in residential areas can present aesthetic and safety issues. The city could explore opportunities to rectify this issue by adopting regulations that limit on-street parking of recreational vehicles or boats.

Land Use Recommendations

In light of the opportunities, constraints, and advantages/disadvantages of the alternative manners in which lands could develop in the future, the following recommendations have been developed to help guide future land use planning in Heppner. These recommendations reflect both the transportation and land use implications of future development patterns and a desire to maintain the sense of community that exists within Heppner today.

Commercial/Industrial Land

As noted previously there are two land use issues associated with this area, including:

- protection of buildings and property within the floodplain (primarily for the area southwest of the Highway); and,
- potential for strip commercial development adjacent to Highway 207/74.

To address these issues, several measures could be implemented, as discussed below.

1. Rezone commercial and possibly industrial land southwest of Highway 207/74

Commercially zoned land occupies a relatively narrow strip adjacent to the highway, north of Hinton and Morgan streets and extending approximately ¼ mile beyond the city limits. The city's swimming pool is located in this area and there are a limited number of existing commercial uses in the southern portion of the area near the intersection of Hinton Street and Riverside Avenue. The area between the commercial land and Riverside Avenue is zoned for industrial use. A portion of the industrial land currently is occupied by playing fields and is tentatively planned for future use as a museum. Most of the commercial and industrial land is potentially affected by flooding.

The city has a Flood Area Management Ordinance that governs development within areas affected by flooding. It includes regulations for two types of areas – the floodway (i.e., the expected path of moving water) and the area of inundation. In the floodway, no buildings or filling is allowed unless it can be shown through a hydrological study that the proposed development will not raise the base of the flood. In the area of inundation, commercial and industrial development are allowed under conditions that structures are constructed above the flood elevation or flood proofed, and residential development must be elevated. The ordinance follows the Federal Emergency Management Act (FEMA) guidelines and appears to provide adequate protection for uses in the floodway and area of inundation. Almost all of the industrial and much of the commercial land in this area (southwest of the Highway) is in the floodway.

To address concerns about development in this area (i.e., location in the floodway) and meet a number of other objectives, the city should proceed with tentative plans to rezone the commercial land in this area to open space use. The city should also consider rezoning the portion of industrially zoned land within the floodway not currently developed. The area to be rezoned will not include the existing uses near Hinton Street. Providing land for open space use in this area would help meet the following needs:

- compatibility with the existing swimming pool;
- reduce concerns about potential flood damage to commercial and industrial structures within the floodway;
- eliminate the potential for strip commercial development on the southwest side of the Highway; and,
- provide for needed open space near the central portion of the city.

Heppner does not have any land zoned for open space in the downtown or directly adjacent areas. Open space provides a number of community benefits, including opportunities for individual and community activities such as picnicking, walking, concerts and other recreational or entertainment activities. Providing open space in this area could help address this need and possibly complement future transportation improvements that are intended to create of more of a gateway to and extension of the city's downtown to this area and to help slow traffic as it enters the city along Highway 207/74. If the city desires to provide open spaces in this area, it is important that the area be zoned for such use to restrict development of other uses (e.g., commercial or industrial development). Without such restrictions, there will be less long-term certainty that the area will remain in open space.

2. Develop a Conceptual Plan to Manage Access to Individual Properties

The northeast side of Highway 207/74, which is divided into relatively small lots, represents an opportunity for future commercial development. Given its location and orientation to the highway, strip

commercial development could occur in this area. Such development could present several potential problems:

- traffic congestion caused by people turning into multiple driveways; this can be a particular problem for businesses that generate high traffic volumes;
- unattractive, auto-oriented, strip development; and,
- loss of business for existing establishments in the central downtown area.

A conceptual plan has been prepared for this area that includes shared parking and improvement and use of the alley right-of-way east of these properties for additional access. It also shows limited access to this area (e.g., direct access from Highway 207/74 to shared parking areas only, rather than to every individual parcel). An alley would serve as a one-way access road for business operations. It also could be used to reach shared parking proposed adjacent to the existing east/west streets in this area (Thornten Street and Birch Street). Conceptual drawings included in Appendix D illustrate this proposal. Effective access management, such as limited access from Highway 207/74, shared parking for multiple parcels and alternative access to businesses and parking via a one-way street along Linden Way, also could help maintain a high level of service for the road and result in a more attractive development pattern.

In addition to the proposed access management plan, this area of Highway 207/74 could be designed to slow traffic down and to serve as a gateway into the city.

Residential Land

As noted previously there are three land use issues associated with residential development:

- there is a limited amount of vacant land within the UGB that is not constrained by steep slopes and location in the flood plain;
- recent development in some areas has not been adequately connected to the existing street system; in other areas, pedestrian and bicycle connections between streets could improve connectivity where it is not feasible to build additional roads; and,
- on-street parking of recreational vehicles and boats in residential areas present aesthetic and safety issues.

To address these issues, the measures outlined below should be implemented.

1. Consider Amending the Urban Growth Boundary (UGB)

The UGB could be amended to remove lands that are unlikely to be developed and add lands (if a need can be demonstrated) that can be more likely and feasibly developed. Examples of areas that could be added are summarized below.

- Northwest of the High School: this area is relatively flat and served by at least some existing streets. Most of this property is already within the UGB. Additional land beyond the UGB also may be suitable for development, if the UGB is amended.
- Northeast of Morrow Street and south of Highway 74: This area has gradual to relatively moderate slopes. New developments potentially could connect to the existing street system (e.g., Morrow Street) with the possibility of additional, limited connections to Highway 74 that would improve connectivity with the Pioneer Memorial Hospital. Much of this area is within the UGB. Additional land beyond the UGB also may be suitable for development, if the UGB is amended.

- Existing areas within the city limits: Additional development can be accommodated in the Lakeview Heights area and the southern portion of the city. Additional development in these areas should be consistent with policies related to connectivity and access recommended in this report.

If the city finds that the above areas within the UGB are not adequate to accommodate future growth and that land to the west of town will not be available or suitable to accommodate growth in the next 20 years, amending the UGB should be considered. For example, the city may find that flatter land outside the UGB that is adjacent to developable land within the boundary can be developed more efficiently and cost-effectively than some of the vacant land within the UGB. The city also may find, over the long term (e.g., 20-40 years), that such areas can be better served by the existing road network and extensions to it than some of the land within the current UGB. However, amending the UGB should not be taken lightly. Justifying the need to amend a city's urban growth boundary typically is a complicated and costly endeavor in terms of staff and other resources.

2. Amend the City's Zoning Ordinance to Encourage Infill and Redevelopment

Land within the existing city limits that is already served by sewer, water, roads and other city services ultimately will be less costly to develop than land outside the city limits or land constrained by steep slopes or other service-related constraints. For this reason, it is recommended that the city encourage infill and redevelopment within the city, consistent with other city policies, to provide for more cost-effective provision of city services.

Two types of development are possible on existing platted residential lots in Heppner: 1) development of completely vacant lots; and 2) additional development on lots that already have a house but are large enough, given minimum lot sizes, to accommodate additional development. Both types of development will help make more efficient use of existing streets and other infrastructure, ultimately reducing the cost to provide public services. As noted previously, according to a recently completed buildable lands inventory, there are a limited number of vacant buildable lots served by the city's existing street grid and other services. However, there also may be other parcels that can accommodate additional dwelling units. Further, a review of the city's zoning and subdivision ordinances revealed that there are no regulations that would inhibit development on vacant lots or infill/redevelopment of underutilized parcels.

Additional development on underutilized lots typically is accomplished in two ways. First, some lots are wide enough to build a second house next to the existing one whereas other lots, although not wide enough, may be deep enough to accommodate a second house if the existing house is situated on the front or rear portion of the lot and if there is enough room to place a driveway next to the existing or proposed new house. Partitioning a lot to allow for a second house in front of or behind the existing one results in a "flag lot." Regulations that affect the ability to create flag lots include prohibitions or conditions on their use, as well as frontage and setback requirements that make it difficult to develop them. While Heppner's subdivision and zoning ordinances do not prohibit flag lot development, the following revisions could make the creation of flag lots more feasible: specifically allow flag lots as a conditional or outright use in all residential areas; and, reduce frontage requirements and establish access requirements to allow for flag lots. Suggested ordinance provisions are included in Section 7. Allowing for flag lots will provide another option for builders, developers or property owners to use land served by existing services more efficiently. This measure also would be consistent with city policy to encourage development to occur within a relatively compact urban area with controlled outward growth.

3. Amend the City's Subdivision Regulations to Ensure Connectivity

The city's existing subdivision regulations could be amended and/or supplement existing subdivision regulations to include policies/ requirements that ensure adequate connection to existing streets and

provisions for connections to adjacent undeveloped land. Recommended ordinance provisions are included in Section 7.

Connecting new developments to existing city streets will facilitate provision of services, provide for safe, direct and convenient access within the city, provide more choices for travel and encourage walking and bicycling. As noted above, this has been an issue for some recently developed areas in Heppner. In addition to general policies related to connectivity, ordinance language should be added regarding minimum block length, purpose, use and length of cul-de-sacs and provision of pedestrian/bicycle accessways. Such policies help provide for more travel options, can reduce the distance needed to get from one part of town to another and help improve access for emergency vehicles.

This approach would allow for future infill in areas where new development is occurring and facilitate more efficient planning and provision of roads and other city services. It also could facilitate more orderly and possibly more compact development.

4. Consider Development of Pedestrian/Bicycle Accessways to Improve Connectivity

While the previous recommendation is aimed at providing better connectivity in future developing areas, some existing areas also could benefit from pedestrian/bicycle accessways. On the west side of town, several long roads dead-end into the hillside along the western edge of the city (Willow, Center and Baltimore Streets), providing poor connectivity in this area. Pedestrian and bicycle accessways in this area could provide residents with additional travel options without incurring the expense of building an entire road, which likely would be expensive, given the topography.

In addition, a pedestrian/bicycle accessway between the Lakeview Heights area and the existing street grid to the north would provide alternative travel choices for residents of Lakeview Heights. The city should continue to explore development of a pedestrian/bicycle accessway in this area.

5. Work with Developers to Develop Local Access Plans

The city's subdivision regulations already require developers to submit sketch and tentative plans indicating the layout of streets in unsubdivided portions of property. It is important that the city meet with developers to jointly develop access plans (e.g., elements of the sketch and tentative plans that define internal and external street locations and connections) that meet the city's connectivity objectives, as well as policies related to topography and other design/layout issues.

6. Explore Opportunities to Reduce On-Street Parking of Recreational Vehicles and Boats in Residential Areas

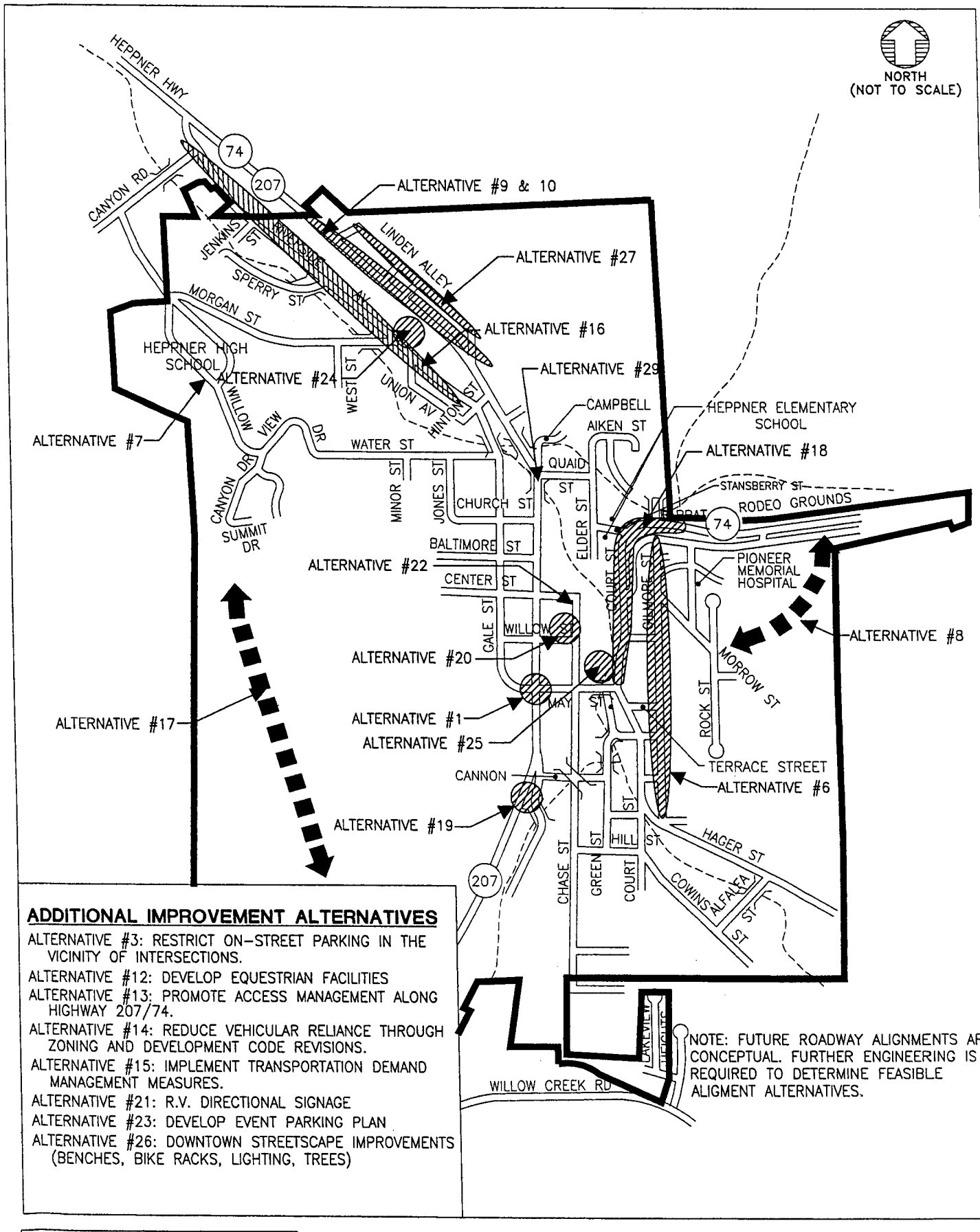
Concerns about aesthetics and safety related to on-street parking of recreational vehicles and boats in residential areas have been raised by the community. Safety concerns are most significant on relatively narrow streets where such vehicles may hamper the emergency vehicle access. Ordinance language that addresses this issue is included in Section 7.

There are also several transportation improvements that will be necessary in the future. The remainder of this section provides an overview of improvement alternatives that could be implemented to mitigate existing and anticipated transportation system deficiencies.

TRANSPORTATION IMPROVEMENT ALTERNATIVES EVALUATION

The following discussion presents specific improvement alternatives that were considered for inclusion as part of the recommended City of Heppner Transportation System Plan. Each of the alternatives has been identified by number for reference purposes, with the relative location of each improvement identified in Figure 12.

Neither the City of Heppner, nor the Oregon Department of Transportation guarantee funding to complete projects listed in the Transportation System Plan.



ADDITIONAL IMPROVEMENT ALTERNATIVES

ALTERNATIVE #3: RESTRICT ON-STREET PARKING IN THE VICINITY OF INTERSECTIONS.

ALTERNATIVE #12: DEVELOP EQUESTRIAN FACILITIES

ALTERNATIVE #13: PROMOTE ACCESS MANAGEMENT ALONG HIGHWAY 207/74.

ALTERNATIVE #14: REDUCE VEHICULAR RELIANCE THROUGH ZONING AND DEVELOPMENT CODE REVISIONS.

ALTERNATIVE #15: IMPLEMENT TRANSPORTATION DEMAND MANAGEMENT MEASURES.

ALTERNATIVE #21: R.V. DIRECTIONAL SIGNAGE

ALTERNATIVE #23: DEVELOP EVENT PARKING PLAN

ALTERNATIVE #26: DOWNTOWN STREETSCAPE IMPROVEMENTS (BENCHES, BIKE RACKS, LIGHTING, TREES)

LEGEND

– CITY LIMITS

– – – – – – – CREEK

IMPROVEMENT ALTERNATIVE RECOMMENDATIONS
HEPPNER, OREGON
Revised June 2003

FIGURE 12

MITCHELL NELSON

It should be noted that the order in which the alternatives are presented is not intended to convey the relative rank or significance of the respective projects. Further, the identified improvement alternatives were evaluated based on construction costs and ability to meet identified transportation needs. Other factors, including potential environmental impacts, were not specifically considered. Some environmental impacts that could occur have the potential to increase costs or require project modifications. The required modifications or increased costs could be significant enough to make the project impractical. All cost estimates were based on industry unit costs and do not reflect utility relocation, environmental constraints, property acquisition or inflationary increases in cost over the planning horizon of this document.

INTERSECTION IMPROVEMENTS

Alternative #1 -Provide Supplemental Signing at the May Street/Main Street Intersection

As previously explained, the May Street/Main Street intersection is currently stop-controlled on the northbound, eastbound, and westbound approaches. To address concerns involving driver confusion at the intersection, it is recommended that supplemental "Three-Way Stop" signing be provided at the intersection.

Estimated cost for this improvement is $200.

Recommendation

This improvement alternative is recommended for implementation in the near-term future. *(NOTE: The addition or modification of a traffic control device on any ODOT facility requires the approval of the State Traffic Engineer. Identification and documentation of the need in this TSP does not guarantee the provision or modification will occur.)*

PARKING CHANGES

Alternative #3 - Restrict On-Street Parking in the Vicinity of Intersections

As documented in the existing conditions analysis, field observations revealed that on-street parking is obstructing sight distance at some of the intersections in the vicinity of downtown, especially along Chase and May Streets. To remedy this problem, it is recommended that the City of Heppner installing signing and curb designations to prohibit parking within 20 feet of an intersection. Prohibition of parking within the 20 feet will also enhance truck turning movements at intersections and will allow for a better defined crossing space for pedestrians.

Estimated cost to completed this alternative is $150 per sign.

Recommendation

The City of Heppner should install signing to prohibit parking within 20 feet of an intersection in the near-term future. *(NOTE: The addition or modification of signing on any ODOT facility requires the approval of the State Traffic Engineer. Identification and documentation of the need in this TSP does not guarantee the provision or modification will occur.)*

Alternative #4 - Restripe On-Street Parking Stalls in the Downtown

The existing parking stalls on Main Street in the downtown area are striped at approximately an 80-degree angle. This configuration makes it difficult for large trucks to maneuver into and out of the on-street parking stalls without crossing the centerline, and creates sight distance limitations for passenger vehicles in the vicinity of the maneuvering trucks. It is recommended that the on-street angled parking spaces be restriped to a 60-degree angle.

Estimated cost to complete this alternative is $3,000.

Recommendation

The City of Heppner should restripe on-street angled parking spaces to a 60-degree angle along the Main Street commercial corridor in the near-term future.

VERTICAL CURVATURE PROBLEMS IN SOUTHEAST HEPPNER

Alternative #6 - Modifications to Gilmore Street

The vertical curve on Willow Street at its intersection with Gilmore Street obstructs intersection sight distance. The steep topography in the vicinity of the street makes it difficult to reconstruct Willow Street to improve sight distance. For this reason, it is recommended that at a minimum, the city acquire sight distance easements in the vicinity of the intersection to ensure that drivers' sight line is unobstructed by landscaping, signing, or other street furniture. In addition, due to the narrow width of Gilmore Street, the city should explore opportunities to restrict on-street parking where alternative parking is available for local residents until the time that the roadway is widened.

The cost to acquire sight distance easements at the Gilmore Street/Willow Street intersection was not estimated in conjunction with this project due to the private property issues involved. The actions necessary to prohibit parking along Gilmore Street should be primarily limited to the installation of "no-parking" signs, which is estimated to cost $150 per sign.

The existing Gilmore Street intersection with Hager Street also exhibits sight distance limitations. It is recommended that the city investigate potential mitigation measures to address this condition, potentially including acquisition of sight distance easements in the vicinity of the intersection to ensure that drivers' sight line is unobstructed by landscaping, signing, or other street furniture. Any mitigation measures should recognize that Gilmore Street serves as an ambulance route to the hospital and, accordingly, any modifications to Gilmore Street that would restrict emergency access in the area should be closely coordinated with local emergency service providers prior to implementation.

Recommendation

The City of Heppner should acquire sight distance easements in the vicinity of the Gilmore Street/Willow Street intersection in the near-term future. In addition, it is recommended that the city explore opportunities to restrict on-street parking along Gilmore Street where alternative parking is available for local residents until such time that the roadway is widened.

The city should also develop and select a mitigation measure to eliminate the existing sight distance restriction at the Gilmore Street/Hager Street intersection. Local neighborhood and emergency service providers should be included in discussions of any mitigation plans to ensure the adequacy of proposed mitigation treatments.

HEPPNER JUNIOR-SENIOR HIGH SCHOOL AREA

Alternative #7 – Develop an Access and Circulation Plan for the Heppner Junior-Senior High School Area

As documented in the **Existing Conditions** section, the area surrounding the Heppner Junior-Senior High School has relatively limited access. Local topographic conditions constrain transportation facilities in this area and also limit the ability to provide connections to the area to serve future development. Further, in the event of adverse climatic conditions, Water Street is often closed and all access to the area is restricted to East Spruce.

Recognizing the need to provide safe and convenient access to the school, the Emergency Operations Center, the Rasmussen-Lott subdivision, and other adjacent developable properties the city should work with the school district and the adjacent property owners to develop an access and circulation plan for the area. This plan should focus on safety and connectivity and include preservation of alternative access to the area such that this portion of the community is not isolated by the seasonal closure(s) of Water Street.

Recommendation

To equitably address the access and circulation issues associated with the area surrounding the high school, it is recommended that an access and circulation plan be developed for the area. Such a plan would involve the development and identification of a local street network and appropriate access points to that network given the topographic constraints of the area. This plan should consider the school district's access and safety concerns, emergency services' needs, the access needs of the existing residential housing in the area, as well as the potential future development of additional housing in the area. The plan should include an evaluation of pedestrian and bicycle access needs in the area and identify appropriate pedestrian and bicycle facilities.

Development of the plan should be closely coordinated with the school district, local emergency service providers, and the neighborhood prior to adoption and implementation to ensure that the community's interests are best served for the long-term future.

Estimated cost to facilitate and complete an access and circulation plan for this area is $10,000. At a minimum, dialogue between the city, school district, emergency service providers, and the neighborhood should be initiated immediately. The formal planning process should be initiated in the near-term future.

Additionally a preliminary engineering study should be undertaken to redesign Water Street to meet street design standards. Water Street provides the only public access to the Sheriff Office and the Rasmussen-Lott Subdivision. Additional access is available from Morgan Street and Canyon Road, but it requires crossing the Junior/Senior High School property. Water Street is substandard. It is narrow, very steep and has no sidewalk along the steep portions. During icy winter weather, the road may be closed. The roadway should be improved to 24-foot wide driving surface with a sidewalk on one side and its slope reduced. Such improvements will require construction of retaining walls and possibly the acquisition of grading easements. An engineering study to determine the feasibility and requirements for such an improvement should be made.

CONNECTIVITY WITH THE PIONEER MEMORIAL HOSPITAL AND ROCK STREET AREA

Alternative #8 – Develop Highway 74/Rock Street/Morrow Street Connection

The area surrounding the Pioneer Memorial Hospital lacks convenient, readily accessible street connections with Highway 74. The lack of street connections, in conjunction with the current limitations of the local bicycle and pedestrian connections, is a subject of community concerns especially with respect to accessing the hospital.

In order to address community concerns regarding access to the hospital and the surrounding residential area, alternative access roads to the area were considered. Based on a review of local circulation and topographic constraints, it was determined that a new roadway connection between Highway 74 and the residential area could be developed. This new roadway would likely connect with either Rock Street or Morrow Street, pending the outcome of a detailed engineering study.

Estimated cost to complete this roadway is subject to several variables including selection of a preferred alignment. On a scale of magnitude, the roadway could be expected to cost in the range of $900,000; however, it should be understood that this estimate is subject to many variables that were not studied in

detail for the purposes of this TSP. In addition, if the selected roadway alignment were to travel outside of the city's urban growth boundary, an amendment process would be required to approve the alignment.

Given that the new roadway would provide alternative access to the hospital as well as potential new emergency access routes, feasibility assessments and development of potential roadway alignments should be closely coordinated with local emergency service providers prior to implementation.

Recommendation

The city should develop a new roadway connection between Highway 74 and the residential area adjacent to Rock Street/Morrow Street. The roadway should include development of appropriate pedestrian and bicycle facilities in conjunction with the project. Implementation of this alternative is likely to be completed in conjunction with local development activity. It should be noted that development of a new connection to Highway 74 is subject to ODOT access management and spacing standards for the highway.

TRAVEL SPEEDS ON HIGHWAY 207/74 AND HIGHWAY 74

Community input identified operating speeds on Highway 207/74 and Highway 74 through the city as an issue of concern. Two specific locations were noted: on Highway 207/74 in the north part of town (e.g., Linden Way) near the swimming pool and on Highway 74 near the Fairgrounds and Heppner Elementary School. The speed limit currently posted on the respective highways was established by ODOT and reflects the 85th percentile speed. Posting speed limits based on the 85th percentile recognizes that drivers will travel at a speed that they are comfortable with regardless of the posted speed limit.

Given that changing the posted speed limit will not influence driver behavior, it is necessary to influence the driving environment to effect driver's speeds. Wide travel lanes and open shoulders convey a sense of security that encourages higher speeds. Changes to the roadway that effectively condense the road environment (through construction of curbs, lane restriping, other amenities such as planter strips, street trees, etc.) may contribute to reduced travel speeds on the highway. Once changes have been made to the roadway environment that effect drivers' perceptions, speeds will likely drop. Following modifications, ODOT could re-evaluate the need to change the posted speed limit.

Alternative #9 - Provide Gateway Treatments Along Highway 207/74

Through the public meeting process, it was noted that the northern portion of Heppner currently lacks a defined core area that is evident to travelers along Highway 207/74. The lack of a defined core has an indirect impact on highway operations in that drivers perceive a wide-open environment and tend to speed on Highway 207/74 through the city limits. Streetscape treatments such as landscape strips, pedestrian refuges and bike lanes may be valuable to the city in the future as an instrument by which the character of roadways can be influenced by providing a more narrow feel. Treatments such as pedestrian refuges, and landscaped medians provide an indication to drivers that the adjacent land uses necessitate slower speeds.

Recommendation

The city should develop gateway treatments along the highway in conjunction with implementation of the recommended land use policies and ordinances. Further, through new roadway and land-use standards, future development activities and roadway improvements along Highway 207/74 and Highway 74 should be focused to influence the streetscape of the highway. By modifying the streetscape of the two highways, driver's perceptions can be influenced and travel speeds may be reduced. Section 5, **Transportation System Plan**, presents recommended street standards that will assist in fostering a more constrained perception of the highway travel environment.

Alternative #10 – Enhance Pedestrian Crossings of Highway 207/74 and Highway 74

In conjunction with the improvement projects identified under Alternative #8, the pedestrian environment along the north section of Highway 207/74 should also be improved. In addition to providing traditional sidewalk facilities, there are several other potential enhancements that should be considered along the northern section of Highway 207/74, including:

- provision of additional street lighting to enhance visibility of pedestrians at night;
- limited construction of curb extensions that reduce the exposed crossing distance pedestrians must walk, and;
- limited use of median treatments that provide pedestrians with a "safe-haven" at a mid-crossing.
- Construction of sidewalks with a separating landscape strip with street trees.

Recommendation

Implementation of specific improvement measures will be dependent on local development activities and the city's ability to create some form of gateway treatment that influences the character of Highway 207/74. The Pedestrian and Bicycle System Plan contained in Section 5 identifies specific pedestrian and bicycle improvements along Riverside Avenue rather than in Highway 207/74.

STANSBERRY STREET AND HEPPNER ELEMENTARY SCHOOL

EQUESTRIAN FACILITIES

Alternative #12 – Develop Equestrian Facilities

Community involvement with the TSP identified a desire to provide equestrian facilities within the city. The primary purpose of these facilities would be to provide convenient access to the fair grounds that reduces or eliminates the interaction of horse traffic and vehicles on Highway 74. Additional facilities could provide connections servicing the downtown area and, potentially, a future trail. Provision of such facilities would enhance the safety of horseback riders by providing a separate travel environment that reduces the amount of interaction between horseback riders and vehicular traffic.

Development of equestrian facilities should consider the potential need for watering stations, loading/unloading points for horse trailers, and other amenities. Further, it would also be necessary to ensure that the trails and facilities were properly maintained to ensure sanitary conditions. Given the vague nature of these facilities, no cost estimates were prepared.

Recommendation

Development of appropriate equestrian facilities should be encouraged along side of the proposed multi-use trail from the City Park to Hager Park where space allows. Other trails are encouraged

ACCESS MANAGEMENT

The spacing of access points along roadways impacts the capacity, safety, and overall performance of a given facility. Accordingly, access locations on roadway sections need to be properly located to ensure safe and efficient travel along roadway corridors. Access locations should be placed appropriately to limit potential conflicting turning movements, weaving maneuvers over short distances, and congestion along facilities.

In general, as the number and proximity of access points along a given road increases, there is an increase in the number of potential conflicting turning movements into and out of those access points. These turning maneuvers ultimately can adversely affect the operations of traffic on the roadway itself.

Alternative #13 - Promote Access Management Along Highway 207/74 and Highway 74

The Oregon Department of Transportation has established access spacing standards for Highway 207/74. These standards, which are presented in detail in Section 5, are intended to ensure the long-term safety and efficiency of the Highway 207/74 corridor. Implementation of the standards as they relate to local development activities will be essential to ensure the long-term viability of the Highway 207/74 corridor.

The future conditions analysis, as presented in this document, assumes that current public roadway spacing along Highway 207/74 will be maintained into the long-term future. As long as the current public road access spacing standards along Highway 207/74 are maintained and new private access points are allowed in accordance with the access spacing standards presented in Section 5, it is expected that the forecast future traffic conditions will be reflective of long-term operations along the Highway 207/74 corridor. Conversely, if multiple additional access points are granted along Highway 207/74, it can be expected that additional incremental delay will be added to the highway's operations.

Recommendation

Access Management should be implemented in the immediate future. No specific construction need is evident to implement this improvement as it simply promotes compliance with existing roadway policy. No immediate land use actions would be required either. Instead, as property along Highway 207/74 is developed or redeveloped, appropriate action should be taken by local and state agencies to ensure that the relevant access spacing standards are reasonably enforced. Section 5, **Transportation System Plan,** includes a full access management plan and corresponding implementation strategy complete with typical spacing standards, driveway widths, etc.

REDUCE RELIANCE ON THE AUTOMOBILE

Alternative #14 - Reduce Vehicular Reliance Through Zoning and Development Code Revisions

In part, Oregon's Transportation Planning Rule seeks to reduce the reliance on personal vehicles as a mode of travel through the creation of environments that foster alternative modes of transportation. Local land uses can have a significant impact on the form of transportation necessary to travel from one location to another. Specifically, by carefully structuring local zoning and development codes, development activities can be focused such that a more self-contained community can be achieved. Construction of mixed-use developments, the location of commercial and service businesses in the vicinity of residential land uses, and the provision of employment opportunities near residential areas are all means by which the need for travel by personal automobile can be reduced.

In relatively rural areas such as Heppner, the need to travel long distances to employment, commercial, and service opportunities fosters a travel environment dependent on personal automobiles. This is an issue for many of the city's residents, who work in other communities such as Boardman and Hermiston that are 40 to 50 miles away. Some recent residential development also has contributed to reliance on the automobile. New homes in the Lakeview Heights area do not have a direct connection to existing streets at the southern end of the city's street grid. Development of vacant or underutilized parcels within the central part of Heppner with direct connections to the city's street grid system would reduce reliance on the automobile for short trips to local community commercial establishments and other uses.

Recommendation

Implementation of the recommended land use modifications is recommended. Provision of appropriate zoning and development code revisions should be approved by the city. These revisions are summarized in Section 7.

Estimated cost is $40,000. This project is on-going.

Alternative #15 – Implement Transportation Demand Management Measures

Transportation Demand Management (TDM) measures identify opportunities to reduce the impact of trips generated by various land uses. Specifically, TDM techniques typically seek to reduce reliance on single-occupant vehicle trips and promote the use of alternative travel modes by persons accessing a given area or facility. The Transportation Planning Rule encourages the evaluation of TDM measures as part of the TSP development process.

TDM strategies often focus on major employers or other sources of traffic that can be influenced through scheduling changes, alternative transit opportunities such as carpools and buses, and other means. Oftentimes, financial disincentives are included in programs as a revenue generator to support other elements of an overall program. The success of fee parking and other commonly used disincentives is dependent on the environment in which a given employer is located.

Given the rural nature of Eastern Oregon and the City of Heppner, the TDM measures available to the city are limited in scope as compared to larger metropolitan areas. One of the most promising options available to the city is the provision of a carpool or vanpool service for people who live in Heppner and work in neighboring communities. Coordination of a vanpool and/or carpool(s) to the major employers in the area could help to reduce the number of single occupant vehicle commute trips from Heppner and help the community to achieve transportation demand management objectives. The city could also promote carpooling to out-of-town employers through education.

Provision of a park-and-ride facility at a key location within the community is another means by which the use of non-auto dependent travel can be encouraged.

Recommendation

It is recommended that the City of Heppner focus TDM efforts on supporting carpools and/or vanpools to major employers through education, coordination with employers, and provision of appropriate facilities such as park-and-ride areas. The first step would be to conduct a survey of Heppner citizens to determine where and when they commute. Understanding the existing commuting patterns will lead to appropriate car-pool / commuting options. Additional recommendations include providing a facility for bus/van storage and development of a park and ride lot.

The cost of implementing a TDM program is dependent on the type and variety of measures selected. Facilitation of carpools, vanpools, or a park-and-ride facility could be completed through a volunteer network and/or coordination with major employers at minimal cost.

The commuter's survey is estimated to cost $10,000.

Alternative #16 – Riverside Avenue Reconstruction

The City of Heppner has identified a need for pedestrians to use Riverside Avenue rather than Highway 207 / 74 for access to the city pool and the ball fields.

Riverside Avenue is a minor collector and also serves the industrial zones in the city. The road and its sub- base is in poor condition. It requires reconstruction along with provisions for pedestrians and bicycle circulation facilities.

Recommendation

It is recommended that the City of Heppner improve Riverside Avenue to better serve industrial users and pedestrians alike by reconstructing the road way and constructing a multi use path on the north side of Riverside Avenue.

The estimated cost is $920,000.

Alternative #17 – North-South Collector on Westside of the City.

A large portion of the City's Residential land area is located on the westside hilltop.

Recommendation:
If this portion of the city is developed, a north-south connector road should be developed as the land area is developed. It shall provide a second north-south connection within the City and help improve access to existing development near to and including the High School.

Alternative #18 – North Court Street Improvements

Highway 74 coming into the city from the east curves sharply to the south after the
Fair Grounds. Within the city and around the curve it is called North Court Street. The road from the Fair Grounds to the intersection of May Street is substandard and should be improved to closer meet state highway standards within the constraints of the existing topography.

Recommendation:
The roadway should be reconstructed within the existing right of way.
The estimated cost for this is $950,000.

Alternative #19 – Main Street Improvements between Cannon St and Shobe Creek

The city is planning a skate park at the old pool site along with a covered shelter. The facility can be used by the whole community but can also provide a special place for Heppner youth to gather in the summer.

Recommendation:
To support the improvements additional parking is suggested adjacent to the pool. Street improvements with curbs, gutters and sidewalks with ADA accessible crossings should be constructed adjacent to the skate board park. The new parking area can be part of the event-parking inventory.
The estimated cost is $60,000.

Alternative #20 – Off-street R.V. Parking Lot

Lack of parking for visiting recreational vehicles is a significant problem for downtown Heppner.

Recommendation:
Develop an off-street RV parking lot. An option is shown at the northwest corner of Chase and Willow streets on the Downtown Development Plan. One of the residential parcels is for sale. The second home abutting this property appears to be abandoned and is in poor condition. The two lots combined could provide space for about eight 12-foot wide over size parking stalls immediately behind the Red Apple Market with alley access. This option allows for pull-through access. If this location is not available then another area in the downtown district could be recommended.

The estimated Construction cost is $56,000.

Alternative #21 - Signage for R.V. Parking

Recreational vehicle users have difficulty finding parking in Heppner to stop and re-supply and shop in the downtown. Designated R.V. parking away from the highway is not visible to visitors passing through.

Recommendation:
Place signage on the highway to appropriately direct R.V. traffic to designed R.V. parking areas.

Alternative #22 - On-street R.V. Parking

Lack of parking for visiting recreational vehicles is a significant problem for downtown Heppner. Additional oversize parking is needed to meet the existing demand that is expected to grow with the construction of a new county RV park south of Heppner.

Recommendation:
The City should designate lightly used on-street parking space along the west side of Chase Street between Center Street and May Street and both sides of Center Street from Main Street to Chase Street as "Over-Size Parking" only areas.
The estimated cost is $3,500.

Alternative #23 - Event Parking Plan

Although adequate parking is available, for the most part, throughout the community, parking is a significant problem during the community's festivals and the Morrow County Fair. Providing full time parking for a part time need, though, is an inefficient use of resources.

Recommendation:
To resolve the part time parking problem, the city should inventory property owners with land that is being used for vehicular movement or parking and develop an Event Parking Plan.

If parking areas are not being used during special events, then the city can coordinate there use for special event parking. Undeveloped flat land such as behind the city pool could provide temporary parking or community church parking lots could be used when services are not in session.

A modest fee can be charged to defray operational costs such as compensation for staff to direct traffic and to set up temporary lots with cones and plastic ribbons.

The city will need to provide temporary signage to direct visitors to the potential parking areas. Someone from the city or a community volunteer should be responsible for identifying lots available, projecting parking needs and coordinating the use of available space.
The estimated cost is $7,500.

Alternative #24 - Municipal Parking Lot for the City Pool

There is no off-street parking for the swimming pool.

Recommendation
Develop a City owned parking lot behind the Swimming pool accessed from Riverside Avenue.
The estimated cost is $52,000.

Alternative #25 - Municipal Parking in the Downtown District

Although a parking survey indicated that downtown Heppner has adequate parking, there is a community perception that there is a shortage. The survey indicated the spaces in front of the Post Office were often full. Future development or greater use of existing second stories could impact the amount of available parking. The Zoning Code has a proposed provision for paying into a city fund for any required parking that a developer cannot provide.

Recommendation:
The city should develop a municipal lot in an under developed section of the downtown.
The city should consider replacing parallel parking of the side streets of the downtown with angled parking as space permits.

Alternative #26 – Streetscape Improvements In the Downtown District

The downtown pedestrian environment can be enhanced by improving the streetscape environment with street furniture, bike racks and landscape materials for shade and cooling. Street trees provide vertical elements and a living component to a streetscape. Placement and use of the right plant material is paramount to the success of the landscape. Heppner's dry climate and potentially cold winters require a tree that is tolerant of such conditions even with the addition of irrigation water.
Recommendation:
Place benches in strategic locations such as near the Post Office, City Hall, Library, or parks. A consistent bench will add to the visual character and provide a pleasant respite while walking through downtown on errands. Matching trash receptacles should be placed throughout the downtown.

Add bike racks within the public right-of-way making it easier for people bicycle downtown for errands or shopping. A bollard style bike rack will indicate separate areas while providing a safe bicycle storage system. Private bike racks will be required for new development per zoning code. They should be the same style if they are placed in the public right-of-way. All street future should be placed outside a clear (ADA accessible) walking area.

Because the landscape strip abuts the drive aisle, a deciduous columnar plant should be used to avoid conflict with vehicular traffic. A deciduous tree will provide shade in the summer and allow sun on the street during the winter.

The proposed landscape strip on Chase between May and Center Streets should use the same red blocks between the tree wells with drought tolerant ground cover used for accent areas.

Alternative #27 – Improve Linden Way

Linden Way provides a second access for property fronting on the northwest side of Highway 207/74. As these properties develop access from the rear may become more important. Linden Way is presently unimproved. When its use increases it should be improved.

Recommendation:

Improve Linden Way with asphalt pavement and other improvements as required.

Alternative #28 – Gale Street Bridge Pedestrian Improvements

Gale Street is a designated as a bike route. The Gale Street Bridge is narrow and does not have space for separate pedestrian walkways and or bike path.

Recommendation:

The bridge should be slated for replacement or if not feasible in the reasonably near future, a separate parallel bridge for bikes and pedestrians should be installed.

Alternative #29 – Quaid Street and Campbell Way Intersections with Highway 207/74

These two streets intersect Highway 207/74 without definition creating a long pedestrian 'no mans land'.

Recommendation:
The intersections should be defined by appropriately designed turning radii with new curbs, gutters and ADA accessible sidewalks and crossings.

SUMMARY

This section has presented the alternatives that have been developed and evaluated to address the near-term and long-range transportation deficiencies within the City of Heppner urban growth boundary. Table 6 summarizes the potential improvement alternatives. Section 5, which follows, incorporates the recommended improvements for each transport mode into the city's transportation system.

TABLE 6
SUMMARY OF IMPROVEMENT ALTERNATIVE RECOMMENDATIONS

Alternative Number	Improvement Description	Estimated Cost*	Implementation Timeline	Responsible Jurisdiction
#1	Provide Supplemental Signing at the May Street/Main Street Intersection	$200	Near-term future	City/ODOT
#3	Restrict On-Street Parking in the Vicinity of Intersections	$175/sign	Near-term future	City
#6	Modifications to Gilmore Street -Acquire Sight Distance Easements at Willow Street -Mitigate Sight Distance Deficiency at Gilmore Street/Hager Street intersection	-Not estimated -Not estimated	-Near-term future -Near-term future	City
#7	Develop an Access and Circulation Plan for the Heppner Junior-Senior High School Area -Feasibility study of Water St improvements	$12,000 $29,000	Near- term future Near-term future	City and/or Developer City
#8	Develop Highway 74/Rock Street/Morrow Street Connection	$900,000	Concurrent with local development	Developer/ City
#9	Provide Gateway Treatments Along Highway 207/74	$436,000.00	Concurrent with local development	ODOT/City/ Developer
#10	Enhance Pedestrian Crossings of Highway 207/74	No estimate	Near-term future	City/ODOT
#12	Develop Equestrian Facilities-(concurrent and Parallel to stream path where appropriate)	No estimate	As appropriate	City
#13	Promote Access Management Along Highway 207/74	No estimate	Concurrent with local development	City/ODOT
#14	Reduce Vehicular Reliance Through Zoning and Development Code Revisions	$40,000	In process	City/ ODOT

#15	Implement Transportation Demand Management Measures -Survey of commuters -Bus/Van Facility -Park and Ride lot	10,000 No Estimate No Estimate	Near-term future Mid term future Mid term future	ODOT/City
#16	Reconstruct Riverside Avenue and construct a multi-use path in the ROW	$611,000	Mid term future	City
#17	Develop a north –south collector on the west side of the City	$1,775,000	Concurrent with local development	City / Developer
#18	North Court Street Improvements from May street to Fair Grounds with sidewalk on west side only after the mid-block cross walk	$950,000	Mid-term future	City/ ODOT
#19	Main Street Improvement between Cannon St and Shobe Creek including parking and sidewalks.	$60,000	Near Future	City
#20	Off-Street R.V. Parking construction	$45,000 & land cost	Near Future	City
#21	Directional Signage to R.V. parking areas	$200 per sign	Near Future	City / ODOT
#22	On-street R.V. parking designation, striping, & signage	$3500	Near Future	City
#23	Develop an Event parking plan and coordinate	$7,500	Near Future	City
#24	Construct a Municipal Parking lot near the City pool	$52,000	Near Future	City
#25	Construct a Municipal Parking lot in the Downtown District	$30,500	Mid Future	City / Developers
#26	Streetscape Improvements in the Downtown District (Benches, bike racks, sidewalks, lighting, landscape materials)	$75,000	Mid Future	City / Developers
#27	Improve Linden Way	$95,500	Long –term future	City
#28	Improve Bicycle and Pedestrian facility on Gale Street Bridge	No estimate	Mid-term Future	City
#29	Improve intersection at Quaid St and Hwy 207/74 and Campbell Way and Hwy 207/74	No Estimate	Mid-term Future	City / ODOT

*Estimated costs are in 2003 dollars and do not include right-of-way acquisition

Section 5

Transportation System Plan

Transportation System Plan

INTRODUCTION

This section describes the individual elements of the City of Heppner Transportation System Plan. The preferred alternative presented in this TSP consists of those land use and transportation improvements necessary to support the City of Heppner's Comprehensive Land Use Plan. The TSP addresses several components for development of the future transportation network including:

- Preferred Land Use Plan
- Roadway System Plan
- Pedestrian System Plan
- Bicycle System Plan
- Public Transportation System Plan
- Marine System Plan
- Air/Water/Pipeline System Plan
- Access Management Plan
- Implementation Plan

The individual plans and policies presented in this section were developed specifically to address the requirements of Oregon's Transportation Planning Rule. Projects associated with each plan element have been identified and costs have been estimated as described herein. The recommendations set forth by this plan reflect the findings of the existing and forecast future conditions analyses, the alternatives analysis, and the concerns expressed by both the citizens of Heppner and the public agencies that serve them.

PREFERRED LAND USE PLAN

The following are considered beneficial elements that should be explored as part of future land use planning and design efforts, preferably through amendments to the comprehensive plan, implementing ordinances and local street network:

- rezone select property along Highway 207/74 from commercial to open space or recreational use;
- develop a plan to manage access to individual properties on the northeast side of Highway 207/74;
- restrict development of land in the flood plain;
- amend the urban growth boundary to remove lands that are unlikely to be developed and add lands (if a need can be demonstrated) that can be more likely and feasibly developed;
- amend the city's zoning ordinance to allow flag lots;
- amend and supplement existing subdivision regulations to include policies/requirements that ensure adequate connections to existing streets and provisions for connections to adjacent undeveloped land;
- amend the city's subdivision regulations to limit cul-de-sac length;

- work with developers to incorporate the city requirements into a local access plan for any proposed development; and
- limit on-street parking of recreational vehicles and boats in residential areas.

ROADWAY SYSTEM PLAN

Based on the identified existing and anticipated operational and circulation needs, the roadway system plan was developed. The city's roadway system plan provides guidance as to how to best facilitate travel within the city by addressing two key issues:

- a roadway functional classification system and corresponding roadway design standards, and
- roadway connectivity, including new and improved streets to meet future capacity, circulation, and safety needs.

Functional Classification

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation. A given roadway's functional classification determines its intended purpose, the amount and character of traffic that it is expected to carry, commitment to serve and promote non-auto travel, and its design standards.

The classification of a given street is intended to convey the requirements, capabilities, and capacity of each respective roadway while recognizing that roadway's contribution to the overall transportation system. It is imperative that the classification of streets is considered in relation to adjacent properties, the land uses that they serve, and the modes of transportation that can be accommodated. Further, each roadway must be appropriately designed so as to accommodate vehicles local to the roadway (i.e., passenger cars, heavy trucks, pedestrians, and bicycles). The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

The functional classification plan for the City of Heppner incorporates three functional categories: arterials, collectors, and local streets.

Arterials

Arterials are roadways that are primarily intended to serve traffic entering and leaving the urban area. Arterials tend to carry significant intraurban travel between downtown areas and outlying residential areas. While arterials may provide access to adjacent land, that function is subordinate to the travel service provided to major traffic movements. Arterials are the longest distance, highest volume roadways within the urban growth boundary. Although focused on serving longer distance trips, pedestrian and/or bicycle activities often are associated with the arterial streetscape.

Collectors

Collector facilities link arterials with the local street system. As implied by their name, collectors are intended to collect traffic from local streets (and sometimes from direct land access) and channel it to arterial facilities. Collector facilities tend to carry lower traffic volumes at slower speeds than arterials. On-street parking is more prevalent and pedestrian facilities are typically provided.

For the purposes of TPR compliance, all collector facilities in this TSP are considered to be Minor Collectors. (The TPR requires that sidewalks and bike lanes be provided on all Major Collectors within a given Urban Growth Boundary).

Local Streets

Local streets are primarily intended to provide access to abutting land uses. Local street facilities offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic should be discouraged. On-street parking is common and sidewalks are typically present.

Using the three roadway designations described, all current and future streets within the city have been designated in the Functional Classification Plan presented in Figure 13. As identified in Figure 13, the major roadway designations are summarized below.

Arterials

- Highway 207/74
- Highway 74

Minor Collectors

- Quaid Street
- Cannon Street (between South Court Street and Gilmore Street)
- Chase Street
- Center Street (east of Gale Street)
- South Court Street
- Gilmore Street
- Morgan Street
- Riverside Avenue
- Willow Drive/Water Street/East Spruce
- New Highway 74/Morrow Street/Rock Street connection

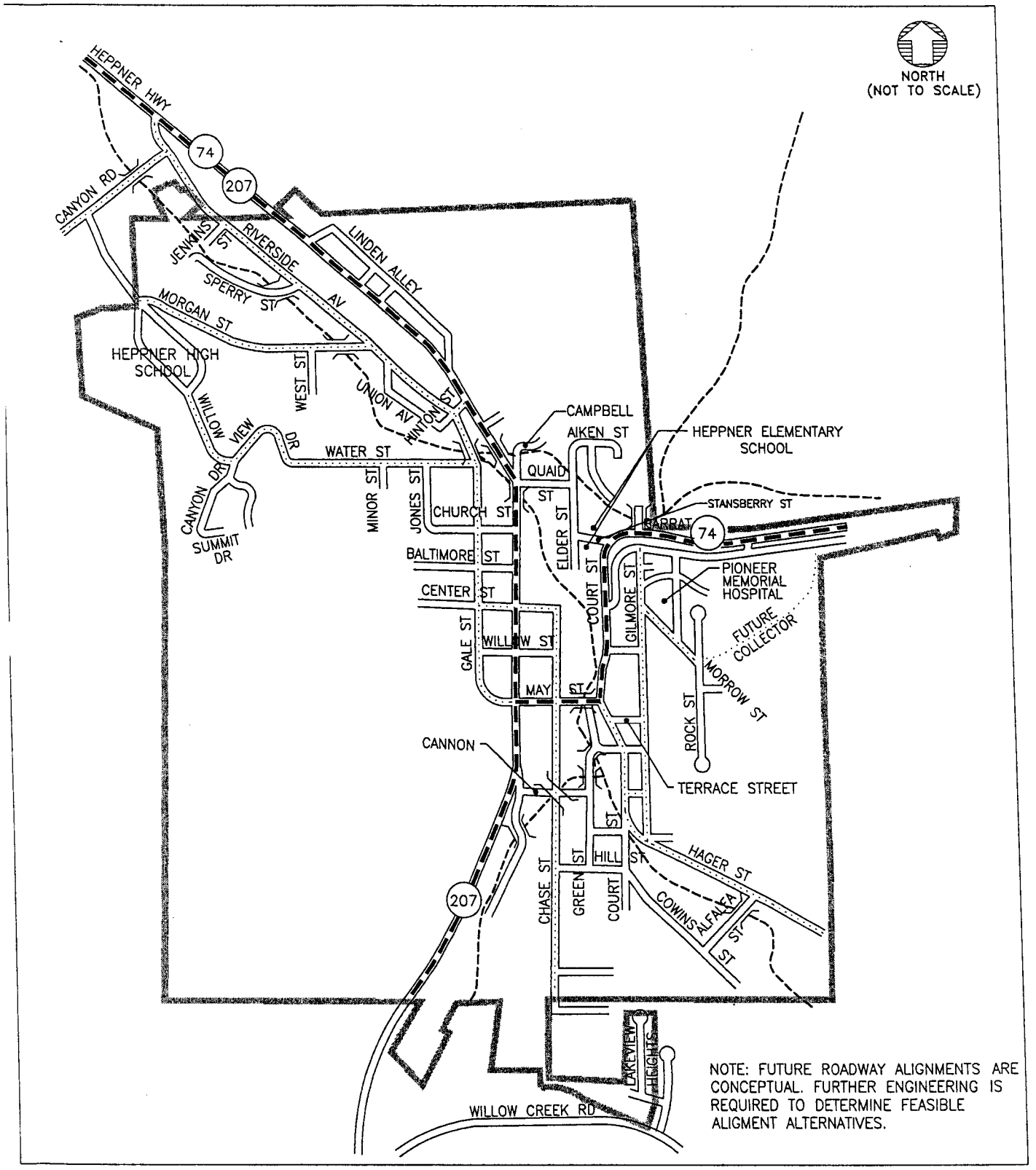
Local Streets

The remaining roads in the city are designated as local streets.

Street Design Standards

Street design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. The standards also are established to provide appropriate separation between travel lanes and pedestrian and bicycle facilities. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands.

Figures 14 A-C presents the typical cross sections for the various roadways identified in the functional classification system. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, drainage, and optional amenities such as landscape strips.



NOTE: FUTURE ROADWAY ALIGNMENTS ARE CONCEPTUAL. FURTHER ENGINEERING IS REQUIRED TO DETERMINE FEASIBLE ALIGMENT ALTERNATIVES.

LEGEND

- ARTERIAL
- MINOR COLLECTOR
- LOCAL STREET
- CITY LIMITS
- CREEK

ROADWAY NETWORK AND FUNCTIONAL CLASSIFICATION SYSTEM

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 13

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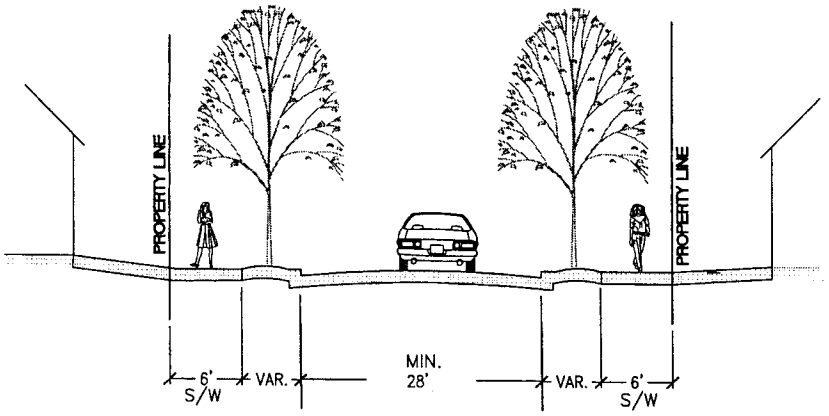
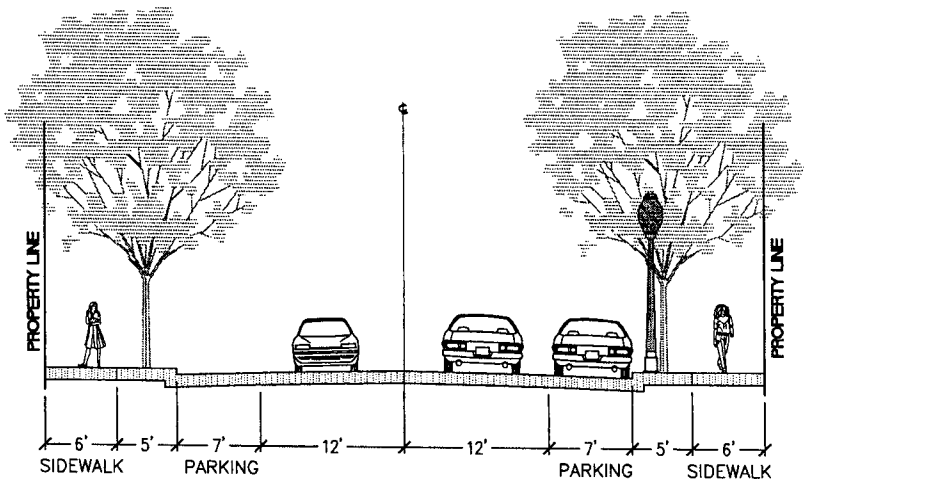
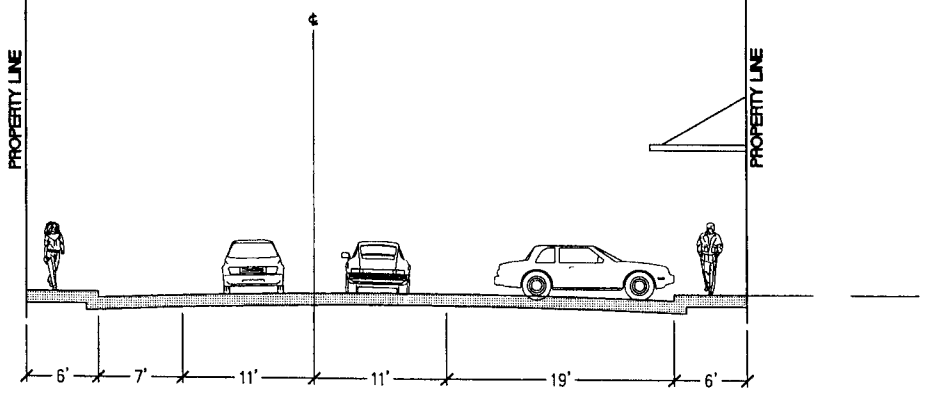


LOCAL STREET



TYPICAL STREET SECTION - 60'

2 LANES w/ PARKING BOTH SIDES



TYPICAL STREET SECTION - 60' DOWNTOWN

2 LANES, PARKING BOTH SIDES

STREET SECTIONS

DOWNTOWN DEVELOPMENT PLAN

HEPPNER, OREGON

FIGURE 14A

June 30, 2003

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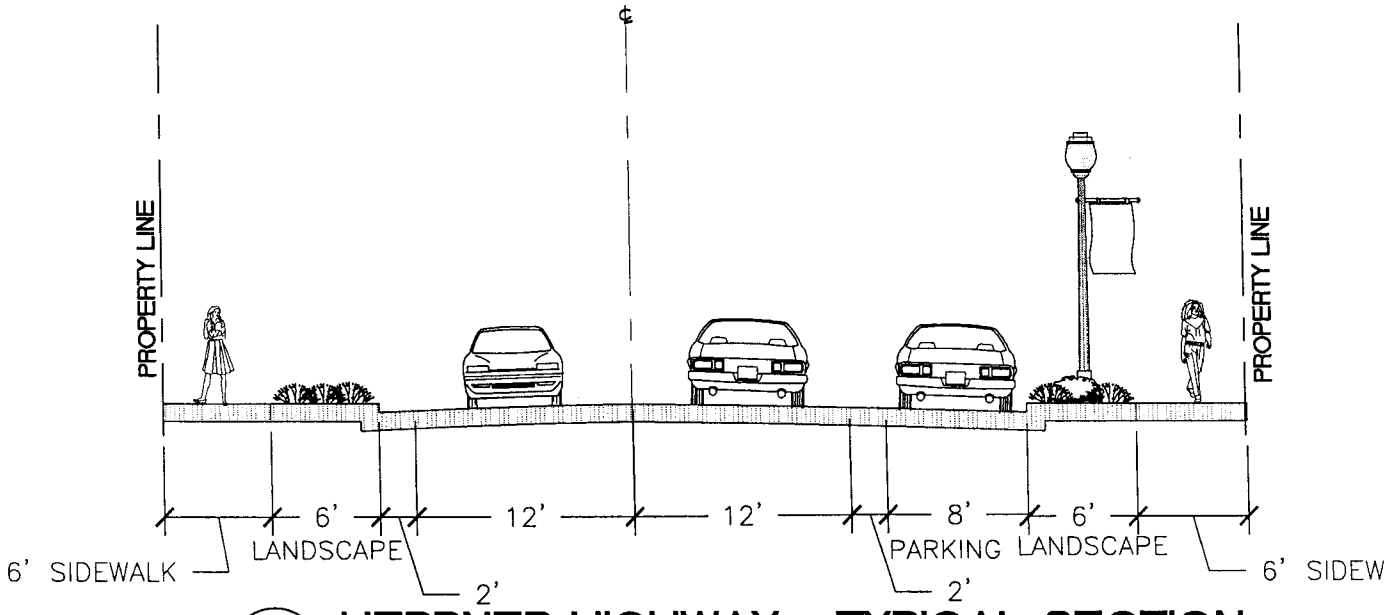
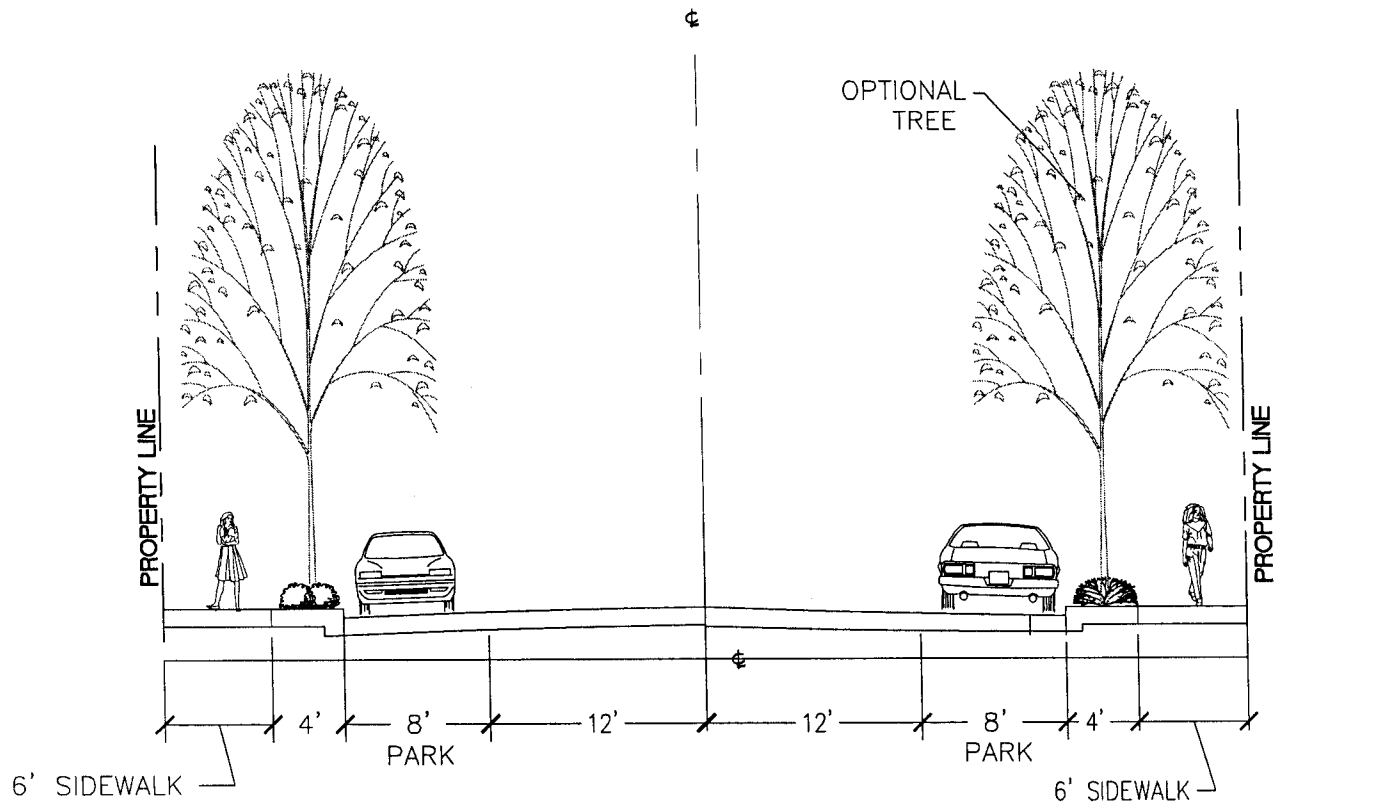


HEPPNER HIGHWAY - TYPICAL SECTION

2 LANES w/ PARKING ONE SIDE

ARTERIAL STREET



HEPPNER HIGHWAY at HERITAGE PLAZA

2 LANES WITH PARKING ON TWO SIDES

ARTERIAL STREET

STREET SECTIONS

DOWNTOWN DEVELOPMENT PLAN

HEPPNER, OREGON

June 30, 2003

FIGURE 14B

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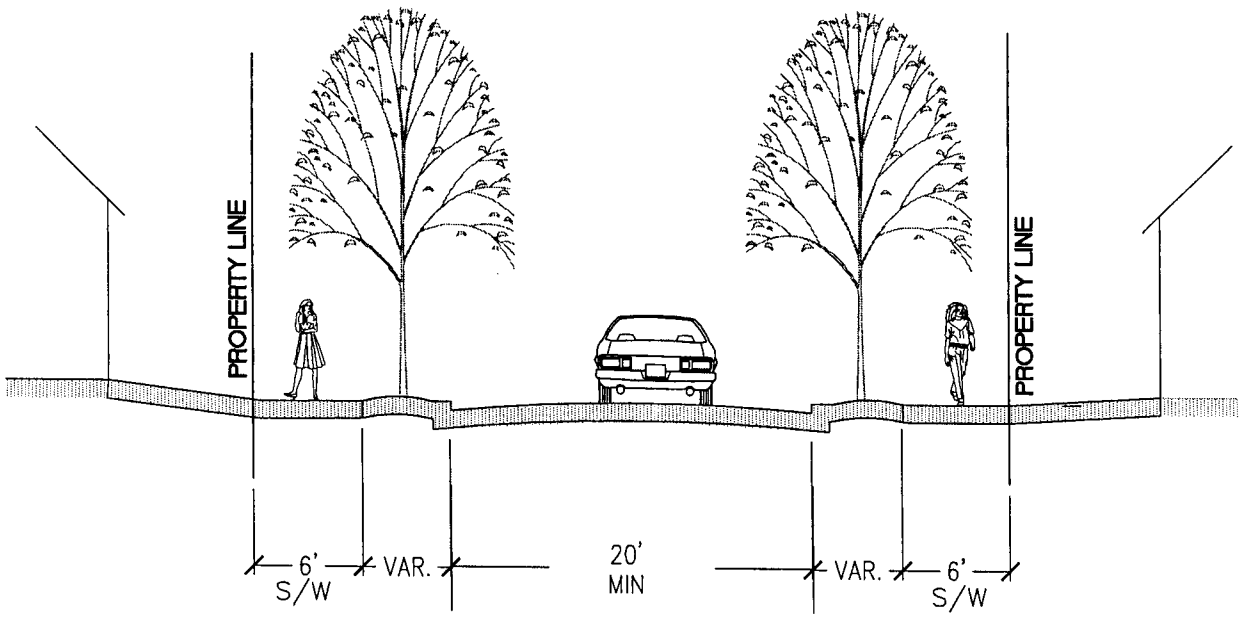
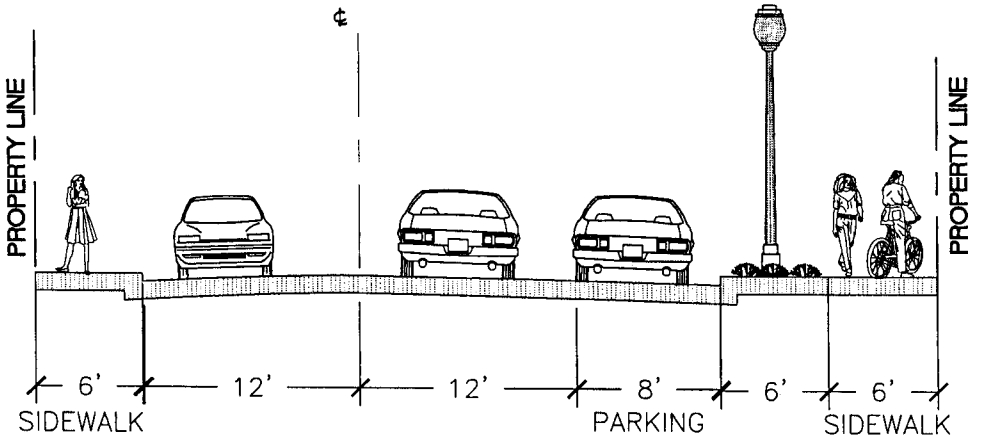


SKINNY STREET



RIVERSIDE AVENUE - TYPICAL SECTION

2 LANES w/ PARKING ONE SIDE

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STREET SECTIONS

DOWNTOWN DEVELOPMENT PLAN

HEPPNER, OREGON

FIGURE 14C

June 30, 2003

The cross sections illustrated in Figures 14 A-C reflect the desire to develop multi-modal roadway facilities within the City of Heppner in the future. The identified cross sections are intended for planning and design purposes for new road construction as well as for those locations where it is physically and economically feasible to improve existing streets.

The typical cross sections present standards for roadways that allow for flexibility in defining the actual roadway width through optional features such as landscape strips and on-street parking. The use of on-street parking and planter strips would be subject to the discretion of the City of Heppner which would determine whether such amenities are required on a given street (in the case of Highways 207/74 and 74, appropriate representatives from ODOT would have ultimate authority over the roadway design).

As shown in Figure 14B, two cross-section options are identified for ~~the~~ highways 207/74, a cross-section from the city limits to Hinton Street and one from Hinton Street to Quaid Street. The cross-section for Main Street (in the downtown with a 100 foot right of way) maintains the same type of urban design environment that is provided today, Table 7 summarizes the street design standards for the different roadway classifications. The Heppner Downtown Development Master Plan contained in Appendix "D" illustrate how the arterial street 60 foot right of way might be implemented along the north section of Highway 207/74.

TABLE 7
STREET DESIGN STANDARDS

Classification	Cross Section	Right-of-Way	Turn Lanes?	Travel Lanes	Bike Lane?	Sidewalks?	On-Street Parking?	Landscape Strip?
Arterial - 60' Typical - 60' Plaza Downtown Main St	 2 lanes 2 lanes	 60 feet 60 Feet	 No Partial No	 12 foot (min.) 12 foot (min) 14.7 foot	 No No No	 Yes Yes Yes	 Yes 1 side No Yes	 Street Trees Street Trees Street Trees
Minor Collector	2 lanes	60 feet	No	11 feet min.	No	Yes	Optional	Optional
Local Street	1-2 lanes	50 feet	No	Not striped (28 feet paved width min.)	No	Yes	Yes	Yes

[1] Minimum width = 12 feet
[2] Refer to Bicycle System Plan
[3] Provided ROW is available
ROW = Right of way

As indicated in Table 7, an arterial such as Highway 207/74 in the downtown will have a right-of-way requirement of 100 feet and will include two14.7 foot wide travel lanes, 18' diagonal parking on both sides of the street and generous 16.5' sidewalk. In Downtown Main Street (it is reiterated that Downtown Main Street represents the existing highway cross section in downtown Heppner). Alternatively, a 60' Typical arterial will have a 60-foot right-of-way requirement with, two 12' travel lanes, a 2' gutter/ shoulder, one 8' parking space and a 6' landscape and 6' sidewalk on both sides. The 60' Plaza arterial will have two 12' travel lanes with a 2' gutter/shoulder, a 12' center median or left turn lane, a 4' landscape strip and a 6'sidewalk.

In reviewing these standards, it should be noted that ODOT would have the ultimate authority as to which improvements are implemented along Highway 207/74.

Minor collector streets will have a right-of-way requirement of 60 feet and a required cross-section consisting of two travel lanes and five-foot wide (min.) sidewalks. A center left-turn lane and two travel lanes (in lieu of on-street parking) may be provided at locations where left-turn lanes are warranted. Optional landscape strips and on-street parking may also be required at the discretion of the city.

Local streets will have a right-of-way requirement of 50 feet, a minimum of 28-foot wide paved cross section (20 foot wide min. if on-street parking is prohibited), five-foot wide sidewalks, and an optional landscape strip. Generally cities have found that, for maintenance purposes, it is easier to place landscape strips next to the adjacent property line. The adjacent resident typically maintains the landscaping as part of their property (i.e., lawns, etc.).

Requirement of adjacent landscape strips may be made at the discretion of the city. The landscaping strips are recommended between the street and sidewalk on arterial and collector facilities to provide a buffer between cars and pedestrians. Locating the landscaping strip between the street and sidewalk allows for areas with no obstructions or impediments that would prevent or discourage pedestrian movements. Further, the landscape strips could be used for utility easements such that local utilities do not impede pedestrian movements.

Through the flexible requirements provided in Table 7, the City of Heppner will have an ability to reduce impervious surface and provide site-specific standards for roadway improvement projects that reflect local conditions. The optional availability of streetscape treatments such as landscape strips, pedestrian refuges and bike lanes may be valuable to the city in the future as an instrument by which the character of roadways can be influenced. For example, narrow collector streets may be desirable in some neighborhood areas for use as a deterrent to through or speeding traffic on local streets.

Skinny Streets

Given the topographical constraints and other unique needs of the City of Heppner, a variance process should allow for local streets to be constructed as skinny streets. Skinny streets reduce the amount of maintenance that is necessary, reduce impervious surface and drainage concerns, and also right-of-way requirements. Through the variance process, skinny streets as narrow as 28-feet should be allowed with local streets that have on-street parking and 20-foot wide streets should be allowed in areas where on-street parking is prohibited. Local emergency service providers should be consulted during the variance process to provide them with an opportunity to comment on the relative merits of a given skinny street proposal. The skinny streets have a right of minimum of forty feet.

Relation to Development Activities

At the time development activities are proposed, the City of Heppner, when appropriate, will require half-street improvements as part of a given project's conditions of approval. The conditions of approval should require that roadways adjacent to development activities be constructed to comply with the street standards presented in this TSP. Sections 7, **Policies and Land Use Modifications**, outlines sample development review guidelines that are recommended for adoption by the city.

Relation to County Facilities

The Morrow County Transportation System Plan (Reference 3) identified roadway standards for county facilities. The county's right-of-way requirement for Rural Access Roadways is 60 feet; as opposed to the 50 foot requirement identified for local roads in this TSP. Although the county's Rural Access Roadways may be applicable to some roadways within the City of Heppner, the roadway standards proposed in the City of Heppner TSP do not conflict with the county's standards. The county's Rural Access Roadway standards are intended for roads that do not exhibit substantial traffic volumes now but may be expected

to expand in the future, hence the additional right-of-way requirement. It is likely that the county roads will become collectors when incorporated into city limits.

By comparison, the 50 foot right-of-way required on city streets designated as being local roads reflects the expectation that these roadways will not require additional widening in the long-term future (50 feet is for local neighborhood streets with urban densities). The city's collector designation would be an appropriate counterpart to the county's Rural Access Roadway designation.

Parking Restrictions

To ensure adequate intersection sight distance, curbside parking should be prohibited within 20 feet of the edge of a given intersection.

Access spacing standards for the respective roadway classifications are presented later within this section.

Guidelines for Arterial/Collector Intersection Improvements

In addition to roadway cross-section standards, the city should adopt standards for intersection improvements. As intersection improvements are made at arterial/collector intersections in the city, the following general guidelines should be considered:

- maintain adequate signing of side-streets (stop signs and visible street signs);
- provide intersection illumination to increase visibility;
- provide proper channelization (striping, raised medians, etc.) of movements to/from the highway,
- construct either concrete- or asphalt paved side-street approaches (125-foot minimum from highway outside travel lane) to create a smooth transition to and from the highway; and
- install right-turn transition tapers at high-speed unsignalized intersections and tapers with storage lanes at signalized intersections on highway approaches (the standard designs identified in the ODOT Design Manual should be used when addressing intersections along state highways).

ROADWAY IMPROVEMENT PROGRAM

The required transportation improvements in the City of Heppner over the next 20 years, to meet both short- and long-term needs, are listed below in Table 8. The projects have been divided into near-term, high priority projects and projects that should be completed concurrent with local development or redevelopment.

TABLE 8
ROADWAY IMPROVEMENTS

Improvement Description	Estimated Cost*	Responsible Jurisdiction
Near-Term, High Priority Projects (0-5 years)		
Provide Supplemental Signing at the May Street/Main Street Intersection	$200	City/ODOT
Restrict On-Street Parking in the Vicinity of Intersections	$175/sign	City
Re-stripe for On-street R.V. parking and provide directional signage	$3,500 and $175/sign	City
Reconstruct Riverside Avenue and provide multiuse path and sidewalk in ROW, with new water line	$611,000	City
Modifications to Gilmore Street -Acquire Sight Distance Easements at Willow Street -Mitigate Sight Distance Deficiency at Gilmore Street/Hager Street Intersection	-Not estimated -Not estimated	City City
Develop an Access and Circulation Plan for the Heppner Junior-Senior High School Area - Improve Water Street and Willow View Streets - Obtain an Easement or Public Right on School road - Develop access around School to the south	$10,000 No estimate No estimate No estimate	City/Developer City City City/Developer
Main St. Improvements between Cannon St and Shobe Creek including parking and sidewalk	$56,000	City
Improve Gilmore to North Court Street Pedestrian Access and Crosswalk	$22,000	City
Reduce Vehicular Reliance Through Zoning and Development Code Revisions	$40,000	City
Implement Transportation Demand Management Measures	No estimate	City
Widen and Improve Hwy 74 from May Street to the fairgrounds with a sidewalk on the northwest side	$950,000	City/ODOT
Concurrent with Local Development Projects		
Develop Highway 74/Rock Street/Morrow Street Connection	$900,000	City/Developer
Provide Gateway Treatments Along Highway 207/74	No estimate	City/Developer
Promote Access Management Along Highway 207/74	No estimate	City
Develop West Side North -South Connector Road	No estimate	City/Developer

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

ACCESS MANAGEMENT STRATEGIES

As the City of Heppner continues to develop, the arterial/collector/local street system will become more heavily relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/collector street system as new development occurs. Access locations on roadway sections need to be properly located to ensure safe and efficient travel along a given transportation facility. Access locations should be placed appropriately to limit potential conflicting turning movements, weaving maneuvers over short distances, and congestion along facilities.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access

management categories. One objective of the Heppner TSP was to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the city's streets. The Oregon Department of Transportation has legal authority to regulate access points along Highway 207/74 and Highway 74 within the city's urban growth boundary. The City of Heppner will manage access on other collector and local streets within its jurisdiction to ensure the efficient movement of traffic and enhance safety.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways in the upper echelon of the functional classification system (i.e. arterials) tend to have stringent spacing standards, while facilities ranked lower in the functional classification system allow more closely spaced accesses. The following discussion presents the hierarchical access management system for roadways in Heppner.

ODOT Access Management Standards

The *1999 Oregon Highway Plan* (Reference 1) specifies an access management classification system for state facilities based on a highway classification system. The *Oregon Highway Plan* classifies the portion of Highway 207/74 that is located north and south of May Street as being of a *Regional Highway*. Highway 206/207 is also classified as a *Regional Highway* (Main Street south of May Street). The section of Highway 74 that begins at May Street and travels to the northeast is classified as being of a *District Highway*. Although Heppner may designate state highways as arterial roadways within its TSP, the access management categories for these facilities should generally follow the guidelines of the Oregon Highway Plan.

Impact on Local Development Activities

Future developments along Highway 207/74 and Highway 74 (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the *1999 Oregon Highway Plan* Access Management policies and standards. Tables 9 and 9a show ODOT's access management standards for the state highways under the *1999 Oregon Highway Plan*.

Table 9: Access Management Spacing Standards for Regional Highways ① ②
(Main Street)

(Measurement is in Feet)*

Posted Speed③	Rural		Urban			
	Expressway **	Other	Expressway **	Other	UBA	STA
≥55	5280	990	2640	990		
50	5280	830	2640	830		
40 & 45	5280	750	2640	750		
30 & 35		600		600	425	④
≤25		450		450	350	④

Table 9a: Access Management Spacing Standards for District Highways ① ②
(OR 74 east of May)

(Measurement is in Feet)*

Posted Speed③	Rural		Urban			
	Expressway **	Other	Expressway **	Other	UBA	STA
≥55	5280	700	2640	700		
50	5280	550	2640	550		
40 & 45	5280	500	2640	500		
30 & 35		400		400	350	④
≤25		400		400	350	④

NOTE: The numbers in circles (③) refer to explanatory notes that follow tables.

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

**Spacing for Expressway at-grade intersections only. See the current OHP for interchange spacing.

Notes on Tables 9 and 9a:

①Where a right of access exists, access will be allowed to a property at less than the designated spacing standard only if that property does not have reasonable access and the designated spacing cannot be accomplished. If possible, other options should be considered such as joint access.

Where the right of access exists, the number of approach roads (driveways) to a single property shall be limited to one, even when the property frontage exceeds the spacing standards. More than one approach road may be considered if, in the judgment of the Region Access Management Engineer, additional approach roads are necessary to accommodate and service the traffic to a property, and additional approach roads will not interfere with driver expectancy and the safety of the through traffic on the highway.

Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Locations on sharp curves, steep grades, areas

of restricted sight distance or at points which interfere with the placement and proper functioning of traffic control signs, signals, lighting or other devices that affect traffic operation will not be permitted.

If a property becomes landlocked (no reasonable access exists) because an approach road cannot be safely constructed and operated, and all other alternatives have been explored and rejected, ODOT might be required to purchase the property. (Note: If a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT does not have responsibility for purchasing the property.)

(Note ① has precedence over notes ②, ③ and ④.)

②These standards are for unsignalized access points only. Signal spacing standards supersede spacing standards for approaches.

③Posted (or Desirable) Speed: Posted speed can only be adjusted (up or down) after a speed study is conducted and that study determines the correct posted speed to be different than the current posted speed. In cases where actual speeds are suspected to be much higher than posted speeds, ODOT reserves the right to adjust the access spacing accordingly. A determination can be made to go to longer spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.

④Minimum spacing for public road approaches is either the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways, and in STAs driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum spacing for driveways is 175 feet (55 meters) or mid-block if the current city block spacing is less than 350 feet (110 meters).

In addition to the access standards shown above, according to the *1999 Oregon Highway Plan*, the impact of traffic generation from proposed land uses must maintain acceptable mobility measures within the development's influence area along the highway. Along District Highway segments, the volume to capacity ratio (v/c) must not exceed 0.80 when assessing the impact in traffic generation from proposed land uses. Regional Highway segments must maintain v/c ratio less than 0.85. The influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property-line of the development (whichever is greater).

The existing legal driveway connections, public street intersection spacing, and other accesses to the state highway system are not required to meet the spacing standards of the assigned category immediately upon adoption of this transportation system plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, ODOT is required to ensure that all safety and capacity issues are addressed. Proposed land use actions that do not comply with the designated access spacing policy will be required to apply for an access variance from the City of Heppner and/or ODOT.

Variance Process

Access variances may be provided to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming permit and would either have no reasonable access or cannot obtain reasonable alternate access to the public road system. In such a situation, a conditional access permit may be issued by ODOT and the City of Heppner for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards.

The permit may carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. Approval conditions might also require a given land owner to work in cooperation with adjacent land owners to provide either joint access points, front and rear cross-

over easements, or a rear-access upon future redevelopment. In addition, approval of a conditional permit might require ODOT-approved turning movement design standards to ensure safety and managed access. Under special circumstances, ODOT may be required to purchase property in order to prevent safety conflicts.

Special Transportation Area

Within the *Oregon Highway Plan*, provisions have been made to accommodate central business districts and other activity centers oriented to non-auto travel in which growth management considerations outweigh access spacing policy. Specifically, the *Oregon Highway Plan* allows for the designation of Special Transportation Areas (STA) and Urban Business Areas (UBA) for compact areas in which local access needs are equally important or more important than the movement of through traffic. Inclusion in an STA or UBA allows for redevelopment with exception to the access management standards. STAs can include central business districts, however, they do not apply to whole cities or strip development areas where the UBA designation is more appropriate.

The *Heppner Downtown Development Plan (2003) recommends* designating the portion of Main Street from Church Street to May Street and the portion of Hwy 74 along May from Main Street to the Willow Creek bridge as an STA. In addition, the portion of Main Street from Church Street to Riverside Avenue is designated as a UBA. This is the first step in the process pursuing STA and UBA designation agreements with ODOT.

City Standards

Table 10 identifies the minimum public street intersection and private access spacing standards for the City of Heppner roadway network as they relate to new development and redevelopment. Table 11 identifies standards for private access driveway widths. In cases where physical constraints or unique site characteristics limit the ability for the access spacing standards listed in Tables 10 and 11 to be met, the City of Heppner should retain the right to grant an access spacing variance. County facilities within the city's urban growth boundary should be planned and constructed in accordance with these street design standards.

TABLE 10
MINIMUM INTERSECTION SPACING STANDARDS

Functional Classification	Public Street (feet)	Private Access Drive (feet)
Arterial	600	300 - 500
Collector	300	75
Local	150	15

TABLE 11
PRIVATE ACCESS DRIVEWAY WIDTH STANDARDS

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	12	24
Multi-Family Residential	24	30
Commercial	30	40
Industrial	30	40

Management Techniques

From an operational perspective, the City of Heppner should consider implementing access management measures to limit the number of redundant access points along roadways. This will enhance roadway capacity and benefit circulation. Improvements that should be considered include:

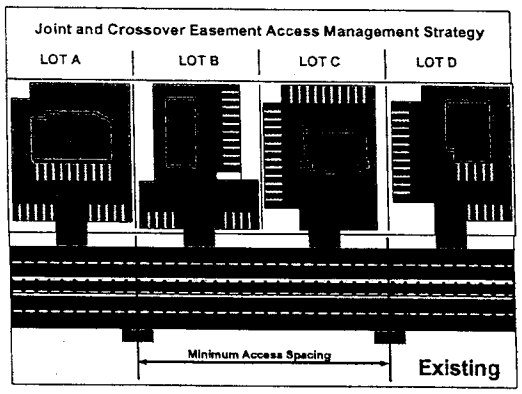
- planning for and developing intersection improvement programs in order to regularly monitor intersection operations and safety problems;
- purchasing right-of-way and closing driveways; and
- installing positive channelization and driveway access controls as necessary.

Enforcement of the access spacing standards should be complemented with the availability of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously effect the viability of the impacted properties. Thus, if an access management approach is taken, alternative access should be developed prior to "land-locking" a given property.

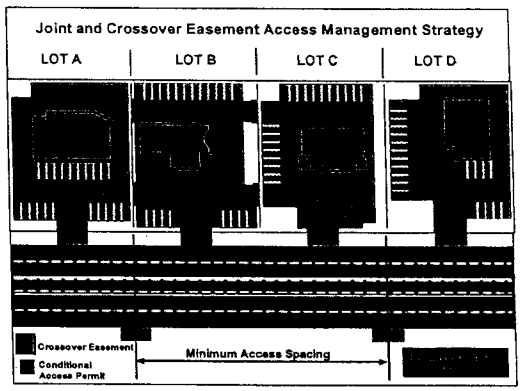
As part of every land use action, the City of Heppner should evaluate the potential need for conditioning a given development proposal with the following items, in order to maintain and/or improve traffic operations and safety along the arterial and collector roadways.

- Crossover easements should be provided on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels. Figure 15 illustrates how this process would, in the long run, facilitate compliance with access management objectives.
- Conditional access permits should be issued to developments having proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing driveways. The actual access spacing policy will be developed later as part of the TSP process.
- Right-of-way dedications should be provided to facilitate the future planned roadway system in the vicinity of proposed developments.

Proposed Access Management Strategy



Step 1



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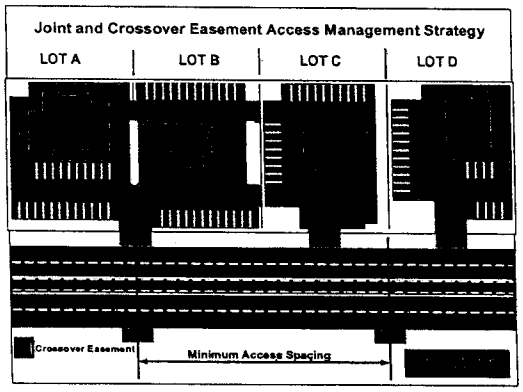

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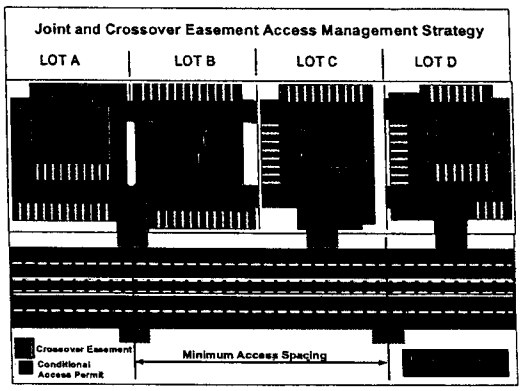

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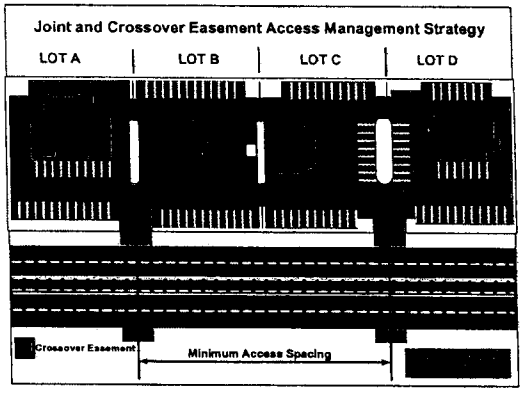
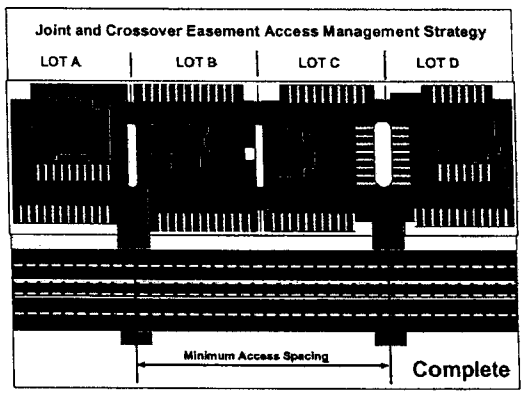


Step 5



Step 6

EXAMPLE OF CROSS-OVER EASEMENTS AND CONDITIONAL ACCESS POLICY/PROCESS

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 15	

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- Half-street improvements (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) should be provided along site frontages that do not have full-buildout improvements in place at the time of development.

As suggested by Figure 15, using these guidelines, all driveways and roadways along the highway will eventually comply with the access spacing policy set for a particular segment of roadway as development and redevelopment occurs in the study area. It should be noted that not every parcel can or should be addressed through the process illustrated in Figure 15. The topography of the parcel, type of proposed or adjoining use, and/or highway frontage may preclude a development from using consolidated or crossover access points (e.g., consolidating access for a commercial business and an industrial or agricultural land use would be inappropriate).

Section 7, **Policies and Land Use Ordinance Modifications**, contains suggested code language that could be adopted to implement the access spacing standards. Development review guidelines are also included for the city's use.

PEDESTRIAN AND BICYCLE SYSTEM PLAN

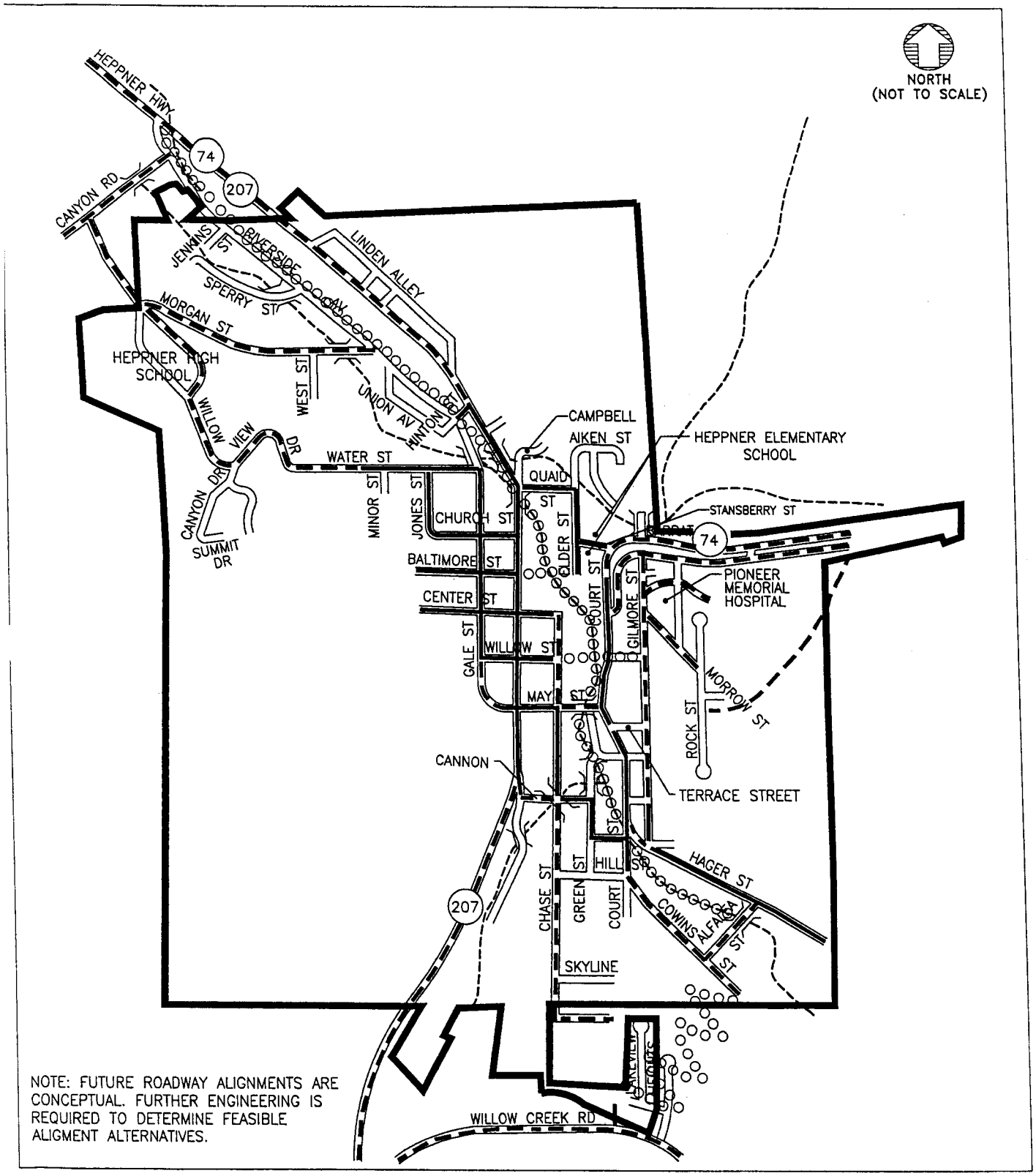
The pedestrian and bicycle system plan is shown in Figures 16 and 17. The key objective in the development of the pedestrian and bicycle system plan was to provide connectivity between major activity centers. Within the City of Heppner, these activity centers primarily include the downtown, Heppner Junior-Senior High School, Heppner Elementary School, Pioneer Memorial Hospital, the parks, post office, the community swimming pool on the highway, and other recreational areas.

Pedestrian System Components

Under the pedestrian component of the plan, sidewalks should be provided along all major roadways in an effort to continue the development of a comprehensive sidewalk system throughout the city. It is essential that existing sidewalks be connected to new sidewalks as new developments are constructed or as road improvements are made. Sidewalks should be included in any full reconstruction of arterials or collectors. The street design standards (refer to Figure 14) would ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed collectors and arterials. Provision of sidewalks along one or both sides of key local roads is also encouraged.

Key elements of the pedestrian plan include:

- the provision of a continuous sidewalk network in the vicinity of the Pioneer Memorial Hospital, the adjacent multi-family and single-family developments and the elementary school in the southeast part of town;
- sidewalks along Quaid Street, Elder Street, and Stansberry Street to provide better pedestrian access to the elementary school from the downtown and the west part of Heppner;
- sidewalks on the streets that access Heppner Junior-Senior High School, including Willow View/Water Street and Morgan Street (provision of sidewalks on these streets will require reconstruction of the roadway; the existing roadways are narrow with no pedestrian or bicycle facilities and are adjacent to an embankment);
- provision of sidewalks along Cowins Street and Chase Street to link the residential areas in the hills at the south end of the community with the downtown;



NOTE: FUTURE ROADWAY ALIGNMENTS ARE CONCEPTUAL. FURTHER ENGINEERING IS REQUIRED TO DETERMINE FEASIBLE ALIGMENT ALTERNATIVES.

LEGEND

- EXISTING SIDEWALK
- FUTURE SIDEWALK
- FUTURE MULTI-USE PATH
- CITY LIMITS
- CREEK

PEDESTRIAN SYSTEM PLAN

CITY OF HEPPNER, OREGON
TRANSPORTATION SYSTEM PLAN
JUNE 1999

FIGURE 16

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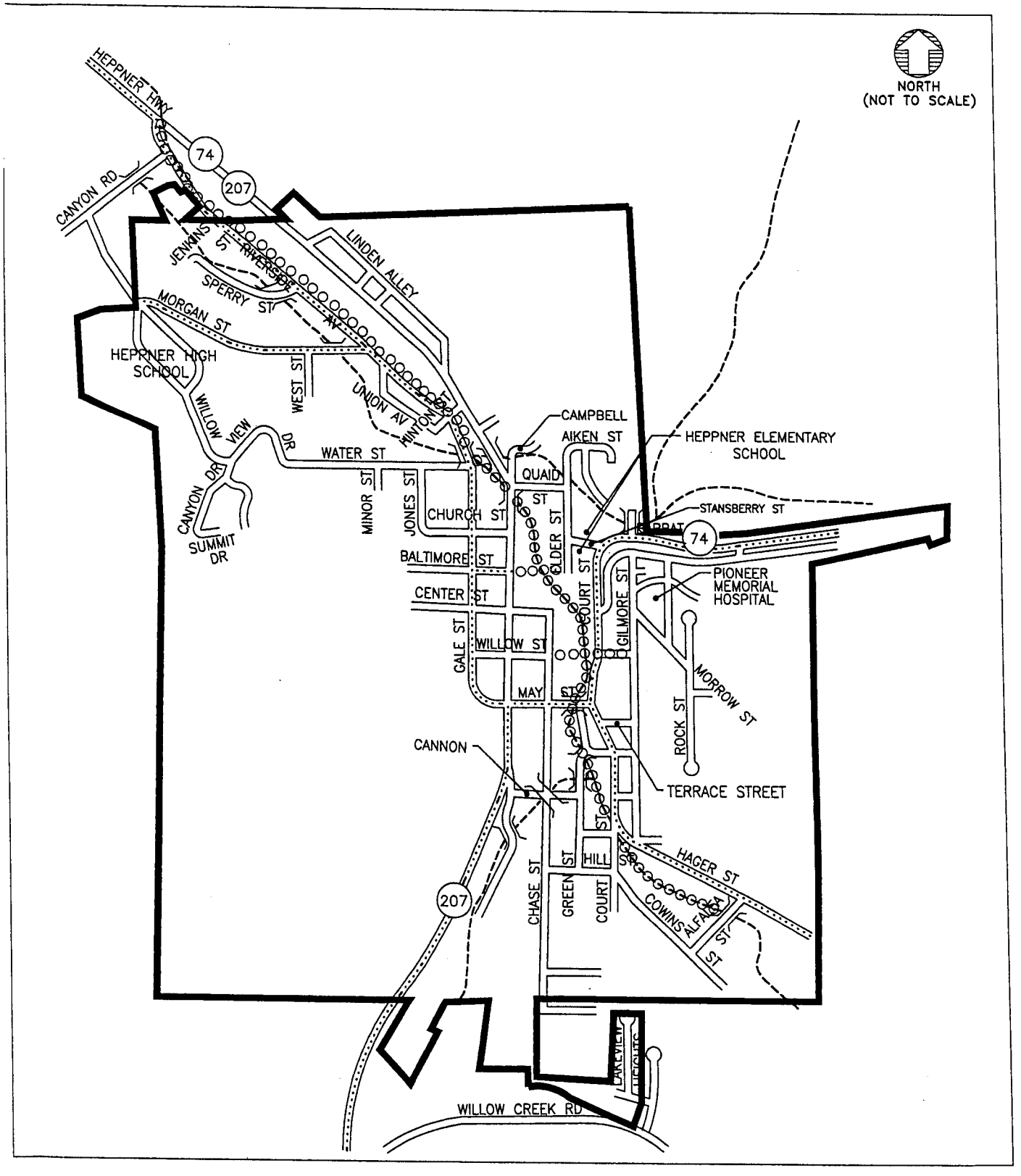

LEGEND

- ..... – FUTURE BIKE LANE
- OOOOO – FUTURE MULTI-USE PATH
- ——— – CITY LIMITS
- – – – – – – CREEK

BICYCLE SYSTEM PLAN

CITY OF HEPPNER, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 17

DWGS\HEPPNER\MEMO4\2899\TSP\2899HO17

- provision of sidewalks along the entire length of Highway 207/74 and Highway 74 to Barrat Street. From Barrat Street north the side walk should be on the west and north side of Hwy 74.
- provision of sidewalks along Chase Street to complete the pedestrian network in the downtown; and,
- provision of appropriate sidewalk and/or multi-use trails both to and within all new development in the city.

In addition to providing the pedestrian system components, there are several other potential enhancements that were previously recommended and should be provided along the highways including:

- provision of additional street lighting to provide clear visibility of pedestrians at night,
- limited use of curb extensions that provide for ADA crossings and the existing on-street parallel parking while reducing the exposed crossing distance pedestrians must walk, and

Multi-Use Facilities

There are currently the beginnings of a multi-use path along Willow Creek in the downtown. In the future, the path should be improved between Hagar Park and the golf course at the south end of town. The cross sections of the multi-use pathways would consist of 10-foot wide paved paths separated from the roadway by a minimum of 10-feet (this can be accomplished through the use of a 10-foot wide landscaping strip). The existing pedestrian bridges across the creek should also be maintained at Willow Street and Baltimore Street.

In addition, equestrian facilities should be provided within the city. These facilities should provide safe convenient access to the fair grounds as well as access to the downtown area and potential future trails. Provision of appropriate services along the equestrian facilities (e.g., watering stations, loading/unloading points for horse trailers, sanitary maintenance, etc.) could also be considered in conjunction with development of the system.

Bicycle Facilities

In addition to the multi-use pathways and sidewalks, designated on-street bicycle facilities would be provided along portions of Highway 207/74, Highway 74, and Riverside Avenue as shown in Figure 17. The designated on-street bike lanes, in conjunction with the multi-use paths along the creek, provide for essential connections into and out of town. Additional bicycle routes within the city's collector and local-level street system are not considered to warrant roadway treatments and are proposed to remain as undesignated shared facilities.

Table 12 provides a summary of pedestrian and bicycle system projects.

TABLE 12
PEDESTRIAN AND BICYCLE SYSTEM IMPROVEMENTS

General Alignment	Project Start/End Point	Improvement Description	Estimated Cost*	Responsible Jurisdiction
Highway 74/207	Riverside Avenue to Hinton Street	Sidewalk	$40,000	ODOT
Riverside Avenue	Highway 74/207 to Water Street	Sidewalk	$54,000	City
Canyon Road	Riverside Avenue to Willow View Street	Sidewalk	$16,000	City
Willow View Street	Canyon Road to View Drive	Sidewalk	$32,000	City
Morgan Street	Willow View Street to Riverside Avenue	Sidewalk	$40,000	City
View Drive	Willow Street to Minor Street	Sidewalk	$20,000	City
Quaid Street	Highway 74/207 to Elder Street	Sidewalk	$6,000	City
Stream Path	Riverside Avenue to Alfalfa Street	Multi-use Path	$25,000	City
Elder Street	Quaid Street to southern terminus	Sidewalk	$10,000	City
Highway 74	Stansberry Street to Eastern UGB (Northwest side of road only)	Sidewalk	$36,000	ODOT
Gilmore Street	Hager Street to northern terminus	Sidewalk	$32,000	City
Morrow Street	Gilmore Street to Rock Street	Sidewalk	$8,000	City
Hager Street	Court Street to Alfalfa Street	Sidewalk	$16,000	City
Cowins Street	Court Street to Alfalfa Street	Sidewalk	$12,000	City
Alfalfa Street	Cowins Street to Hager Street	Sidewalk	$8,000	City
Chase Street	Center Street to southern terminus	Sidewalk	$40,000	City
Highway 207	Cannon Street to Willow Creek Road	Sidewalk	$52,000	ODOT
Baltimore Street	Main Street to Elder Street	Multi-use Path	$27,000	City
Baltimore Street	Main Street to Gail Street	Sidewalk Repair	$4,500	City
Gale Street	May Street to Willow Street	Sidewalk	$3,000	City
May Street	Main Street to Gale Street	Sidewalk	$3,800	City
Willow Street	Chase Street to Gilmore Street	Sidewalk	$30,000	City
Cannon Street	Highway 207 to Green Street	Sidewalk	$8,000	City
Church Street	Main Street to Gale Street	Elevate Sidewalk	$4,000	City
Church Street	Main Street to Gale Street	Elevate Sidewalk	$4,000	City
Gale Street	Hinton to May Streets	Bicycle Path	Signage cost	City
Riverside Ave.	Riverside to Hinton	Bicycle Path	Included with Street Work	State or City
Pedestrian Way	Gilmore St. to Court Street	Bicycle/Ped Path	$19,000	City

*Estimated costs are in 2002 dollars and do not include right-of-way acquisition

Many of the sidewalk and multi-use facilities presented in Table 12 could be completed incrementally as part of local development projects. Creating "partnership programs" with landowners and businesses to construct such facilities would be one method by which individual projects could be brought to fruition in a timely manner. The pedestrian facilities could be constructed as adjacent properties develop, thereby ensuring alternative modes of access to various land uses. The city would however, need to develop a reasonably equitable methodology of assessing the extent of facilities that individual developers would be required to provide.

PUBLIC TRANSPORTATION SYSTEM PLAN

Transit service provides mobility to community residents who do not have access to automobiles and provides an alternative to driving for those who do. Transit service should meet the needs both of travelers within the city and those of travelers making trips outside of the community.

The *1997 Oregon Public Transportation Plan* identifies minimum level of service standards for rural and frontier communities such as the City of Heppner (Reference 4). Under the *1997 Oregon Public Transportation Plan*, public transportation in small communities and rural areas in the year 2015 (under Level 3-Respond to State and Federal Mandates and Goals) should:

- Provide public transportation service to the general public based on locally established service and funding priorities;
- Provide an accessible ride to anyone requesting service;
- Provide a coordinated centralized scheduling system in each county and at the state level;
- Provide phone access to the scheduling system at least 40 hours weekly between Monday and Friday; and
- Respond to service requests within 24 hours (not necessarily provide a ride within 24 hours).

Service Enhancements

Overall, the City of Heppner should continue to monitor the adequacy of the transit service provided to the community and work with the county to extend service as necessary. The local transit program should also seek to meet the 2015 minimum level of service standards identified in the *1997 Oregon Public Transportation Plan*. Three improvement strategies are identified below for further consideration.

Increase Public Awareness

Both the city and the county should promote a greater public awareness of the available public transit services and the need for additional volunteer dispatchers and drivers. Greater awareness of the service and its needs will likely result in increased usage and availability. Provision of better recognition for drivers and/or driver meetings would be an additional avenue by which to encourage more volunteer participation in the program.

Coordinate Trips

Secondly, consideration should be given to coordinating trip requests to other neighboring communities and areas outside the county such as Hermiston and Pendleton. For example, a given day of the week could be designated for trips to Pendleton. This would then allow the city's residents to visit specialized medical service providers or satisfy other needs on a scheduled basis. Similarly, weekly shopping trips to Boardman, Hermiston, or other communities could be established to allow community members to purchase commodities not available through local commercial and service providers.

A recent survey conducted by transportation provider staff suggests that coordination of medical visits could be difficult due to the unpredictable nature of office visits, though the need for such a service should be more closely examined. Assuming that the demand for such a service exists, a scheduled weekly service would lend itself to greater coordination with service providers in the neighboring communities of Lexington and Ione.

Close coordination between the City of Heppner and adjacent communities is also encouraged and should increase ridership and efficiency through better use of the resources available. Such coordination could prove to be especially fruitful if the weekly trips previously discussed are established as a joint community service. Coordinated trips to local community events would likely generate significant interest. Ultimately, if an increased demand for service can be established and documented, additional resources (i.e. funding, equipment) may be successfully pursued through grant applications or other alternative financing sources.

Provide Commuter Service

It is recommended that a carpool or vanpool service be provided for people who live in Heppner and work in neighboring communities. Provision of a vanpool and/or carpools to major employers in the area could help to reduce the number of single occupant vehicle commute trips from Heppner and help the community to achieve transportation demand management (TDM) objectives.

Transit Needs Analysis

A Transit needs analysis should occur to determine when and where people are commuting and if they are willing and able to ride share. Based on the findings of the survey, a ride share bus or van could provide transit to employment out of the area. The van could be used for mid day transportation of elderly and disabled for medical appointments or out of the area shopping needs.

Vehicle Replacement

The Morrow County Special Transportation Program replaces vehicles on an as-needed basis. No specific plans to replace the current vehicles in use in the City of Heppner are in place. The county has budgeted to replace one vehicle in 1999 though that will not necessarily affect the vehicles in Heppner. The county is pursuing additional funding for vehicles and has, through the Region 5 Public Transit Division, submitted a grant application that would allow the program to purchase a new modified van in 2001 and a small bus in 2003. In addition, a new bus barn would be built somewhere in the county if the grant were to be approved. The City of Heppner should support the Morrow County Special Transportation Program in its pursuit of additional vehicles and funding.

MARINE SYSTEM PLAN

The city should support the continued use of port facilities in neighboring communities such as the City of Boardman (Port of Morrow) and the City of Umatilla (Port of Umatilla).

AIR TRANSPORTATION SYSTEM PLAN

The City of Heppner should support the continued use and expansion of local and regional air transportation facilities.

EVACUATION PLAN

The Morrow County Planning Department, in conjunction with several local and state agencies, has developed response plans in the unlikely event of an incident at the Umatilla Ordinance Depot. According

to county officials, in the event of an incident at the ordinance depot, persons in the area surrounding the Ordinance Depot may be instructed to travel to a safe destination, potentially involving reception areas that have been designated in the Dalles, Heppner, and Pendleton.

IMPLEMENTATION PLAN

This section has outlined specific transportation system improvement projects as well as a corresponding timeline for implementation of the identified improvements. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather ranks projects to be developed over 0 to 5 year, 5 to 10 year, and 10 to 20 year horizon periods. In this manner, the implementation of identified system improvements has been staged to spread investment in this infrastructure over the 20-year life of the plan.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the City of Heppner is to develop in an orderly and efficient way. Consequently, the plans proposed in the TSP should be considered in light of developing infrastructure sequencing plans, and may need to be modified accordingly.

SUMMARY

The adoption and implementation of this Transportation System Plan will enable the City of Heppner to rectify existing transportation system deficiencies while also facilitating growth in the study area population and employment levels assumed in this study.

Section 6

Transportation Funding Plan

Transportation Funding Plan

INTRODUCTION

The Transportation Planning Rule (OAR 660-12-040) requires that the City of Heppner Transportation System Plan (TSP) include a transportation financing program. These programs are to include:

- a list of planned transportation facilities and major improvements;
- a general estimate of the timing for planned transportation facilities and major improvements;
- determination of rough cost estimates for the transportation facilities and major investments identified in the TSP (intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan(s) and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms); and,
- a discussion of existing and potential financing sources to fund the development of each transportation facility and major improvement (which can be described in terms of general guidelines or local policies).

Section 5 of this TSP identified the recommended improvement projects, an implementation timeline, and estimated improvement costs. This section provides an overview of the City of Heppner's historic funding levels and available funding sources at a federal, state, county, and local level.

The timing and financing provisions in the transportation financing program are not considered a land use decision as defined by the TPR and ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under State law. In addition, the transportation financing program is intended to implement the comprehensive plan policies, which provide for phasing of major improvements to encourage infill and redevelopment of urban lands, prior to facilities that would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

CITY OF HEPPNER FUNDING HISTORY

Street Fund

The 1998-1999 Street Fund for the City of Heppner provided a budget of $93,322.00 that was dedicated entirely to the operation and maintenance of the city's transportation facilities. The Street Fund is derived from two primary sources, the state gasoline tax and the county road tax. Of the total resources available to the Fiscal Year 1998-1999 Street Fund, 70.7 percent were derived from the state gasoline tax (This revenue sharing is based on population and distributed on a proportional share basis to all cities and counties.), 18.5 percent were from the county road tax, 9.6 percent were previously in the fund, 0.3 percent were realized through investment income, and 0.9 percent originated from other sources. Some of this funding was transferred to a Debt Service Fund for principle and interest payments for the 1994 Street Improvement Bond.

From a historical perspective, the street fund has recently been in a decline as shown in the summary below.

City of Heppner Street Fund
Historical Annual Funding

Year	Budget
1995-1996	$112,113
1996-1997	$105,686
1997-1998	$104,011
1998-1999	$93,332

Street and Bridges Improvement Fund

The City of Heppner's Street and Bridges Improvement Fund is intended to provide the budgetary authority to improve the city's streets and bridges and included a $191,023.00 outlay for the 1998-1999 fiscal year. The stated Fiscal Year 1998-1999 objective of the fund was to provide the budgetary authority to administer the 1998 Riverside/Linden Way/North Court Street Sidewalk Project and to close out the remaining financial obligations related to a Main and May Street Improvement Program that was completed in 1997. The Fiscal Year 1998-1999 Street and Bridges Improvement Fund was composed of funding from three sources: the fund had a beginning balance that equated to 67.6 percent of the fund, grant money comprised 32.1 percent of the fund, and investment income provided the remaining 0.3 percent of the fund.

Finances for the fund are obtained through the state gas tax, investment interest, the county road tax, and grants. The Streets and Bridges Improvement Fund is currently being used by the city primarily as a tool to repay loans for improvement projects that have been completed. As evidenced by the summary below, the amount of money in the fund has been growing over the last few years, though primarily because of a loan that was obtained for an improvement project and because relatively large sums of money have been carried-over to finance major improvement projects.

City of Heppner Streets and Bridges Fund
Historical Annual Funding

Year	Budget	Carry-over
1995-1996	$83,909	—
1996-1997	$135,928	$12,530 $55,000 loan
1997-1998	$169,640	$129,123
1998-1999	$191,023	—

Footpaths and Bikeways Reserve Account

The City of Heppner also maintains a Footpaths and Bikeways Reserve account. The fiscal year 1998-1999 adopted budget for this account resulted in an account balance of $2,206.00 after a $700.00 transfer from the Street Fund. This account is also invested and thus receives some funding through interest generated on the principle.

OREGON TRANSPORTATION FUNDING HISTORY

Road-Related Funding

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the State. Through the fiscal year 1996, the matching ratio in Oregon for Interstate Funds was: Federal 92.22 percent and State 7.78 percent (Reference 5).

During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last three Oregon Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption. Nevertheless, fuel taxes are the largest single source of highway revenues at approximately $390 million annually (Reference 5). Weight-miles taxes are the second largest source of revenue to the Highway Fund, at approximately $215 million annually (Reference 5).

Oregon Highway Trust Fund revenues are distributed among State (60.05 percent), County (24.38 percent) and City (15.57 percent) governments to fund their priority road needs. Under the 1997-1999 legislatively adopted Department of Transportation budget, a total of $2,284 million revenue dollars was identified. Of the total available revenue, approximately $317 million dollars was allocated to counties and $185 million to cities (Reference 6).

Oregon law allows local government, in addition to receiving state highway trust fund revenues, to levy local fuel taxes for street related improvements. Multnomah and Washington Counties, and some small cities (Tillamook, The Dalles, Woodburn) have used this authorization. Several attempts have been made by other jurisdictions, but have not been supported by the local electorate. As few local governments have implemented this option, non-user road revenues tend to be relied upon to supplement the funds received from state and federal user revenues. Other local funding sources have included property tax levies, local improvement district assessments, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other miscellaneous sources.

Oregon's current fee for cars and other light vehicles weighing 8,000 pounds or less is $30 biennially (Reference 5). Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities in Oregon have relied more on transfers from their general funds to support roadway improvements, than have counties. Ballot Measure 5, however, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the property tax rate for purposes other than for payment of certain general obligation indebtedness to $15 per $1,000 of assessed value. The measure further divided the $15 per $1,000 property tax authority into two components: $5 per $1,000 dedicated to the public schools; the remaining $10 dedicated to other local government units, including cities, counties, special service districts, and other non-school entities. The tax rate limitation for cities and counties went into effect in July 1991. The school portion of the measure was phased in over a five-year period beginning in July 1991.

In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which further impacted the ability of cities and counties to pay for needed infrastructure through historic or traditional means. Ballot Measure 50 was then approved by Oregon voters in May of 1997 and, through

implementing legislation, became law in July 1997. Ballot Measure 50 repealed Measure 47 and made efficiency changes to Measure 5. Measure 50 limits taxes on each property by rolling back the 1997-1998 assessed value of each property to 90 percent of its 1995-1996 value. Measure 50 also limits future growth on taxable value to three percent per year, with exceptions for new items such as new construction, remodeling, subdivisions, and rezoning. Permanent tax rates for Oregon's local taxing districts are also established in Measure 50 that replace the former tax base amounts of the district. Measure 50 allows voters to approve new short-term levies outside the permanent rate limit if approved by a double majority.

At the same time that increased growth and increased transportation demands are occurring, cities and counties have lost another traditional source of revenue for infrastructure construction and modernization - timber harvest receipts. Under a 1993 negotiated mitigation plan, federal forest receipts to support county roads are decreasing 3 percent per year. In 1996, counties received 74 percent of their 1986-90 average receipts, and by 2003 they will receive 55 percent of the late 1980s average receipts.

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, counties, or cities, for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the State, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996.

A result of these recommendations was the appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal included a process for identifying a "base" transportation system, with a priority of maintenance, preservation, and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. Other components included provisions for realizing efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. The State Legislature was unable to reach consensus on the means to collect and distribute the funds and the package failed.

A part of future transportation funding will include identification of relationships and responsibilities relative to delivery of projects and services. In Oregon, the primary state role has been to construct and maintain the state highway system and to assist local government with funding of other modes. The State also has a role in intercity passenger services and airports. This has historically been minor but would grow significantly, if serious efforts were put into intercity transportation improvements. Local governments provide local transit and airport support, in addition to providing maintenance, preservation, and construction for local roads, streets, and bridges. The Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) began moving decision-making for federal programs to states and this program and other state policies incorporated in the Oregon Transportation Plan (OTP) encourage reassessment of responsibilities and obligations for funding. The Transportation Equity Act for the 21st Century (TEA21), passed in 1998, has continued the efforts first initiated by ISTEA.

These changing relationships have resulted in two significant issues for State and local governments. First, there is no clear definition of State responsibility. At one time, the State operated on an informal consensus that it should provide one-half the match on federally funded, local, and other projects that served statewide needs. No similar consensus seems to exist today. The State's responsibility for transit, airports, and other local transportation infrastructure and services is not clear. The question of regional equity is raised in considering especially high-cost project needs, such as the Bend Parkway or the

Portland area light rail program. Regional equity will probably require consideration of all modes together, because different regions may have different modal needs and financial arrangements.

Given this dynamic transportation funding environment, it is clear that local governments need to reassess traditional methods of funding projects and look creatively at ways to meet public expectations of high quality transportation services.

Transit Funding

Transit service in Oregon has evolved from private development and reliance on user fees for operating revenue, to public ownership with public subsidy for operations. No clear philosophy of the State role in providing transit services is evident and the State is discussing how it should raise revenue in support of transit. The State has used general funds, lottery funds, cigarette tax revenue, and other funds at various times to support transit service. These efforts have largely been targeted towards supplying half the required match to federal capital improvement grants. To date, the State has provided no operating funds for transit, other than the elderly and disabled program. The State role has been one of granting authority to local governments to raise locally-generated operating revenue.

While the state's role in transit funding is limited, the ODOT Public Transit Section does currently administer three public transit funding sources. These include Small City and Rural Transit Assistance (Section 18), the Special Transportation Fund (STF), and Section 16.

The Small City and Rural Transit Assistance program is a federally funded initiative that provides capital to operate and acquire vehicles for public transportation systems in cities with populations of less than 50,000 and rural areas. This assistance program is funded annually through an appropriation from the Federal Transit Administration (FTA) to each state with funds allocated to eligible providers based on a three-part formula. Fifty percent of the funds are distributed based on population, 25 percent are based on ridership, and 25 percent are based on service hours. There is a 50 percent local match requirement for operating costs and a 20 percent match for capital costs. The program stipulates that service must be marketed as "public transit": exclusive transportation services such as those limited strictly to senior citizens or employers are not eligible for funding under this program. Additional funding details, application information, and general assistance with the Small City and Rural Transit Assistance is available through ODOT's Public transit Division.

The Special Transportation Fund is intended for elderly and disabled citizens and is funded through the State cigarette tax. Funding for the purchase of vehicles and equipment for special transportation providers (i.e., servicing the elderly and disabled) is provided through a federal funding program known as Section 16.

POTENTIAL TRANSPORTATION FUNDING SOURCES

There are a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state, and local governments. Appendix E (Table E-1) provides a summary of federal, state, and local highway, bridge, sidewalk, and bicycle funding programs respectively, which have typically been used in the past. Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 50 limit the opportunities for this funding source.

Appendix E (Table E-2) presents details of the revenue sources for streets, bridges, sidewalks, and bicycle facilities currently used by cities. The information is summarized by type of facility, and indicates the percent of revenue each funding source represents for all cities in Oregon, likely trends for the source,

known constitutional or other limitations, and their respective rates. The general status of each funding source is summarized in Table E-3.

Funding Program

Major expenditures for transportation improvements are anticipated in the next five years, with some moderation thereafter. The city can expect to make significant investments to improve transportation facilities for existing development and to improve collectors and arterials that serve the entire area. In future years, however, the burden for expansion of the transportation network should be borne by the development community creating the additional demand and this is reflected in the project costs/responsibilities previously summarized in Table 8.

Based on the recommended roadway improvement projects identified in Table 8, at least $150,000 of roadway improvements have been identified for completion within the next five years. Additional projects for which cost estimates could not be prepared are also anticipated. With the possible exception of the Court Street/May Street intersection improvement project and a study of circulation near the Heppner Junior-Senior High School, the City of Heppner would bear most of the financial burden for near-term improvements. ODOT's funding involvement for roadway improvements potentially would be limited to supporting the Court Street/May Street intersection improvement project, which has an estimated cost of $92,500.

Within the 20-year planning horizon, the construction of a Highway 74/Rock Street/Morrow Street roadway is also anticipated. Financing of this facility, which is estimated to cost $900,000, would likely be shared by local development and the city. It is assumed that this project will be completed as development occurs, which may or may not fall within the 20-year planning horizon.

Pedestrian and bicycle improvement projects are expected to be implemented on a gradual basis as roadways are reconstructed, development activities occur, or alternative funding becomes available through grant projects or some other financing mechanism. Sidewalk improvement projects that would likely be completed in conjunction with reconstruction of ODOT facilities total $128,000. The remaining $391,000 in identified pedestrian and bicycle improvement projects are expected to be financed either by the city or developers as appropriate. Funding programs such as the Transportation Enhancement Program provide funds for enhancing pedestrian and bicycle facilities, landscaping, and other scenic beautification that may be a source of funding for adding sidewalks, multi-use paths, and bicycle facilities. Additional funding may be available through the creation of Local Improvement Districts or through grant projects.

State Funding

ODOT operates and maintains Highway 207 and Highway 74 in the City of Heppner. State and federal funds administered through ODOT will be the primary sources of funding for improvements to these facilities. Further, most Federal funding is passed through ODOT to local jurisdictions. While improvement projects affecting ODOT facilities are documented in this TSP, the inclusion of such projects in the TSP does not obligate ODOT to finance them.

A good working relationship with ODOT Region 5 planning staff and the Region Manager will be important to ensure that major roadway improvement projects on state facilities within the city are included in ODOT's State Transportation Improvement Plan (STIP) when it is updated. The city and Morrow County should take an active role in jointly representing the transportation priorities of Heppner to ODOT during its process of formally incorporating priorities into the STIP. For its part, the City of Heppner Transportation System Plan will provide ODOT with highway-related transportation projects of importance to the city and should be used as a basis for discussion with ODOT.

Local funding participation in projects on state facilities may enable the ODOT to accelerate the priority of an improvement identified in the STIP. While not normally a requirement of project funding, local participation does demonstrate a strong commitment to ODOT and the local funds may be used to leverage state funds.

Local Funding

The City of Heppner should continue to pursue federal, state, and county transportation funds for transportation projects. Given the high level of annual expenditures needed for construction of the transportation projects identified, existing sources of transportation revenue are not expected to be adequate to meet the demand for new projects. To meet the additional funding needs, the city may wish to consider additional revenue-generating options such as systems development charges, local improvement districts, and street maintenance fees as discussed below. It should be noted that, even with increased funding, it may prove difficult to fund all of the projects identified in this TSP within the 20-year planning horizon. Accordingly, the city should review the identified improvement projects on a periodic basis to prioritize local transportation system funding such that it most appropriately reflects current and projected needs.

Transportation System Development Charge

The City of Heppner does not currently have a transportation system development charge, which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Heppner TSP study, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements. The study should determine the feasibility of implementing SDC fees, particularly with respect to evaluating equitability with neighboring cities both in economic and political terms.

Local Improvement Districts

Local improvement districts could be formed to improve currently substandard and unimproved roads. These projects may or may not be fully completed within the 20-year planning horizon.

Street Maintenance Fee

The City of Heppner could investigate local adoption of a street maintenance fee to raise revenues to be dedicated toward street rehabilitation projects. These revenues could also be used to supplement the current State Highway Fund (State gas tax and vehicle registration fees) revenues already used for on-going maintenance.

Additional Considerations

There are important limitations that should be considered with respect to additional funding options. For example, the dollar amount of SDCs that can be assessed must meet legal requirements for establishing SDCs. Also, the success of any funding plan will be reliant on the approval of the community. Accordingly, the involvement of citizens of the community in developing and implementing a funding package is essential.

SUMMARY

Transportation funding resources available to the City of Heppner and ODOT are limited. It is expected that, for the foreseeable future, those funding sources that are available will predominantly be applied to

maintenance and preservation of the existing transportation system. As additional funding becomes available, the list of transportation improvement projects identified in this TSP should used to select projects for implementation. In the interim, the City of Heppner should consider developing alternative transportation funding sources such as System Development Charges, Local Improvement Districts, or Street Maintenance Fees as a mechanism by which to finance improvements to the city's transportation system.

Section 7

Policies and Land Use Ordinance Modifications

Policies and Land Use Ordinance Modifications

This section is provided under separate cover in the document "Downtown Development Plan, City of Heppner, Oregon", Section VII. Code Ordinances. A summary of the proposed ordinance and and policy revisions is as follows:

Ordinance to Adopt the Downtown Development Plan-

The purpose of the Downtown Development Plan is to serve as guide for community improvements over a twenty-year period. The plan integrates Heppner's Transportation System Plan with the City's overall planning efforts which are to:

- Preserve and enhance the historic downtown character
- Enhance connections between the downtown and the remainder of the city
- Plan and locate city amenities

Plan features include transportation improvements such as:

- Gateway enhancements along Highway 207/74 with streetscape improvements,
- Reconstruction of Riverside Avenue and construction of a multiuse path within its right of way,
- Pedestrian improvements at the Gale Street Bridge,
- Improvements to Water Street to insure all-weather access to the hill top west of the city,
- Proposed street connections on the east and west sides of the city,
- Intersection improvements on Heppner Highway at Quaid Street and Campbell Way,
- Sidewalk and pedestrian path construction and improvements,
- Pedestrian access way from Gilmore Street to Court Street with cross walk improvements,
- Improved crosswalks and ADA access,
- Revised Street cross-sections,
- New parking facilities for automobiles and Recreational Vehicles,
- Development of an Event Parking Plan,
- Access Management requirements,
- Street connectivity requirements,
- Right of Way improvements at the new skateboard park located at the old swimming pool.

The plan includes recommendations for zoning and subdivision code revisions and revisions to the Comprehensive Plan. The Code and Comprehensive Plan revisions are being presented for recommendation to the Planning Commission concurrently with the Development Plan.

Ordinance to Adopt the Transportation System Plan

The City of Heppner's Transportation System Plan (TSP), originally drafted in 1999 was never formally adopted by the city. The revised Transportation System Plan updates the City's list of transportation projects. Code language required for the successful implementation of the Transportation System Plan is outlined in the document and is being presented for adoption by the city concurrently with the TSP.

Projects listed in the TSP reflect the recommendations of the Downtown Development Plan and are listed below:

- Provide Supplemental Signing at the May Street/Main Street Intersection
- Restrict On-Street Parking in the Vicinity of Intersections
- Modifications to Gilmore Street
  –Acquire Sight Distance Easements at Willow Street
  –Mitigate Sight Distance Deficiency at Gilmore Street/Hager Street intersection
- Develop an Access and Circulation Plan for the Heppner Junior-Senior High School Area

  -Conduct a feasibility study of Water St improvements
- Develop Highway 74/Rock Street/Morrow Street Connection
- Provide Gateway Treatments Along Highway 207/74
- Enhance Pedestrian Crossings of Highway 207/74
- Develop Equestrian Facilities-(concurrent and Parallel to stream path where appropriate)
- Promote Access Management Along Highway 207/74
- Reduce Vehicular Reliance Through Zoning and Development Code Revisions
- Implement Transportation Demand Management Measures
  -Survey of commuters
  -Bus/Van Facility
  -Park and Ride lot
- Reconstruct Riverside Avenue and construct a multi-use path in the ROW
- Develop a north –south collector on the west side of the City
- Make North Court Street improvements from May Street to the Fair Grounds with sidewalk on west side only after the mid-block cross walk
- Main Street improvement between Cannon Street and Shobe Creek including parking and sidewalks
- Construct off-street R.V. parking
- Install directional Signage to R.V. parking areas
- Provide on-street R.V. parking designation, striping, & signage
- Develop an Event parking plan and coordinate
- Construct a Municipal Parking lot near the City pool
- Construct a Municipal Parking lot in the Downtown District

- Streetscape Improvements in the Downtown District (Benches, bike racks, sidewalks, lighting, landscape materials)
- Improve Linden Way
- Improve Bicycle and Pedestrian facility on Gale Street Bridge
- Improve intersections on Heppner Highway 207/74 at Quaid St and Campbell Way
- Install sidewalk and pedestrian path improvements throughout the City

Ordinance to Adopt revisions to Title 11 City of Heppner Zoning Code

Proposed zoning code revisions include language that will allow implementation of Transportation System Plan and will create a Downtown District to protect the historic character of downtown Heppner.

Access and transportation related terms have been added to the definitions section.

The proposed revision creates a new Downtown District composed of the commercially zoned property on the west side of Willow Creek.

A city goal is to strengthen the Downtown District as the "heart" of the community and as the logical place for people to gather and create a business center. The District is intended to support this goal through elements of design and appropriate mixed-use development. This chapter provides standards for the orderly improvement of the Downtown District based on the following principles:

- Efficient use of land and urban services;
- A mixture of land uses to encourage walking as an alternative to driving, and provide more employment and housing options;
- Downtown District provides both formal and informal community gathering places;
- A distinct storefront character identifies Downtown District.
- The Downtown District is connected to neighborhoods and other employment areas;
- Provide visitor accommodations and tourism amenities;
- Design guidelines to maintain and enhance the City's historic architecture;

Architecture Guidelines have been added to insure development in keeping with the historic building character in the Downtown District. Dimensional requirements with a zero setback are created. Pedestrian amenities are required. No parking is allowed in front of any new development.

Dimensional standards are added to the Light Industrial Zone.

A Design Standards Chapter has been added.

- It includes modified parking requirements and defines parking dimensional standards.
- Access and circulation standards are described in this section.
- Traffic Study requirements are defined.
- Street Connectivity is addressed.
- Standards for Transportation Improvements are discussed.
- Clear Vision requirements are moved to this section.
- Landscaping Requirements are defined.

A Site Plan Review chapter has been added to describe when Site Plan Review is required, to define the approval criteria, and to define the submittal requirements.

Ordinance to Adopt revisions to the Comprehensive Plan

Additions have been made to the Transportation Goal of the Comprehensive Plan that support the implementation of the Transportation System Plan. The additions also make into policy the improvement of access between areas within the city, street connectivity, and the encouragement of multi-modal transportation. Provisions encouraging the development of bicycle facilities are also included.

The establishment of a Downtown District has been added to the Urbanization Goal.

Ordinance to Adopt revisions to the Subdivision Code

The subdivision title is modified to reduce the maximum allowed length of a Cul-de-sac to two-hundred feet.

Access-way width information is added to Table 1.

Section 8

Transportation Planning Rule Compliance

Transportation Planning Rule Compliance

In April 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the Transportation Planning Rule (TPR), OAR 660 Division 12. The TPR requires local jurisdictions to prepare and adopt a Transportation System Plan (TSP) by 1997. Outlined below is a list of recommendations (designated by *italics*) and requirements for a TSP for an urban area with a population between 2,500 and 25,000, and how each of those were addressed in the City of Heppner TSP. The comparison demonstrates that the City of Heppner TSP is in compliance with the provisions of the TPR.

DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

TPR Recommendations/Requirements	City of Heppner TSP Compliance
Public and Interagency Involvement	
• Establish Advisory Committees.	A Management Team and Technical Advisory Committee was established at the outset of the project. Membership on the Management Team included members of the City, County, and ODOT staff. Membership on the Technical Advisory Committee included representatives from all facets of the community.
• Develop informational material.	Technical memoranda and current status reports of work undertaken and completed by the advisory committee were published and made available to the public throughout the project. Informational posters were also prepared concerning the project and opportunities for participation at public workshops for use at community information centers.
• Schedule informational meetings, review meetings and public hearings throughout the planning process. Involve the community.	Three Management Team/TAC meetings were held through the planning process. The meetings were advertised by distribution of meeting notices. All TAC meetings were advertised and open to the public as part of joint City Council/Planning Commission meetings.
• Coordinate Plan with other agencies.	Coordination with the City, ODOT, and Morrow County was accomplished by including agency representatives on the project mailing list, individual project briefings/meetings, and participation on the Management Team and the TAC.

Review Existing Plans, Policies, Standards, and Laws

• *Review and evaluate existing comprehensive plan.*	The following plans were reviewed as part of the development of the TSP: *1991 Oregon Highway Plan,* (June, 1991); 1996 *Oregon Bicycle Plan*; *City of Heppner Comprehensive Plan,* (1979); Draft *Statewide Transportation Improvement Program* (2000-2003).
• *Land use analysis - existing land use/vacant lands inventory.*	An analysis was conducted of current land use designations and land status within the project area to determine the capacity for growth, which would increase demand for transportation services. Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and the city's economic role in the region. Estimates of needed housing, commercial, and employment lands were derived from these forecasts. An inventory of vacant buildable lands within the city was also conducted by Cogan Owens Cogan. In developing the forecast of transportation needs, these growth trends were applied to existing traffic data.
• *Review existing ordinances - zoning, subdivision, engineering standards.*	Existing City Subdivision Ordinances, Zoning Ordinances, and Comprehensive Plan engineering standards were reviewed for adequacy in the development of the City of Heppner TSP.
• *Review existing significant transportation studies.*	Significant transportation studies reviewed as part of the City of Heppner TSP include the above mentioned comprehensive plans, their associated transportation elements, and the Morrow County TSP.
• *Review existing capital improvements programs/public facilities plans.*	The City of Heppner CIP, Morrow County CIP, and the State TIP were reviewed as part of City of Heppner TSP development.
• Americans with Disabilities Act requirements.	The ADA requirements were reviewed and acknowledged as part of the City of Heppner TSP development.

Inventory Existing Transportation System

• Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, *truck routes, number and location of accesses, safety, substandard geometry*).	An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and levels of service is provided in Section 2: Existing Conditions.
• Bicycle ways (type, location, width, condition, *ownership/jurisdiction*).	As noted in Section 2: Existing Conditions, there are no existing bicycle ways within the City of Heppner.
• Pedestrian ways (location, width, condition, ownership/jurisdiction).	Section 2: Existing Conditions documents the existing pedestrian ways within the City of Heppner.
• Public Transportation Services (transit ridership, volumes, route, frequency, stops, fleet, intercity bus, passenger rail, special transit services).	A summary of the existing public transportation services is presented in Section 2: Existing Conditions. Only Special Transit and Intercity Bus services exist within the City of Heppner.
• Intermodal and private connections.	A summary of the existing intermodal and private carrier transportation services is presented in Section 2: Existing Conditions.
• Air transportation.	A summary of existing air transportation facilities is provided in Section 2: Existing Conditions. No air transportation facilities are provided in the City of Heppner.
• Freight rail transportation.	As noted in Section 2: Existing Conditions, there are no freight rail transportation services within the City of Heppner.
• Water transportation.	A summary of water transportation services is provided in Section 2: Existing Conditions.
• Pipeline transportation.	A summary of pipeline transportation services is provided in Section 2: Existing Conditions.
• *Environmental constraints.*	Development of the TSP did not include the identification of environmental constraints beyond reporting local topographical constraints and the flood plain area as noted in the TSP.
• Existing population and employment.	As outlined Section 1: Introduction, the 1997 City of Heppner population was approximately 1,480 persons. This information and employment data cited in Section 3: Future Conditions Analysis, is included in Future Conditions as the basis for the forecasts that were performed for this TSP.

Determine Transportation Needs

• Forecast population and employment	Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and City of Heppner's economic role. This information is summarized in Section 3: Future Conditions.
• Determination of transportation capacity needs (cumulative analysis, *transportation gravity model*).	Travel demand forecasts were undertaken as part of this project. The methodology for travel forecasting and assumptions used in the transportation model are contained in Section 3: Future Conditions, which presents an analysis of future transportation conditions and identifies capacity needs.
• Other roadway needs (safety, bridges, reconstruction, operation/maintenance).	Non-capacity related transportation needs are identified and recommended for implementation in Section 5: Transportation System Plan.
• Freight transportation needs.	Freight transportation needs are adequately met via motor carrier freight services.
• Public transportation needs (special transportation needs, general public transit needs).	Public transportation needs are presented in Section 5: Transportation System Plan.
• Bikeway needs. • Pedestrian needs.	Future bicycle and pedestrian improvements are to be made in conjunction with roadway improvements to provide cyclists and pedestrians with full accessibility to City of Heppner's street system. Plans for these facilities are detailed in Section 5: Transportation System Plan.

Develop and Evaluate Alternatives

• Update community goals and objectives.	Goals were established as part of the TSP development (see Section 1: Introduction).
• Establish evaluation criteria.	Evaluation criteria was established from the study goals and objectives and used to develop the Preferred Alternative presented in Section 5: Transportation System Plan.
• Develop and evaluate alternatives (no-build system, all build alternatives, transportation system management, transit alternative/feasibility, improvements/additions to roadway system, land use alternatives, combination alternatives).	Section 4: Alternatives Analysis includes a summary of the land use and transportation alternatives considered and analyzed for City of Heppner's TSP. Land uses, roadway alternatives, transportation system management options, bike and pedestrian options were analyzed.
• Select recommended alternative.	A recommended alternative for roadways, bikeways, and pedestrian facilities is contained in Section 5: Transportation System Plan.

Produce a Transportation System Plan

• Transportation goals, objectives and policies.	Specific recommendations regarding transportation goals and policies are outlined in Section 7: Policies and Land Use Ordinance Modifications.
• Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).	The streets plan element is outlined in Section 5: Transportation System Plan.
• Public transportation element (transit route service, transit facilities, special transit services, intercity bus and passenger rail).	The public transportation element is outlined in Section 5: Transportation System Plan.
• Bikeway system element.	The bikeway plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Pedestrian system element.	The pedestrian plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Airport element (land use compatibility, future improvements, accessibility/ connections/conflicts with other modes).	The airport element is outlined in Section 5: Transportation System Plan.
• Freight rail element (terminals, safety).	There is no rail service available or anticipated to serve the City of Heppner.
• Water transportation element (terminals).	The water transportation element is outlined in Section 5: Transportation System Plan

Produce a Transportation System Plan (Continued)

• *Transportation System Management element (TSM).*	TSM element not applicable per OAR 660-12-020(2)(f) and (g).
• *Transportation Demand Management element (TDM).*	TDM element not applicable per OAR 660-12-020(2)(f) and (g).

Implementation of a Transportation System Plan

Plan Review and Coordination

• Consistent with ODOT and other applicable plans.	See Section 7: Policies and Land Use Ordinance Modifications

Adoption

• Is it adopted?	*To follow.*

Implementation

• Ordinances (facilities, services and improvements; land use or subdivision regulations).	Included in Section 7: Policies and Land Use Ordinance Modifications.
• Transportation financing/capital improvements program.	The transportation finance plan is summarized in Section 6: Transportation Funding Plan.

Section 9

References

References

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Appendix A

Plan and Policy Review

Plans and Policies Review

Existing plan policies and other actions will influence the analysis of land use and transportation issues and the alternatives to address these issues as well as other community objectives. This appendix provides a summary of the plans and policies reviewed as part of the development of the Transportation System Plan.

CITY OF HEPPNER COMPREHENSIVE PLAN

Heppner's Comprehensive Plan and implementing regulations were acknowledged by the Land Conservation and Development Commission (LCDC) on July 10, 1980.

The Plan consists of eight chapters as follows:

Chapter I: Summary and Conclusions and Comprehensive Plan Map

Chapter II: Summary of Findings

Chapter III: Citizen Involvement

Chapter IV: Goals and Policies

Chapter V: Natural Environment

Chapter VI: Socio-Economic Environment

Chapter VII: Bibliography

Chapter VIII: Appendices

Most findings and policies relevant to this study are found in Chapters II, IV and VI (under a detailed discussion of current conditions and future need for transportation facilities). Relevant findings and policies are summarized below.

Chapters II and IV

Open Spaces, Scenic and Historical Areas and Natural Resources: Examine any publicly owned lands including street rights-of-way for their potential open space use before their disposition.

Recreational Needs: Encourage tourist commercial uses such as motels, restaurants, gas stations, gift shops, and other noise and traffic generators to cluster in or adjacent to other commercial centers."

Economic Development:

- Encourage the expansion of job opportunities and reduce unemployment, reduce out-migration of youth, and accommodate the growth of the local labor force.
- Minimize high noise levels, heavy traffic volumes, and other undesirable effects of heavy commercial and industrial development.
- Cluster commercial uses intended to meet the business needs of area-residents and highway travelers only in designated areas to prevent the undesirable effects of strip commercial areas.
- Public Facilities and Services: Develop, maintain, update and expand police and fire services, streets and sidewalks, water and sewer system, and storm drains as necessary to provide adequate facilities and services to the community.

Transportation Policies:

- To minimize conflicts between through and local traffic on Highway 74 to reduce traffic hazards and expedite the flow of traffic.
- To develop good transportation linkage (pedestrian, vehicular, bicycles, etc.) between residential areas and major activity centers.
- To prioritize the paving of city streets.

Energy Conservation: Encourage the design of streets, buildings, and landscaping in subdivisions to allow for utilization of solar energy.

Urbanization Findings: Property east of Heppner, along Highway 74 has been included in the UGB to provide access to future development on the hill behind the hospital; because the land is not constrained by flood or steep slope designations; and water and sewer lines could be extended to the top.

Urbanization Policies:

- To establish an urban growth boundary to identify and separate urbanizable land from rural land.
- To encourage development to occur within a relatively compact urban area with controlled outward growth.
- To consider only those areas that are within the urban growth boundary for annexation to the city.

Chapters VI: Socio-Economic Chapter, Section on Transportation

Objectives for the development of a transportation system include:

- To provide an integrated transportation system that will link the city with regional production, distribution and marketing centers.
- To incorporate safety and efficiency factors in transportation system design to allow people and goods to travel conveniently.
- To create a transportation system which is current, flexible, and coordinated with the comprehensive plan.
- Permit orderly and timely expansion of the transportation system in an economically feasible manner.
- To maintain and improve the transportation system to allow it to carry out its intended function.

Future Transportation Needs include:

- The City of Heppner should accumulate funds and provide for continued maintenance and expansion of their public streets and sidewalks.
- Heppner needs an intra-city bus service especially to serve senior citizens.
- Bicycles serve as an alternate form of transportation and recreation. Thought should be given to the placement of bicycle paths in the community to provide safe routes between various city activity centers.

IMPLEMENTING REGULATIONS

The Zoning Ordinance (Ordinance No. 428) as amended, implements the Comprehensive Plan by establishing specific standards for use of the land by zoning districts and other development standards.

The ordinance contains regulations for off-street parking, loading, internal access and recreational vehicle parking, but does not have development standards related to streets, use of streets or access standards.

The Subdivision Ordinance, last amended in 1996, requires the dedication of streets in subdivisions and contains street standards including the street widths shown in Table A-1.

Table A-1
Street Standards

Street Type	Minimum right-of-way	Minimum pavement width	Maximum Grade (percent)
Arterial	80	44	8
Collector	60	38	10
Local street	50	30	12
Alley	20	20	--

Other standards include minimum curve radius, minimum length of tangents between reverse curves, minimum sight distance, cul-de-sac radius, design speed, minimum length of vertical curves and pavement depths. In residential areas, four-foot wide sidewalks are required on both sides of arterials and one side of local and collector streets. In business-industrial areas, six-foot wide sidewalks are required on both sides of arterial, local and collector streets.

Other provisions include frontage on improved streets; topography and arrangements; intersection angles (no less than 75 degrees, with intersection of no more than two streets); minimum curb radius (20 feet for local streets and 25 feet if one or more streets is a collector); pavement depth (minimum three inches of asphalt); street names; and excess right-of-way. In non-residential subdivisions, street rights-of-way must be adequate to accommodate the type and volume of traffic anticipated to be generated and special requirements for street, curb, gutter and sidewalk design and construction may be imposed by the city. In addition, streets carrying nonresidential traffic, especially truck traffic are not normally to be extended to the boundaries of adjacent existing or potential residential areas.

In 1993, the city adopted a street replacement priority list rating the condition of each paved and unpaved street. The resolution directs city staff to review and update the list each year and to recommend to the City Council replacement projects based on the list, as funding is available.

STRATEGIC PLAN

The city completed a Strategic Plan in 1992 and updated it in 1994, 1995, 1997 and 1998. The plan identifies goals, strategies and action plans aimed at attracting and retaining new and existing employment, developing adequate infrastructure, increasing/ improving housing, expanding the visitor industry, developing/maintaining accurate community information and enhancing community appearance, livability and viability. The following are specific goals, strategies and actions proposed by the Strategic Plan that could affect the TSP and land use alternatives.

GOAL: Identify and develop infrastructure necessary to maintain and attract employment and residents.

Strategy: Improve street name and traffic control signage.

Action Plan: Purchase and install new street name and traffic control signage as needed for all city streets.

Strategy: Replace North Court Street sidewalks and reconfigure May and Court Street Intersection.

Action Plan: Same as strategy.

Strategy: Construct new sidewalks on Riverside Avenue and realign the Linden Way/"A" Street/Riverside/Gale Street intersection using grant funds.

Action Plan: Same as strategy.

GOAL: Increase and improve housing.

Strategy: Install moderately priced manufactured or stick build homes on available lots – both vacant lots and lots with marginal structures on them.

Action Plan: Encourage landowners in Heppner and the surrounding area to make land available for affordable housing.

Strategy: Develop additional senior housing.

Action Plan: Locate land or structures to remodel and/or build a structure for senior citizens providing seven to twenty living units.

Strategy: Increase available housing stock through subdivision development.

Action Plan: Continue development of residential subdivisions.

GOAL: Enhance community appearance, livability and viability.

Strategy: Continue development of walking/biking routes.

Action Plan: Establish bike/pedestrian lanes on the shoulders of State Highway 74 between Heppner and Kinzua Mill.

Action Plan: Complete and maintain various routes including creekside pathways and trails adjoining the Willow Creek Lake.

Action Plan: Consider building sidewalks on Chase Street from May Street to Willow Street to the corner of Main and Center Streets.

Appendix B

Description of Level-of-Service Methods and Criteria

Appendix B

LEVEL OF SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various LOS from A to F.[1]

SIGNALIZED INTERSECTIONS

The six LOS grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average stopped delay per vehicle. Using this definition, LOS D is generally considered to represent the minimum acceptable design standard.

Table B1
Level of Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stop delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stop delay is in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

1 Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual*, Special Report 209 (1994).

Table B2
Level of Service Criteria for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (Seconds)
A	≤ 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The *1994 Highway Capacity Manual* provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of LOS for unsignalized intersections is presented in Table B4. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard.

Table B3
Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in queue.
B	• Some drivers begin to consider the delay an inconvenience. • Occasionally there is more than one vehicle in queue.
C	• Many times there is more than one vehicle in queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in queue. • Drivers feel quite restricted.
E	• Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B4
Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Total Delay per Vehicle (Seconds)
A	< 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. **While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections.** No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

V/C Analysis

When evaluating State facilities, the 1999 Highway Plan requires a similar assessment for measuring highway performance, but represents levels of service by specific volume to capacity ratios to improve clarity and ease of implementation. A volume to capacity ratio (v/c) is the peak hour traffic volume (vehicles/hour) on a highway section divided by the maximum volume that the highway section can handle. For example, when v/c equals 0.85, peak hour traffic uses 85 percent of a highway's capacity; 15 percent of the capacity is not used. If the traffic volume entering a highway section exceeds the section's capacity, traffic queues will form and lengthen for as long as there is excessive demand. When v/c is less than but close to 1.0 (e.g., 0.95), traffic flow becomes very unstable. Small disruptions can cause traffic flow to break down and long traffic queues to form. This is a particular concern for freeways because the capacity of a freeway under stop-and-go traffic conditions is lower than the capacity when traffic is flowing smoothly. Maximum v/c ratios are defined for state facilities by roadway classification and adjacent land uses. Acceptable v/c values range from 0.70 for high speed rural facilities to grater than 1.0 for some areas within the Portland Metro area.

Appendix C

Supplemental Funding Information

Table E-1
Heppner Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Federal Sources

Program Name	Description
Community Development block Grants (CDBG)	Community Development Block Grants (CDBG) are administered by the Department of Housing and Urban Development (HUD) and potentially be used for transportation improvements in eligible areas.

Table E-1 (Continued)
Heppner Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: State Level

Program Name	Description
State Highway Fund	The State Highway Fund composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carrier. In 1994, the state gas tax was $0.24 per gallon. Vehicle registration fees were $15 annually. Revenues are divided as follows: 15.57 percent to cities, 24.38 percent to counties, and 60.05 percent to ODOT. The city share of the State Highway Fund is allocated based on population. ORS 366.514 requires at least one percent of the State Highway Fund received by ODOT, counties and cities be expended for the development of footpaths and bikeways. ODOT administers the bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.
Special Public Works Fund (SPWF)	The State of Oregon allocates a portion of revenues from the state lottery for economic development. The Oregon Economic Development Department provides grants and loans through the SPWF program to construct, improve and repair infrastructure to support local economic development and create new jobs. The SPWF provides a maximum grant of $500,000 for projects that will help create a minimum of 50 jobs.
Transportation Access Charges	The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed, limited access corridors; service in high-demand corridors; and bypass facilities to avoid congested areas. Congestion pricing, where drivers are charged electronically for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements; but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods. The Oregon Revised Statutes allow ODOT to construct toll bridges to connect state highways and improve safety and capacity. The Statues also allow private development of toll bridges. Recent actions by the Oregon legislature provide authority for developing toll roads. State authority for congestion pricing does not exist; new legislation would be required.
Immediate Opportunity Fund (IOF)	Financed at a level of $5 million per year to a maximum of $40 million through FY96. The fund is to support specific economic developments in Oregon through the construction and improvement of roads and is restricted for use in situations that require a quick response and commitment of funds. It is anticipated that the maximum amount available for a single project is $500,000 or 10 percent of the annual program level. This fund may be used only when other sources of financial support are unavailable or insufficient and are not a replacement or substitute for other funding sources.
OR Transportation Infrastructure Bank	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.

Table E-1 (Continued)
Heppner Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: State Level

Program Name	Description
OR Transportation Infrastructure Bank	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.

Table E-1 (Continued)
Heppner Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Local Sources

Program Name	Description
Special Assessments/Local Improvements Districts	Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works projects as street paving, drainage, parking facilities and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct and/or financial benefit to its owners. Local Improvement Districts (LIDs) are legal entities established by the City to levy special assessments designed to fund improvements that have local benefits. Through a local improvement district (LID), streets or other transportation improvements are constructed and a fee is assessed to adjacent property owners.
Systems Development Charges (Impact Fees)	Systems Development Charges (SDCs) are fees paid by land developers intended to reflect the increased capital costs incurred by a municipality or utility as a result of a development. Development charges are calculated to include the costs of impacts on adjacent areas or services, such as increased school enrollment, parks and recreation use, or traffic congestion. Numerous Oregon cities and counties presently use SDCs to fund transportation capacity improvements. SDCs are authorized and limited by ORS 223.297 - 223.314.
Local Gas Tax	A local gas tax is assessed at the pump and added to existing state and federal taxes. Tillamook, The Dalles and Woodburn are Oregon cities that have a local gas tax. Multnomah and Washington Counties also have gas taxes.
Local Parking Fees	Parking fees are a common means of generating revenue for public parking maintenance and development. Most cities have some public parking and many charge nominal fees for use of public parking. Cities also generate revenues from parking citations. These fees are generally used for parking-related maintenance and improvements.

Table E-1 (Continued)
Heppner Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Local Sources

Program Name	Description
Street Utility Fee	Most city residents pay water and sewer utility fees. Street user fees apply the same concept to city streets. A fee would be assessed to all businesses and households in the city for use of streets based on the amount of use typically generated by a particular use. For example, a single-family residence might, on average, generate 10 vehicle trips per day compared to 130 trips per 1,000 square feet of floor area for retail uses. Therefore, the retail use would be assessed a higher fee based on higher use. Street services fees differ from water and sewer fees because usage cannot be easily monitored. Street user fees are typically used to pay for maintenance more than for capital projects.
Vehicle Registration Fees	Counties can implement a local vehicle registration fee. The fee would operate similar to the state vehicle registration fee. A portion of the County fee would be allocated to the City.
Property Taxes	Local property taxes could be used to fund transportation, although this is limited by Ballot Measure 5 and 47.
Revenue Bonds	Revenue Bonds are bonds whose debt service is financed by user charges, such as service charges, tolls, admissions fees, and rents. If revenues from user charges are not sufficient to meet the debt service payments, the issuer generally is not legally obligated to levy taxes to avoid default, unless they are also based by the full faith and credit of the insuring governmental unit. In that case, they are called indirect general obligation bonds. Revenue bonds could be secured by a local gas tax, street utility fee, or other transportation-related stable revenue stream.

Table E-2
Currently Used Revenue Sources For Cities (millions of 1995 dollars)

Facility	Revenue Source	Importance (not 100%)	3-Year Trend	Dedication	Rate
Streets/Bridges/ Sidewalks/ Bike Lanes	Oregon Highway Trust Fund	51% of total road or $89.	Growing about 1.75% per year.	Constitutionally limited to funding activities that benefit autos & trucks.	24¢/gal. for gas; $30/biennium registration fee.
	General Fund Transfers	9% or $15.	Varies but assume growth @ 3%/yr. But not used by all cities.	May be used for any purpose.	Varies widely.
	Special Property Tax Levies	5% or $7.	Increasing, only used by about 18 cities.	May be used for purpose described in election.	Varies widely.
	Improvement District Assessments	7% or $12.5.	Varies but increases when local development increases.	May be used for construction of adjacent streets-sidewalks.	Varies with construction cost & local ordinances.
	Systems Development Charges/Traffic Impact Fees	4% or $7.	Varies but increases when local development increases, only used by about 2 dozen cities.	May be used for construction of new streets.	Varies with construction cost & local ordinances. Rates generally higher in Portland Metro area.
	Utility Franchise Fees	3% or $4.	Grows roughly w/population and inflation.	Is a general revenue used by some cities for streets.	Statutory limit of 5% of utility gross receipts.
	Interest Earnings	4% or $6.	Varies w/current interest rates.	Have same Constitutional limits as Highway Fund.	Used as general street revenue.
	Local Gas Tax	0.44% or $0.7	Unchanged.	Have same Constitutional limits as Highway Fund.	Used by Tillamook, The Dalles, and Woodburn.
	Private Contributions	3% or $4.3	Varies widely.	Usually contributions are related to specific development street impacts.	Negotiated individually.

Table E-2: (Continued)
Currently Used Revenue Sources For Cities (millions of 1995 dollars)

Facility	Revenue Source	Importance (not 100%)	3-Year Trend	Dedication	Rate
	Misc. - permit fees, finds, fines, parking, Motel Tax, other	8% or $14.5.	Gradual growth.	General revenues used for streets.	Varies widely by City.
	Federal - FHWA+HUD	3% or $5.6.	Relatively stable	Used mainly for new construction w/some rehab.	Based on federal allocation to Oregon.
	Misc. State Revenues - mainly Lottery funds.	2% or $3.	Varies, no trend.	Used mainly for economic development capital improvements.	Specific grants to individual cities each year.
Off-street Bike Paths	Misc. general funds & ISTEA	??	Varies from year to year.	ISTEA & General Funds used for construction, General Funds used for maintenance & repair.	Varies from year to year.

Table E-3
Heppner Area Transportation System Plan
Currently Used Revenue Sources in Oregon

Transit Service Type/Function	Funding Source	Status
Urban Public Transportation (Portland & Eugene) (operating & capital)	1. Local Payroll Tax - operating 2. Federal grants - capital 3. Federal grants - operating 4. Fares & advertising	1. Major Source - $100 million/yr. Growing - Sensitive to Economic Conditions 2. Major source - $10 million/yr - Stable 3. Minor source - $5 million/yr - Declining 4. Minor source - Growing w/ridership
Urban Public Transportation (Salem, Corvallis, Medford, K-Falls)	1. Property tax (typically a taxbase or stand-alone levy w/in $10 cap for local gov't services) 2. Federal grants - capital 3. Federal grant - operating 4. Fares & advertising	1. Major Source - Growing Slowly 2. Major Source - $2 million/yr. - Stable 3. Major Source - $2 million/yr. - Declining 4. Minor Source - Growing w/ridership
Small City & Rural (Astoria, Union County, etc.) (operating & capital)	1. Federal grants - capital & operating 2. Local Property Tax (typically w/in city or county operating levy) 3. Fares, donations & advertising	1. Major Source - Declining 2. Major Source - Stable 3. Minor Source - Stable
Mobility for Seniors & People with Disabilities - (operating & capital)	1. Special Transportation Fund (2¢ state cigarette tax) - operating & capital 2. Social Service Agency grants / contracts - operating 3. Local Property Tax (typically w/in city or county operating levy) 4. Federal grants - capital & operating 5. Fares, donations advertising	1. Major Source - $5 million/yr. - Declining 2. Major Source - Declining 3. Minor Source - Stable 4. Major Source - Declining 5. Minor - Stable
Intercity Bus (operating & capital)	1. Major Interstate Routes: Fares 2. Branch & feeder routes: Private capital, Fares	1. Sole Source - Declining 2. Private

City of Ione
Transportation System Plan

Ione, Oregon

June 1999

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Preface

This project is partially funded by a grant from the Transportation Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds. The contents of this document do not necessarily reflect the views or policies of the state of Oregon.

The progress of this plan was guided by the Management Team, Transportation Advisory Committee, and Consultant Team identified below.

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Transportation Advisory Committee

Advisory Committee members devoted a substantial amount of voluntary time and effort to the development of the Transportation System Plan, and their participation was instrumental in the development of the recommendations that are presented in this report. The Consultant Team and Management Team believe that the City of Ione's future transportation system will be better because of their commitment.

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Introduction

The City of Ione, in conjunction with Morrow County and the Oregon Department of Transportation (ODOT), initiated a study of the city's transportation system during the summer of 1998. The purpose of this study was two-fold: to guide the management and development of appropriate transportation facilities; and to incorporate the vision of the community into a land use and transportation system that addresses both the potential for infill and redevelopment strategies and the multimodal needs of the community.

Since 1990, Ione has experienced a modest growth rate as well as an economic restructuring as it has become less resource dependent. This economic restructuring will likely continue to produce new growth pressures and community needs. To address these changing needs, Ione needs to develop land use and transportation strategies that continue to plan for the economic development associated with the existing agriculture and timber industries. Care should also be taken to continue to foster economic development associated with recreation and tourism.

This study was prepared as part of a Transportation Growth Management Grant and is formatted to provide the necessary elements for the City of Ione to assemble its Comprehensive Plan. In addition, this document provides Morrow County and ODOT with recommendations for incorporation with their respective planning efforts.

State of Oregon guidelines stipulate that the TSP must be based on the current comprehensive plan land use map and must provide a transportation system that accommodates the expected 20-year growth in population and employment that will result from implementation of the land use plan. Oregon Revised Statute 197.712 and the Land Conservation and Development Commission (LCDC) administrative rule known as the Transportation Planning Rule (TPR) require that all jurisdictions develop the following:

- a road plan for a network of arterial and collector streets;
- a public transit plan;
- a bicycle and pedestrian plan;
- an air, rail, water, and pipeline plan;
- a transportation finance plan; and,
- policies and ordinances for implementing the transportation system plan.

The TPR requires that alternative travel modes be given equal consideration and that reasonable effort be applied to the development and enhancement of the alternative modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions adopt land use and subdivision ordinance amendments to protect transportation facilities and to provide bicycle and pedestrian facilities between residential, commercial, and employment/institutional areas. It is further stipulated that local communities coordinate their respective plans with county and state transportation plans.

STUDY AREA

The City of Ione is located along Highway 74 in Morrow County, Oregon, as shown in Figure 1. Home to an estimated population of 310 persons (1997 census estimate), Ione's development pattern reflects its agricultural heritage and remote location in eastern Oregon. The Main Street downtown area contains

a mix of commercial, industrial, residential, and public land uses. Most of the commercial and industrial uses along Main Street and Highway 74 are auto-oriented and of relatively low intensity.

Residential land uses are located along the southern portion of the city, with local zoning identifying a mix of commercial and industrial land uses between Second Street and Highway 74. Land north of Highway 74 is zoned as a mix of public and residential. Reflecting the area's rural nature, Ione's residential development is all of low-density design. Single family homes on modest lots are located throughout the city. Figure 2 illustrates the current zoning within the City of Ione.

PUBLIC INVOLVEMENT AND STUDY GOALS

The TSP planning process provided the citizens of Ione with the opportunity to identify their priorities for future growth and development. Expressing their vision for the future in terms of goals and objectives for the TSP was a central element of the public involvement process. The goals and objectives identified by the community were used as guidelines for developing and evaluating alternatives, selecting a preferred transportation plan, and prioritizing improvements.

Two committees were formed to guide the planning process: the Management Team and the Transportation Advisory Group (TAC). The Management Team was composed of representatives of the City of Ione, Morrow County, ODOT, and the consultant team. The two committees convened at several key junctures of the project including: project inception and completion of the existing conditions analysis, presentation of the future conditions and alternatives analysis findings, and presentation of the draft TSP.

Given the city's Comprehensive Plan, and through the direction provided by both the two TSP committees and the public hearing process, a series of transportation system goals and objectives evolved that provided the planning process with direction as well as evaluation criteria. Those goals and objectives are listed below.

Goal 1

Promote a balanced, safe, and efficient transportation system.

Objectives

1. Develop a multi-modal transportation system that avoids reliance upon one form of transportation as well as minimizes energy consumption and air quality impacts.
2. Protect the qualities of neighborhoods and the community.
3. Provide for adequate street capacity and optimum efficiency.
4. Promote adequate transportation linkages between residential, commercial, public, and industrial land uses.

Goal 2

Ensure the adequacy of the roadway network in terms of function, capacity, level of service, and safety.

Objectives

1. Develop a functional classification system that addresses all roadways within the study area.
2. In conjunction with the functional classification system, identify corresponding street standards that recognize the unique attributes of the local area.
3. Identify existing and potential future capacity constraints and develop strategies to address those constraints, including potential intersection improvements, future roadway needs, and future street connections.
4. Evaluate the need for modifications to and/or the addition of traffic control devices.
5. Identify access spacing standards on Highway 74 that conform to the Oregon Highway Plan.
6. Provide an acceptable level of service at all intersections in the city, recognizing the rural character of the area. Intersection operations on Highway 74 should conform to the level of service and volume/capacity ratio requirements identified in the Oregon Highway Plan.
7. Identify existing and potential future safety concerns as well as strategies to address those concerns.

Goal 3

Promote alternative modes of transportation.

Objectives

1. Develop a comprehensive system of pedestrian and bicycle routes that link major activity centers within the study area.
2. Encourage the continued use of public transportation services.

Goal 4

Identify and prioritize transportation improvement needs in the City of Ione, and identify a set of reliable funding sources that can be applied to these improvements.

Objectives

1. Develop a prioritized list of transportation improvement needs in the study area.
2. Develop construction cost estimates for the identified projects.
3. Evaluate the adequacy of existing funding sources to serve projected improvement needs.
4. Evaluate new innovative funding sources for transportation improvements.

TRANSPORTATION SYSTEM PLAN STUDY METHODOLOGY AND ORGANIZATION

The development of the City of Ione's Transportation System Plan began with an inventory of the existing transportation system and a review of the local, regional, and statewide plans and policies that guide land use and transportation planning in the city (Appendix "A" contains the plans and policies review). The inventory included documentation of all transportation-related facilities within the study area and allowed for an objective assessment of the current system's physical characteristics, operational performance,

Section 2

Existing Conditions

NORTH
(NOT TO SCALE)

EMERT ADDITION

EMERT DRIVE

HIGHWAY 74

MCGEE ST

MAIN ST

WILLOW ST

1ST ST

2ND ST

BIRCH ST

SPRING ST

GREEN ST

CHERRY ST

'A' ST

'B' ST

'C' ST

'D' ST

'E' ST

'F' ST

'G' ST

'H' ST

3RD ST

5TH ST

LEGEND

CITY LIMITS

CREEK

EXISTING ROADWAY NETWORK

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 3

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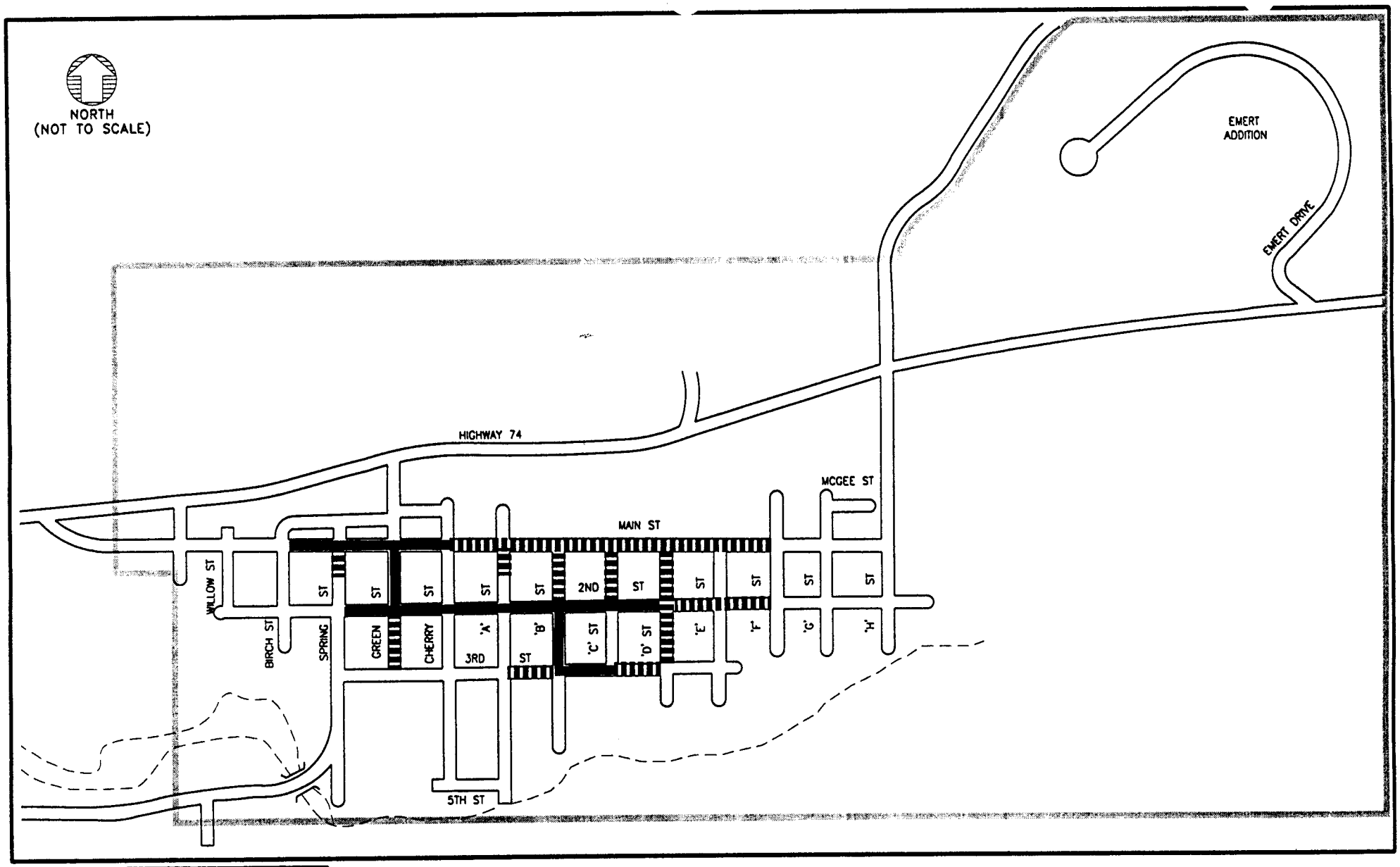


LEGEND

- SIDEWALK–ONE SIDE
- SIDEWALK–BOTH SIDES
- CITY LIMITS
- CREEK

LOCATION OF EXISTING SIDEWALK FACILITIES

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 4

2899\DWGS\IONE\TSP\28991004.DWG

General Comments

The county's transit program does not typically operate on weekends due to the nature of the volunteer staff pool and the limited demand for trips. Instead, if there is a need for handicapped accessible service on weekends, family members of the person to be transported can be van-trained and (once qualified) are then allowed to operate the vehicles.

Discussions with local agency staff indicate that the two public transportation services are not as well used as they could be. A commonly repeated theme was the notion that there is a need to create greater awareness of the programs among community members. Community input stressed the need for convenient access to public transit service for the elderly. The need for additional volunteer staff was also noted.

It was further observed that the population under the driving age is particularly under-served and, as the community grows in geographic size, their overall accessibility will be diminished. Aside from the identified services, for most of the city's residents, private transportation is the only available option to get to the local medical, social, and retail services and the educational and employment opportunities located in adjacent communities. Although enhanced service is desired, no segment of the city's population was specifically identified as being without transportation service.

AIR TRANSPORTATION SYSTEM

No commercial or private aviation facilities are located within the City of Ione. The nearest airfield is the Lexington Airport, located approximately 10 miles to the southeast in the Town of Lexington. The Lexington Airport provides local air service and is estimated to support approximately 2,500 flight operations per year. The airport's single runway, Runway 08-26, has an asphalt surface that measures 4,150 feet in length and 75 feet in width. Fourteen aircraft are based at the airport. Efforts have begun to have the Federal Aviation Administration develop a Global Positioning Satellite instrument approach to the Lexington Airport.

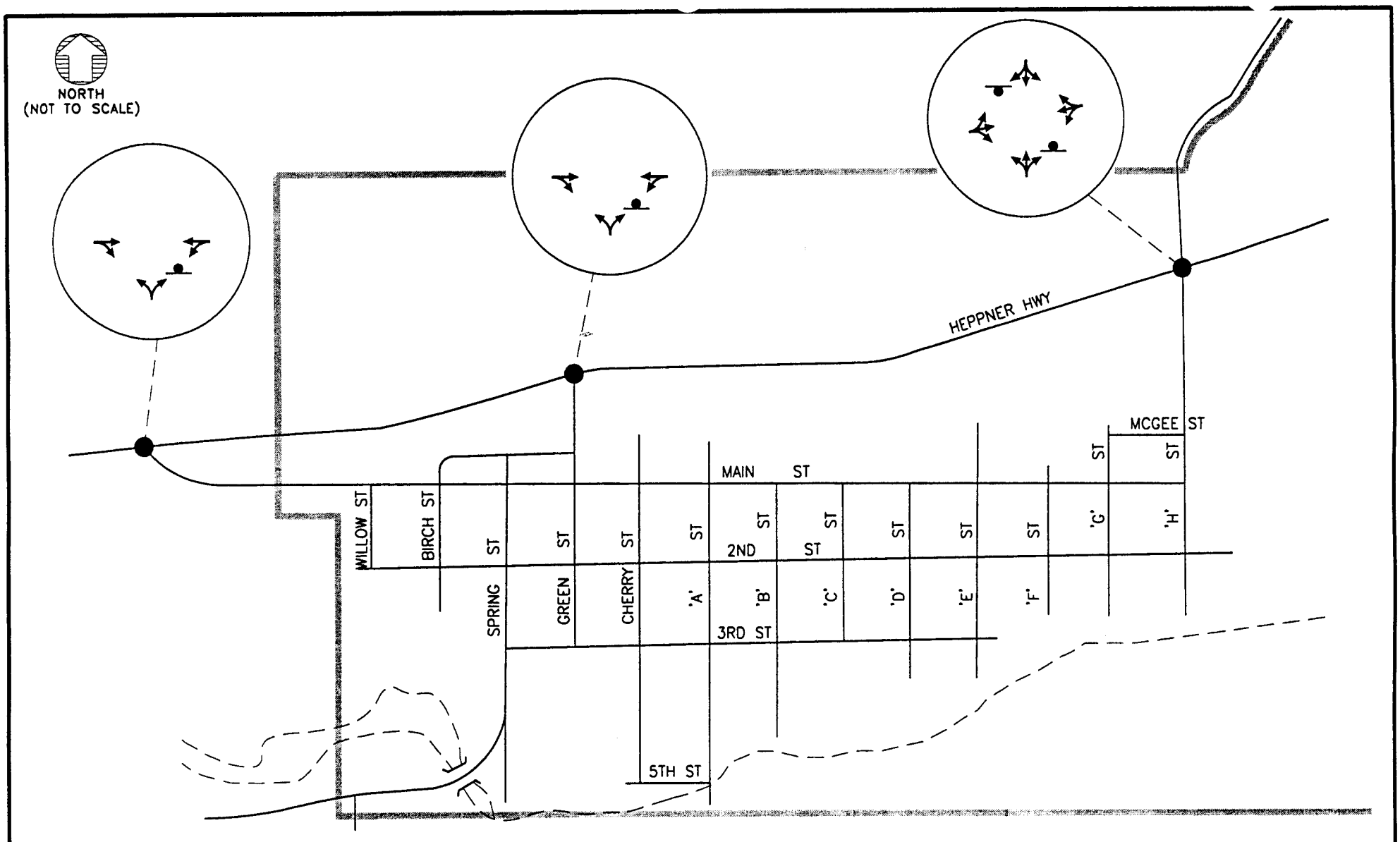
Regional freight cargo and air passenger services are provided at the Eastern Oregon Regional Airport at Pendleton, located approximately 80 miles to the northeast. In addition, the City of Hermiston owns and operates a general aviation airport located approximately 55 miles to the northeast that offers charter service.

RAILROAD TRANSPORTATION SYSTEM

Railroad service is no longer provided to the City of Ione. The former railroad right-of-way parallels Highway 74 through the north section of the city. Although the railroad track has been removed, plans for the use of the right-of-way are unknown at the time this TSP was prepared. Rail service would potentially be available through Union Pacific's Hinkle Rail Yard located in Hermiston, though intermediate non-rail transport to Hermiston would be necessary.

MARINE TRANSPORTATION SYSTEM

Marine transportation is not available within the City of Ione, though the Port of Morrow maintains a barge area along the Columbia River in Boardman, Oregon. Similarly, The Port of Umatilla maintains two marine facilities along the Columbia River. These facilities are available for use by persons in the City of Ione through intermediate truck transfer.



LEGEND

- STOP SIGN
- APPROACH LANE, INDICATING ALLOWED MOVEMENTS
- CITY LIMITS
- CREEK

EXISTING INTERSECTION LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 5

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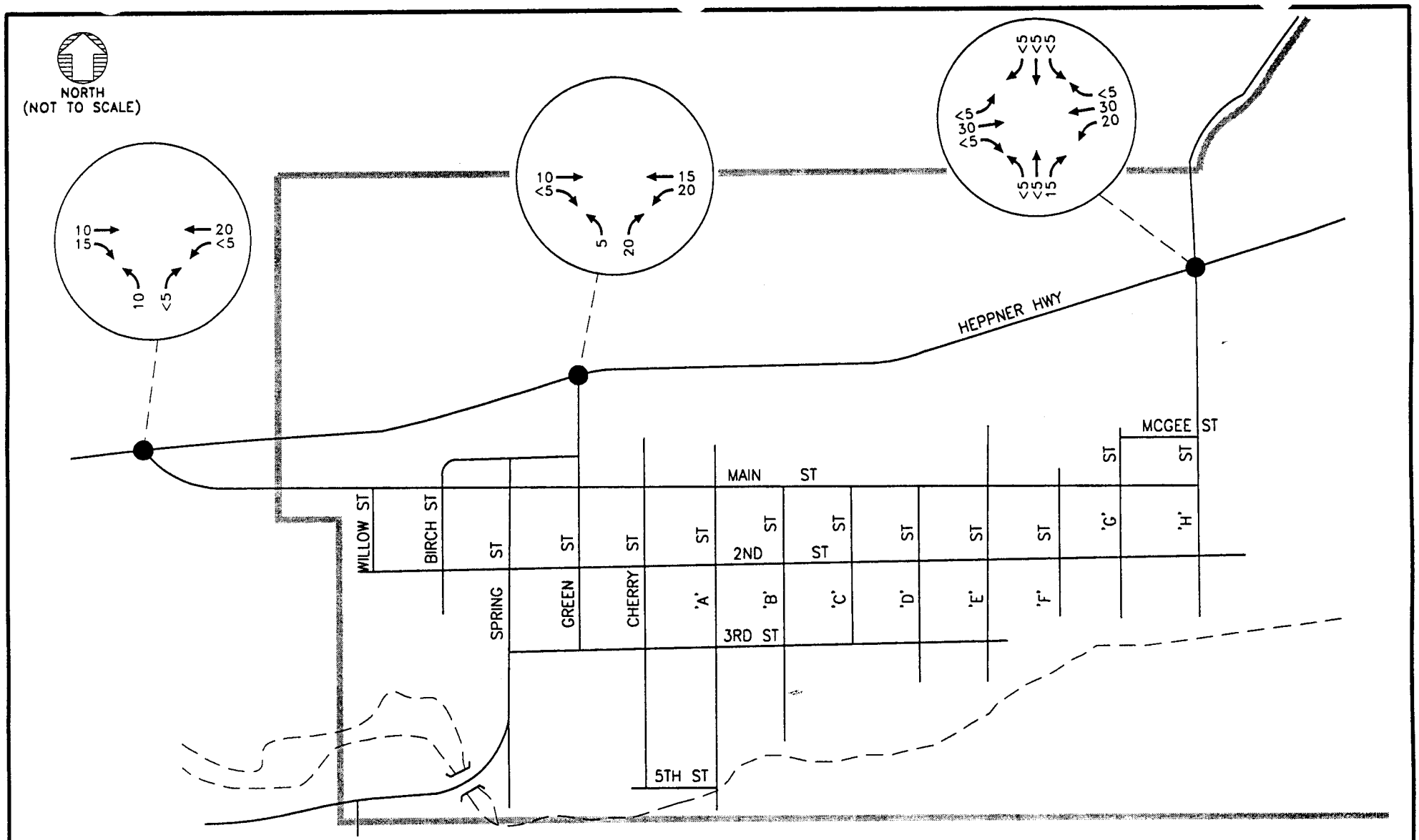


LEGEND

- CITY LIMITS
- CREEK

1998 EXISTING TRAFFIC VOLUMES WEEKDAY PM PEAK HOUR

CITY OF IONE, OREGON
TRANSPORTATION SYSTEM PLAN
JUNE 1999

FIGURE 6

\IONE\TSP\28991006

TABLE 1
1998 EXISTING PM PEAK HOUR LEVEL OF SERVICE,
UNSIGNALIZED INTERSECTIONS

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Main Street/Highway 74	Northbound	0.02	3.6	A	A
Green Street/Highway 74	Northbound	0.02	2.8	A	A
H Street/Highway 74	Southbound	< 0.01	3.6	A	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 1 indicates, all of the unsignalized study area intersections operate at acceptable levels of service under existing weekday p.m. peak hour conditions.

TRAFFIC SAFETY

Another important aspect of the transportation system is safety. The safety analysis described in the following section focuses on the accident history for Highway 74 within the City of Ione urban growth boundary.

Intersection Accident Analysis

The accident history of the study intersections was examined for potential and existing safety problems. ODOT accident data for the period January 1993 through June 1998 were used for this analysis. In addition, the ODOT District 12's 1996-1998 Safety Priority Index System (SPIS) lists were reviewed. The SPIS list identifies locations with relatively high accident rates and locations that have been the site of one or more fatal accidents.

Table 2 presents accident rates for the individual study intersections. Accident rates for intersections are calculated by relating the total entering volume of traffic at the intersection, on an average daily basis, to the number of reported accidents for a given period of time. The accident rate for intersections is expressed as the number of accidents per million entering vehicles (acc/mev).

TABLE 2
STUDY INTERSECTION ACCIDENT RATES

Intersection	Number of Accidents	Accidents/MEV
Main Street/Highway 74	0	0
Green Street/Highway 74	0	0
H Street/Highway 74	1	0.52

*ODOT Accident data search period of 1993 – 1998

As shown in Table 2, the only study intersection with a reported accident during the review period was the "H" Street/Highway 74 intersection. A single accident was reported to have occurred at this intersection in September of 1997. The accident was attributed to a northbound driver on "H" Street not yielding to a vehicle on Highway 74.

The 1996 ODOT SPIS list identified the area near the "H" Street intersection on Highway 74 (specifically, the area between mileposts 28.34 and 28.38) as a SPIS site due to the occurrence of a fatal accident at that

Truck Circulation Routes

Truck traffic has long been associated with the local agricultural harvest activities that occur in and around the City of Ione. While some local storage elevators located in the city are no longer in use, Morrow County Grain Growers operate a series of elevators located on the northwest corner of the "H" Street/Main Street intersection. These elevators store agricultural products that are transported to the site by truck. Truck-based shipping activity occurs throughout the year as local growers buy and sell their products according to market conditions. Typically, truck activity at the elevators peaks during harvest season, which usually occurs in July. An additional surge in traffic to the elevators usually occurs in January as off-season shipping increases.

Currently, trucks access the elevators primarily via Main Street. Typically, trucks entering the city from the west will exit Highway 74 and travel east down Main Street to the elevators. Those trucks travelling to the city from the east will exit Highway 74 at "H" Street, travel south to Main Street and then use Main Street to access the elevator site. The truck traffic has taken a toll on the city's roadways, with $25,000 being allocated to the reconstruction of the "H" Street/Main Street intersection this year. Community members indicated that the need for pavement repairs at this location is largely attributable to the truck traffic.

Green Street/Main Street Intersection Sight Distance

Sight distance concerns were raised by community members with respect to the Green Street/Main Street intersection. Based on conversations with TAC members and field inspection, the sight distance limitations are attributable to building locations and on-street parking along Main Street. Available sight distance at the intersection is variable; largely depending on the location and size of vehicles parked at the respective businesses along Main Street.

SUMMARY

Through an inventory of existing conditions, several key findings were identified. Those findings include:

- The Reaping Grade, located along Highway 74, constrains development of adjacent commercial land. An ongoing study is examining ways to fix the drainage problem drainage problem and accommodate commercial development in that area.
- The City of Ione's transportation system is comprised primarily of auto-oriented transportation facilities.
- Sidewalk facilities are concentrated in the residential and commercial areas along Main Street and Second Street; other local roads tend to exhibit disjointed or nonexistent sidewalks. No sidewalk facilities currently are available along Highway 74.
- No bicycle facilities were identified.
- Public transit service is available in the form of a senior bus and dial-a-ride service provided through Morrow County.
- On a typical weekday afternoon, the transportation system experiences its peak roadway traffic demand between 4:00 and 5:00 p.m. During this peak period, the transportation system operates well within established standards.
- An evaluation of historical ODOT accident data revealed that accident rates at the study intersections are well within generally accepted safety thresholds.

Section 3

Future Conditions Analysis

Future Conditions Analysis

INTRODUCTION

This section presents estimates of long-term future travel conditions within the TSP study area. The long-term future transportation needs for the City of Ione were examined based on available employment and population forecasts, review of the proposed roadway network, review of the operational analysis of the existing street system, and discussions with regional transportation personnel and representatives from the City of Ione.

TRANSPORTATION DEMAND

Future transportation demand within the City of Ione was estimated based on expected growth in the study area population, employment, and traffic traveling through the study area for the horizon year 2020. Future growth estimates were developed based on historical traffic volume trends in the study area as well as consideration of the unique trip making characteristics of residential and employment-based activities. The estimation included a review of the land use mix proposed in the city's Comprehensive Plan.

As part of this analysis, planned developments and transportation improvement projects were identified and reviewed within the city's urban growth boundary. Historic transportation trends were compared with proposed future site-specific growth to arrive at a reasonable forecast condition.

Land Use/Demographics

Year 2020 traffic volumes on the City of Ione's transportation system were forecast based on population and employment estimates developed by the State of Oregon for Morrow County and the city. These estimates were compared against recent development trends, planned developments, and forecast growth rates provided by local agencies to verify their appropriateness. The 20-year planning horizon was chosen to ensure compliance with the Transportation Planning Rule.

Population and Employment

Tables 3 and 4 summarize population and employment projections prepared for the City of Ione in conjunction with the TSP process.

TABLE 3
POPULATION PROJECTIONS

Year	1997	2000	2002	2005	2010	2015	2020	1997-2020 Average
City of Ione Projections								
Projected Population	310	319	326	344	372	401	428	--
Annual Percent Change	--	1.0%	1.0%	1.8%	1.6%	1.5%	1.3%	1.4%
Morrow County Projections								
Projected Population	9,895	11,131	12,039	12,701	13,750	14,812	15,801	--
Annual Percent Change	--	4.0%	4.0%	1.8%	1.6%	1.5%	1.3%	2.1%

TABLE 4
EMPLOYMENT PROJECTIONS

Year	1990	1997	2000	2002	2005	2010	2015	2020
City of Ione Projections								
Projected Employment	121	125	127	128	136	146	154	161
Annual Percent Change	--	0.5%	0.6%	0.5%	1.9%	1.5%	1.0%	0.9%
Morrow County Projections								
Projected Employment	2,232	2,924	3,283	3,449	3,613	3,890	4,097	4,290
Annual Percent Change	--	3.93%	3.93%	2.5%	1.6%	1.5%	1.0%	0.9%

As shown in Table 3, the City of Ione's population is forecast to grow by an average annual rate of 1.4 percent (approximately 118 people) between 1997 (estimated population of 310) and 2020 (projected population of 428). During the same 23-year period, approximately 36 additional employment opportunities are anticipated within the city. The growth projections prepared for the city suggest that the area's growth will be relatively stable, with approximately 25 to 30 persons added to the local population every five years. While growth is expected, it is noteworthy that the estimated population of Ione was 417 persons in 1977. This suggests that if growth occurs as anticipated over the next 20 years, sometime after the year 2015 the city will be reaching a population level that previously been experienced during the late 1970's.

Over the course of the same forecasting period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020). The countywide employment projections suggest approximately 1,365 additional employment opportunities will become available over the same 23-year horizon period. It should be noted that the county is anticipating significant growth in the near-term with the annual growth rate more closely paralleling Ione's after the year 2005.

Such findings are reflective of the current development patterns being experienced in the area. Development activities within Ione have been largely limited to the new Emert Addition residential subdivision and no significant employment activities are anticipated, suggesting that near-term future population increases will continue to be relatively small. The regional growth phenomenon evidenced in Table 3 has been attributed to several new employment and development activities that have occurred in and around the county. These developments have an indirect impact on the local City of Ione transportation system in the form of increased traffic volumes traveling through the city on Highway 74. Additional information regarding the population and employment estimates is included in Appendix "C".

Anticipated Future Growth

In an effort to account for regional traffic growth, a net annual growth rate was chosen to forecast the year 2020 traffic analysis. This rate was determined based on a review of historical traffic volume trends, anticipated population and employment growth, regional population densities, and local knowledge of planned development.

Historical Growth

ODOT maintains an automatic traffic recorder along Highway 74 that indicated a historical 2.3 percent average annual growth rate between 1960 and 1997 (refer to Figure 8). Considering only the past five years, the annual traffic growth rate was 2.2 percent. The recorder, Station 25-007, is located approximately 1.4 miles south of the Town of Lexington. While this location is not within the City of Ione, it is the closest historical data source and is considered to be representative of regional growth trends.

Based on the data available, it appears that the relationships between historical regional employment, population, and traffic growth trends in Ione and the surrounding areas have been relatively consistent. Given this information, the addition of new residents in the region over the next 20 years is expected to result in a growth in traffic of approximately 2.3 percent annually. Like the regional population growth, the growth in traffic volumes is expected to occur at a relatively stable pace.

PLANNED TRANSPORTATION IMPROVEMENTS

Two planned roadway improvement projects within the City of Ione urban growth boundary were identified at the time this TSP was prepared as discussed below.

"H" Street/Main Street Intersection Reconstruction

The "H" Street/Main Street intersection will be reconstructed in 1999 through a grant received by the City of Ione. The project will involve repaving the intersection and is estimated to cost $25,000.

Highway 74 Resurfacing

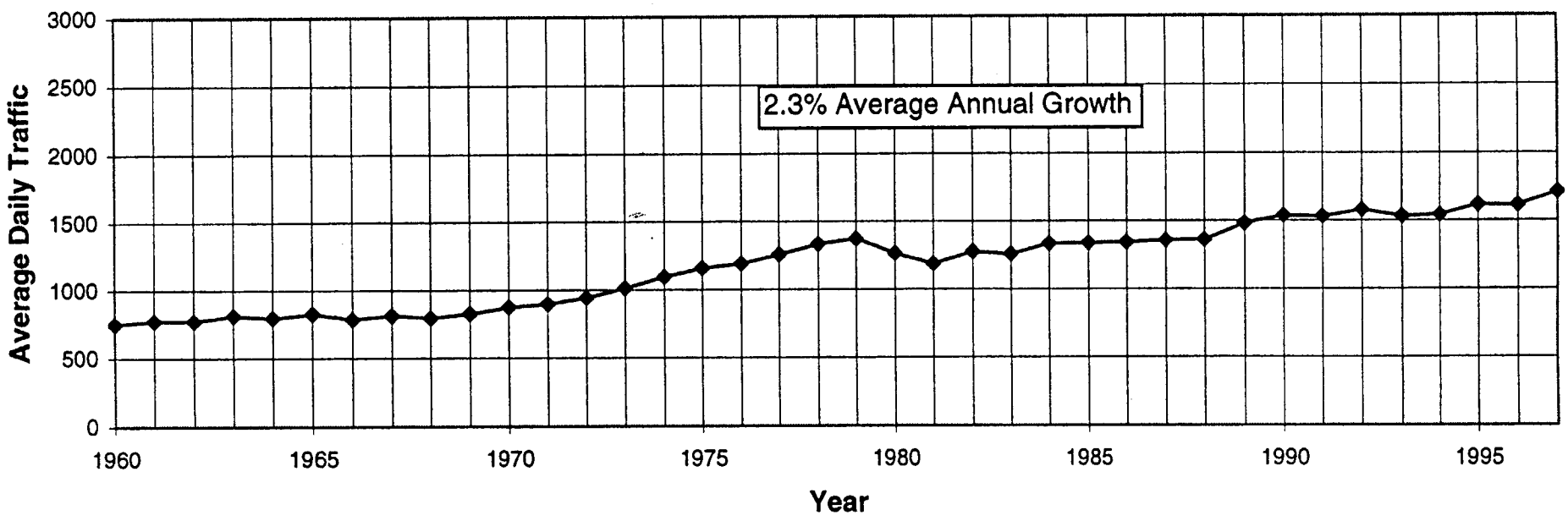
As part of the Statewide Transportation Improvement Program (STIP), ODOT is tentatively planning a resurfacing project along Highway 74. ODOT's Region 5 2000-2003 STIP Update identifies a resurfacing project along Highway 74 that would extend from Lorraine Creek (milepost 28.20) west to the Morrow County line (milepost 8.44).

Although no specific project information or timeline had been identified at the time this TSP was prepared, the project would widen/reconstruct shoulders and is expected to entail resurfacing and alignment improvements. The alignment improvements would include realignment of substandard horizontal and vertical curves along the highway. ODOT has identified this project as being a "low" priority within Region 5. Construction cost is estimated by ODOT to be $9,800,000 and is not currently funded.

No other planned improvement projects were identified.

FORECAST FUTURE TRAFFIC VOLUMES/DEFICIENCIES

The transportation needs and travel demand patterns of Ione will change with time. It is generally understood that as smaller rural communities grow in population and employment they become more self-sufficient entities and better able to serve the full needs of their population. Citizens are able to find employment and services desired within the community instead of having to travel to large urban areas located nearby. The benefit to the transportation system is in the potential for some of these trips (now local as opposed to long distance) to be made via modes other than the automobile; thus reducing demand on the overall network. The future traffic volume forecast presented in this report reflects the anticipated benefits of a more multi-modal transportation system as well as the changing character of travel demand.



Source: Oregon Department of Transportation Traffic Volume Tables

HISTORIC GROWTH TRENDS ON HIGHWAY 74

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 8

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Future conditions within the City of Ione were forecast by applying the 2.3 percent annual growth rate assuming a "no-build" condition (i.e., no new roadways would be constructed in the 23-year horizon) to the 1997 local average daily traffic (ADT) volume data shown in Figure 7. Figure 9 illustrates the resulting forecast year 2020 average daily traffic volumes under the no-build condition.

Typically, two-lane rural highways with geographic features similar to Highway 74 can accommodate a maximum of 17,000 to 20,000 vehicles (including vehicles in both directions) daily based on the *Highway Capacity Manual* (Reference 2). Accordingly, the year 2020 forecast average daily traffic volumes shown in Figure 9 can be accommodated by the highway. It should be further noted that the daily traffic volumes on the Highway 74 could range up to 5,000 to 7,000 vehicles and still maintain the level of service that residents of Ione are accustomed to. Considering this information, the forecast volumes clearly indicate that no capacity deficiencies are anticipated for highway traffic.

A similar analysis of traffic volumes at the study intersections was completed by applying the 2.3 percent annual growth factor to the 1998 existing intersection traffic counts shown in Figure 6. Figure 10 summarizes the forecast year 2020 weekday p.m. peak hour traffic volumes at the study intersections under the no-build condition.

Level of Service Analysis

As previously stated, ODOT stipulates that intersection levels of service "A" through "D" for mainline traffic are considered acceptable on the Highway 74 corridor through the City of Ione. To ensure that the local study area intersections will continue to operate at an acceptable level of service, the forecast future traffic volumes were analyzed. The findings of this analysis are summarized in Table 5.

TABLE 5
2020 FUTURE FORECAST LEVEL OF SERVICE,
UNSIGNALIZED INTERSECTIONS

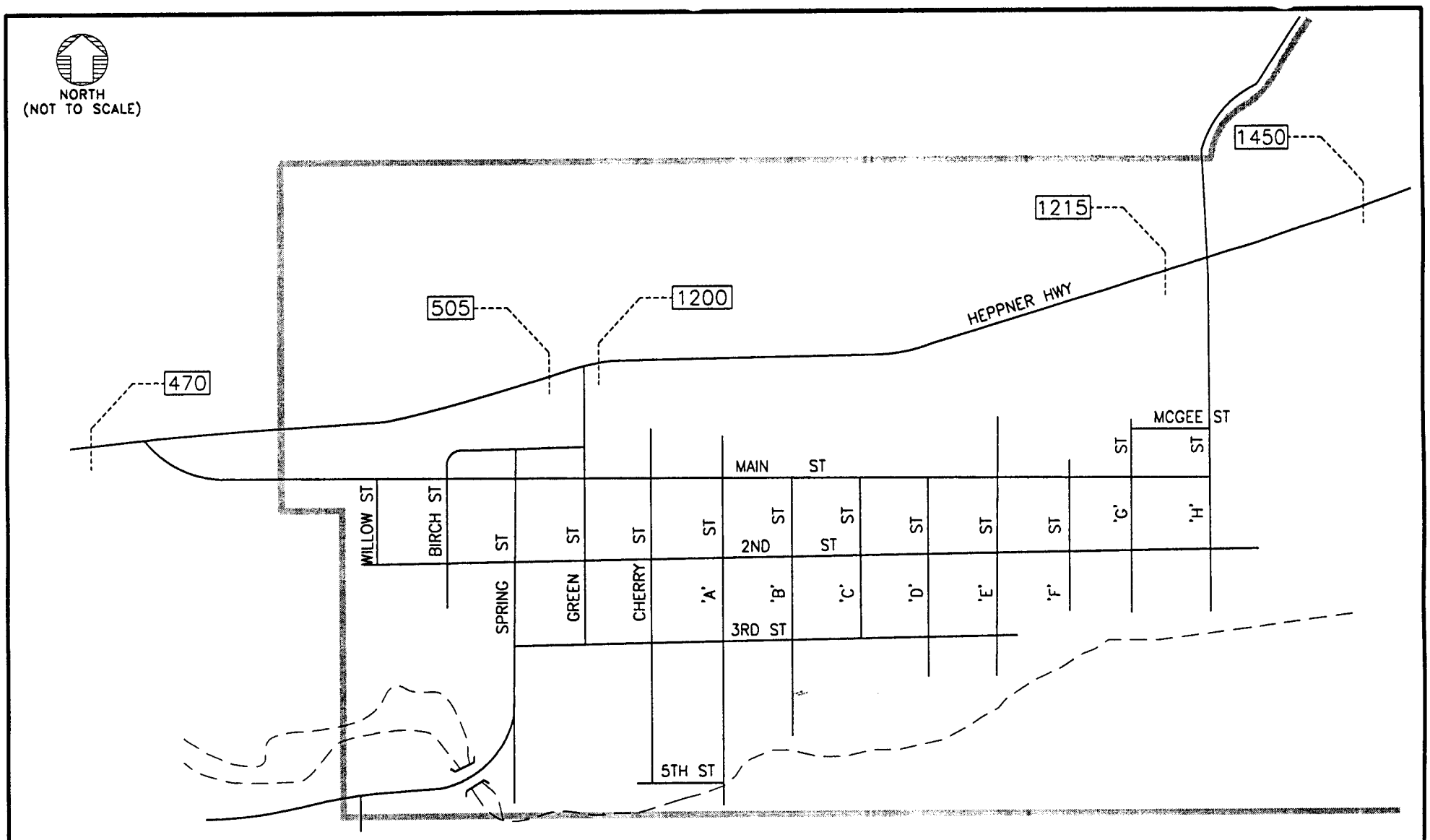
Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Main Street/Highway 74	Northbound	0.04	3.7	A	A
Green Street/Highway 74	Northbound	0.04	3.0	A	A
H Street/Highway 74	Southbound	0.04	4.1	A	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 5 indicates, all of the unsignalized study area intersections are forecast to continue operating at acceptable levels of service under year 2020 weekday p.m. peak hour conditions. Based on these results, no roadway capacity-related mitigation measures are anticipated.

ANTICIPATED FUTURE CIRCULATION DEFICIENCIES

In addition to the previously described capacity analysis, the future conditions evaluation involved the review and identification of potential future circulation deficiencies. Given the size and projected growth potential of the City of Ione, it appears that future circulation deficiencies will primarily involve the exacerbation of existing deficiencies as discussed below.



LEGEND

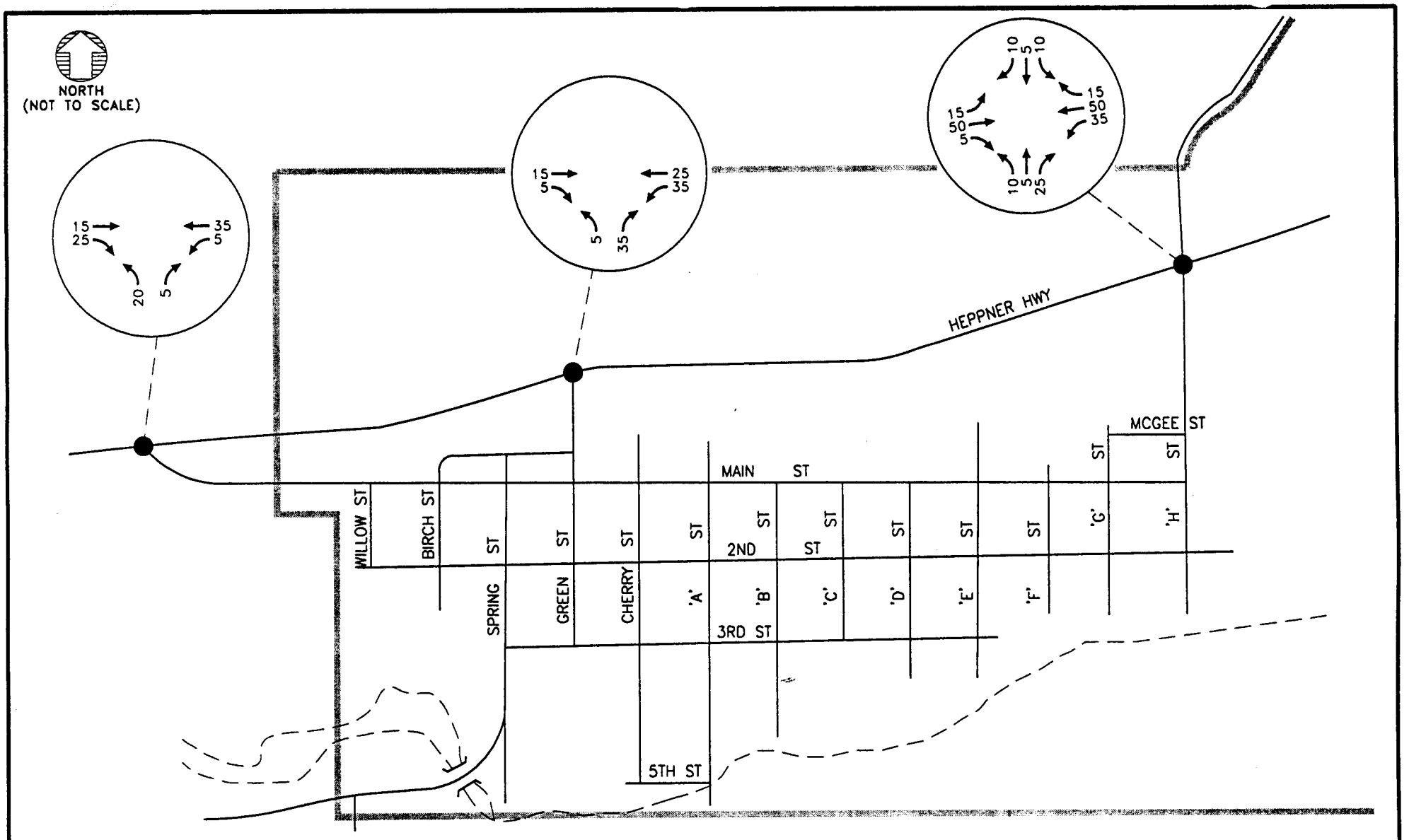
— — CITY LIMITS

– – – CREEK

2020 FORECAST AVERAGE DAILY TRAFFIC VOLUMES

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 9

DWGS\IONE\TSP\28991009



LEGEND

— CITY LIMITS

– – – CREEK

2020 FORECAST TRAFFIC VOLUMES
WEEKDAY PM PEAK HOUR

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 10

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Pedestrian Circulation

There are several anticipated future circulation deficiencies that will need to be addressed including:

- In general, sidewalk facilities tend to appear in areas of residential and commercial development, leaving the city with a pedestrian system that is relatively complete in some core areas and virtually non-existent in others. As documented in the **Existing Conditions** section, the majority of existing sidewalks are provided along Main Street, Second Street, and along north-south streets between Main Street and Second Street.

- Local roads tend to exhibit discontinuous sidewalks within the city, especially in areas where lots are not fully developed. No sidewalk facilities currently are available along Highway 74. The lack of sidewalks on Highway 74 is considered to be a growing problem, especially as it relates to pedestrian access to the new Emert Addition subdivision located on the north side of Highway 74.

- Some of the existing sidewalks are poorly maintained and do not satisfy current ODOT or Americans with Disability Act (ADA) design standards. The condition of sidewalks was identified at the first TAC meeting as a source of concern as it relates to access for the city's elderly residents. In addition to sidewalk condition, community members have identified a need for crosswalk facilities along portions of Main Street.

- Ideally, pedestrian facilities should provide connectivity between major activity centers, such as housing, commercial areas, the post office, and recreation areas. There are commercial land uses located along Main Street that have the potential to attract pedestrian traffic (the bank, post office, and park area already attract pedestrian traffic) and future development in the area can be expected to increase the demand for pedestrian amenities. Sidewalk connections to the grade school building located in the southwest quadrant of the city would also be desirable.

At a minimum, future roadway design standards should ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed arterials, collectors, and local streets. It is essential that existing sidewalks be connected to new sidewalks as new developments are constructed or as road improvements are made. The alternatives analysis presented in the next section identifies potential methods to further develop a comprehensive pedestrian network within the city.

Bicycle Circulation

The City of Ione does not currently offer designated bicycle facilities and has no circulation plan for bicyclists. The future potential for bicycle activity is somewhat limited by topographical constraints and the remote location of the town in relation to trip generators. It was noted that there currently are children riding bicycles in the community and there may be other recreational bicyclists in the area during seasonal cycling events that occur along Highway 74.

Given the potential for future bicycle access, the city should consider development of a bicycle circulation plan. The scope of the plan could be limited to on-street bicycle facilities along Highway 74 and one or two designated roadways in the city for bicycle use. Such alternatives will be further discussed in the **Alternatives Analysis** section.

OTHER ANTICIPATED DEFICIENCIES

The growth in Ione's population will impact many aspects of the local transportation system. System deficiencies identified in the **Existing Conditions** section are expected to be exacerbated by the increase in demand for transportation services. Accordingly, other subject areas that will need to be considered in the alternatives analysis include:

- Public transportation services;
- Potential changes that could be made to pursue speed reductions along Highway 74;
- Sight distance at the Green Street/Main Street intersection;
- Truck circulation routes; and
- Access to, and connectivity with, the Emert Addition.

SUMMARY

Several significant findings were identified through the future conditions analysis, most notably:

- The City of Ione's population is forecast to grow by an average annual rate of 1.4 percent (approximately 118 people) between 1997 (estimated population of 310) and 2020 (projected population of 428). During the same period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020).
- The growth projections prepared for the city suggest that the area's growth will be relatively stable, with approximately 25 to 30 persons added to the local population every five years.
- Based on the population projections, the city will be reaching a population level that it previously experienced during the late 1970's sometime after the year 2015.
- The City of Ione's transportation system is expected to accommodate forecast future growth in travel demand without triggering the need for major capacity-related roadway improvements.
- In the absence of capacity-related improvements, there are connectivity and access issues that should be planned for and addressed. Enhancements to the city's roadway, pedestrian, bicycle, and public transit systems are desirable and will be reviewed in Section 4, **Alternatives Analysis**.

Section 4

Alternatives Analysis

Alternatives Analysis

INTRODUCTION

This section presents a summary of future transportation improvement alternatives that could be implemented to mitigate existing and projected future transportation system deficiencies. Potential roadway improvement alternatives are presented and recommendations are offered as to their feasibility. As potential deficiency mitigation projects were developed, consideration was given to how a multi-modal approach could contribute to individual projects. Thus, while the primary impetus for a given mitigation alternative may center on increasing vehicular capacity, provision of appropriate bicycle and pedestrian amenities was given equal consideration.

Special effort was provided in considering and recommending improvements to the pedestrian and bicycle systems. Recommendations were developed that create direct linkage to all identified pedestrian/bicycle generators and provide for a core pedestrian and bicycle transportation system. The alternative analysis and subsequent recommendations process were handled separately to ensure that a complete system for each mode was identified without constraint.

It should be noted that, in this section, formal alternatives development and analysis have only been presented for the roadway network and its components. Other elements of the transportation system such as pedestrian access, bicycle access, etc. currently exist at a level such that an entire network needs to be developed. The **Transportation System Plan** section of this report contains the recommended improvements to all of the modal systems.

The remainder of this section is organized into two parts. First, a general discussion of improvement needs and associated ramifications is presented. A discussion of specific improvement alternatives, including estimated costs, then follows.

LAND USE/TRANSPORTATION SYSTEM RELATIONSHIP

The existing and future land uses within the City of Ione have a substantial impact on the local transportation system. As a result, the city's transportation system will continue to reflect a strong relationship to local land use well into the future. For illustrative purposes, the following discussion presents some of the transportation implications associated with various land use alternatives.

Background

As stated in the **Existing Conditions** section, there are a limited number of vacant and redevelopable sites within the central part of town. Most of the opportunities associated with development and redevelopment over the next 20 years focus on areas along the periphery of the city limit and UGB, such as the Emert Addition northeast of the existing city street grid. Specific land use opportunities and constraints are described below for industrial, commercial, and residential land.

Commercial Land

The designated commercial land within the city is located along Main Street (zoned C-1) and Highway 74 (zoned C-2). Today, most of the local businesses are located along Main Street. Currently, there are only a small number of vacant parcels along Main Street. Although the vacant parcels on Main Street are limited, projected new commercial development can likely be accommodated in the foreseeable future, barring significant population or employment growth.

Development along Highway 74 has occurred as relatively low intensity commercial and light industrial uses, including equipment storage and Beechers Restaurant. Historically, development along the Highway has been constrained by the presence of the park and by topographic constraints related to Reaping Grade. Lots along Reaping Grade are very shallow and currently undevelopable for commercial use. Future development along Highway 74 could result in commercial strip development, given its location and orientation to the highway. There are several disadvantages associated with strip commercial development, such as:

- development of strip commercial along the highway tends to be auto-oriented, which increases vehicle trips and can serve as a disadvantage those who cannot drive automobiles to access needed services;
- there is an inability to create synergistic effects where businesses can benefit themselves and the community through co-location such as customer patronage and increased sales, shared parking and signage, landscaping, managed access, etc.; and,
- strip commercial along the highway detracts from the commercial core that has developed along Main Street, which makes it difficult to maintain a strong community identity that contributes to the community's social fabric and sense of well being.

To prevent strip commercial along Highway and strengthen the city's downtown commercial core, the city may want to further restrict the types of uses allowed in the C-2 zone, if needed, or rezone the land along the highway for more appropriate uses. This approach would support the city's objectives to maintain pedestrian connectivity between residential and commercial areas and reduce vehicle miles for internal trips as well as make the most efficient use of the city's land supply. It also would help maintain a smooth flow of traffic on Highway 74 through the use of well-planned access management.

Residential Land

There are a limited number of vacant and redevelopable parcels within the current city limits. There are also two large, relatively flat parcels on each end (east and west) of town, zoned for residential development, with ready connections to the existing city street network. As noted previously, most recent residential development has occurred in the Emert Addition subdivision, which is located on a hill northeast of the existing city street grid. There is the potential to develop additional housing northeast of this development. Access to lots in the Emert Addition is via a long cul-de-sac from Highway 74 and access to the additional properties to the northeast would likely occur through the existing Emert Drive.

As an alternative to the continued residential development trends of developing along the periphery of the city in areas that are not well served by existing infrastructure and that lack a sense of community and connection with the central core of the city, several approaches could be taken. Possible approaches are discussed below.

To encourage infill and redevelopment opportunities and development of land with ready connections to existing streets and other city services, the following measures could be implemented:

- review existing ordinances to ensure that they do not contain regulations that could inhibit infill and redevelopment of parcels in the city core;
- develop a conceptual access plan for the properties on the east and west ends of the city core; and,
- explore the possibility of implementing financial incentives to develop land that can be served by existing roads or other services at lower cost or disincentives for land that is more costly to serve.

These approaches are consistent with the city's objectives to utilize the most efficient pattern of residential development to maximize the use of existing and planned infrastructure. Developing the flat parcels on either end of town may result in lower costs to build roads and provide water and sewer service than further development of land in the northeastern section of the city that is hilly and farther removed from the rest of town.

If continued development to the northeast of the Emert Addition is desirable by the community, the following measures could be implemented to improve the subdivision's connection to the rest of the city:

- explore opportunities for additional access, possibly from the west end of the subdivision to the existing road west of the development;
- recommend planning guidelines that would limit cul-de-sac length in the future and/or require a plan to provide direct access and services via existing streets and public facilities; and,
- develop a conceptual local street or access plan for the area northeast of the Emert Addition, including direct connections between the two areas.

These measures are consistent with the city's objective to reduce vehicle miles of travel for trips within the city. Continued development in this area is somewhat inconsistent with the objective to utilize the most efficient pattern of residential development, which seeks to maximize the use of existing and planned infrastructure. Development of a local street plan for the remaining undeveloped portion of this area could help encourage a more efficient pattern of development that maximizes the use of the infrastructure built to serve the Addition.

Land Use Recommendations

In light of the opportunities, constraints, and advantages/disadvantages of the alternative manners in which lands could develop in the future, the following recommendations have been developed to help guide future land use planning in Ione. These recommendations reflect both the transportation and land use implications of future development patterns and a desire to maintain the sense of community within Ione that exists today. Appendix "D" contains a zoning map illustrating the land use alternatives.

Commercial Land

As discussed, land zoned for commercial use is concentrated within the city in two areas: along Main Street between "B" Street and Willow Street, including the City Park between "A" Street and Cherry Street; and along Highway 74 between Green Street and "H" Street. The land occupied by the Ione City Park is also currently zoned commercial. As it will not be redeveloped commercially, this area should be rezoned to recreation/open space.

Small cities with limited amounts of land zoned for commercial use in the central part of the city often encounter land use issues involving construction of residential land uses on commercially zoned property. The construction of residential uses in commercial areas potentially could erode the supply of commercial land in the future if not adequately addressed.

The city should take the steps outlined below to address future use of these areas.

- *Rezone the City Park from commercial to open space or recreational use*: Commercial use is not the appropriate zoning designation for this area. To avoid confusion about its long-term use and to portray an accurate inventory of commercially zoned land in Ione, this property should be zoned for recreational/open space use.
- *Address potential use of commercially zoned land adjacent to Highway 74*: A long, narrow strip of land along Highway 74 is zoned for commercial land, with the potential for strip commercial

development in the future. Two factors are expected to limit strip commercial or other intensive development of this land in the short term: topography and the need for access management along the highway. Unless the city or property owners alter the topography of these parcels, drainage conditions are expected to prevent significant development. In addition, access to developable parcels will be limited by the need to maintain acceptable spacing between private driveways and public streets along the highway. The city could address this situation by either taking this land out of commercial land supply and finding other more appropriate areas for downtown commercial development in the near future or retain this area as commercial land until such time land constraints presented by the ditch are corrected.

- *Amend the City's zoning ordinance to restrict residential uses in commercial zones*: Sections 3.40 and 3.42 of the zoning ordinances should be amended as needed to restrict further development of housing in commercially zoned areas. This will further protect commercially zoned land for future commercial development.

Residential Land

Future residential lands should be developed in a manner that is consistent with the following objectives:

- enhance the sense of community within the city;
- reduce the cost of future public infrastructure; and,
- provide easy and convenient pedestrian, bicycle, and vehicular access both within the subdivision and to areas in the remainder of the city.

To achieve these objectives and to encourage infill and redevelopment in the city, the measures outlined below should be implemented.

- Provide copies of the city's inventory of vacant and redevelopable properties to individuals interested in building or developing land in Ione. The city should work with the County GIS Coordinator to translate existing information developed by the city onto a map of vacant and other buildable land within the city limits and urban growth boundary.
- Amend the city's zoning ordinance to allow for flag lot development. Proposed ordinance language is included in Section 7.
- Encourage future residential development to locate on the properties on the east and west ends of the city core. Development of these parcels should be conditioned on connecting to existing city streets (Main, 2nd and 3rd streets), continuing Ione's grid street system. Proposed ordinance language is included in Section 7.

To achieve the objectives outlined above and to improve access to the Emert Addition and lands to the northeast, the measures outlined below should be implemented.

- Develop additional access, at a minimum for pedestrians and preferably also for bicycles and motor vehicles, from the Emert Addition to Ella Road.
- Amend the city's subdivision regulations to limit cul-de-sac length. Proposed ordinance language is included in Section 7.
- If additional development is expected to occur northeast of the subdivision, work with property owners in the Emert Addition to provide easements for right-of-way for direct connections to potential future development in this area. Proposed ordinance language to address this issue for future developments is included in Section 7.

- Develop plans for or require a connection from future development northeast of the Emert Addition to Ella Road.

Ultimately, regardless of the land-use pattern that the community chooses to pursue, there are several transportation improvements that will also be necessary. The remainder of this section provides improvement alternatives that could be implemented to mitigate existing and anticipated transportation system deficiencies.

IMPROVEMENT ALTERNATIVES EVALUATION

The following discussion presents specific improvement alternatives that were considered for inclusion as part of the recommended City of Ione Transportation System Plan. For reference purposes, each alternative has been identified by number, with the relative location of each improvement identified in Figure 11.

It should be noted that the order in which the alternatives are presented is not intended to convey the relative rank or significance of the respective projects. Further, the identified improvement alternatives were evaluated based on construction costs and ability to meet identified transportation needs. Other factors, including potential environmental impacts, were not specifically considered. Some environmental impacts that could occur have the potential to increase costs or require project modifications. The required modifications or increased costs could be significant enough to make the project impractical. All cost estimates were based on industry unit costs and do not reflect utility relocation, environmental constraints, property acquisition or inflationary increases in cost over the planning horizon of this document.

Funding resources available to the City of Ione and ODOT are limited. It is expected that, for the foreseeable future, those funding sources that are available will predominantly be applied to maintenance and preservation of the existing transportation system. In light of the constrained funding situation, it should be recognized that implementation of some of the improvement alternatives presented in this section may not be practical within the 20-year planning horizon.

OPERATIONAL ISSUES AND IMPROVEMENT ALTERNATIVES

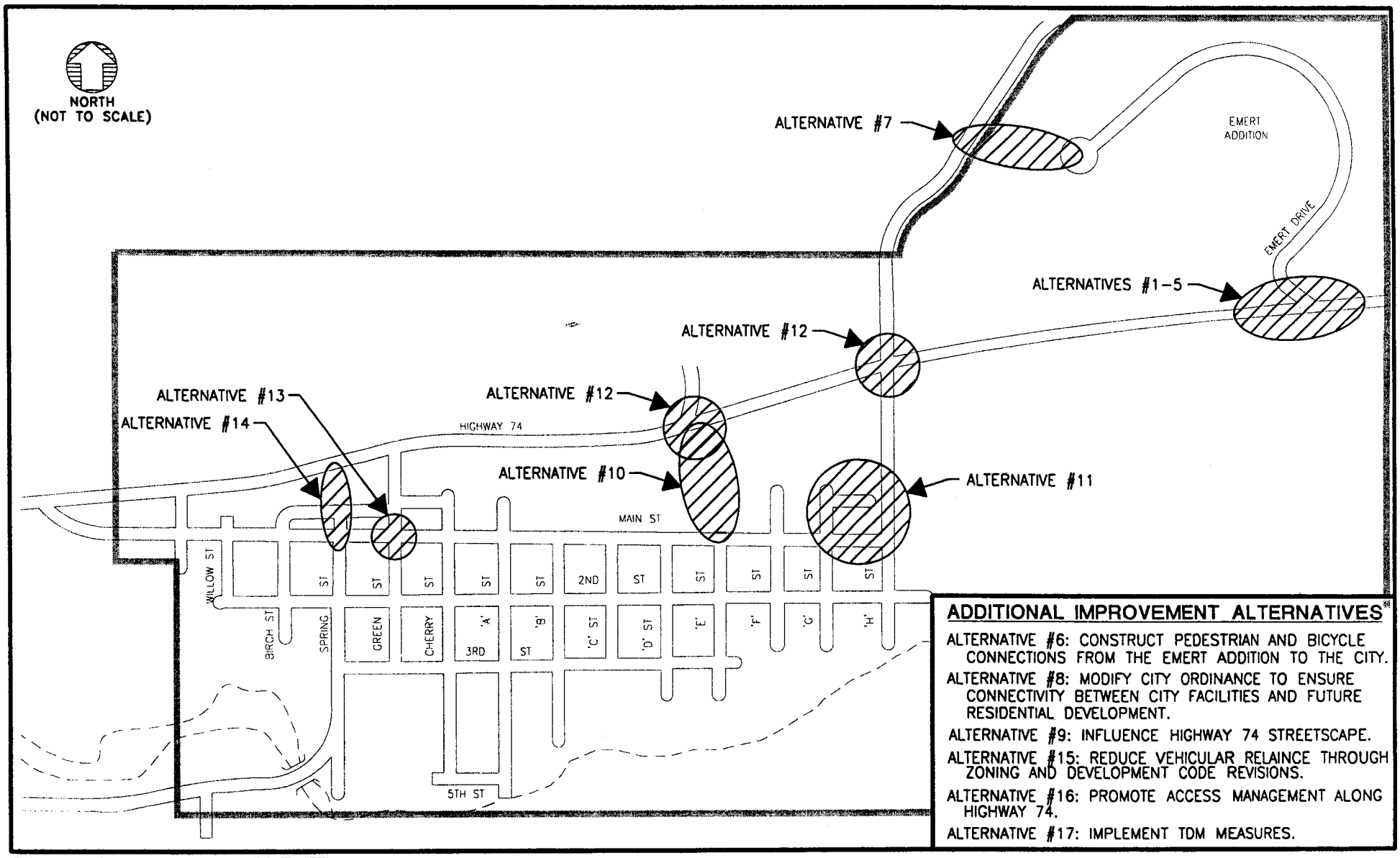
The need for mitigation of existing and future roadway/intersection operations in the City of Ione is relatively limited in scope. The long-term future forecast conditions did not identify any specific capacity-related roadway or intersection deficiencies. Although no capacity improvement needs were identified, the community did identify four areas of concern as discussed below.

INCORPORATION OF THE NEW EMERT ADDITION

As discussed in the **Existing Conditions** section, one issue that was identified by community members as being of particular concern was access to, and connectivity within the new Emert Addition. There are several potential improvement concepts that could be implemented to enhance the operations and safety of the existing Highway 74/Emert Drive intersection. These concepts are discussed below.

Improvement Alternative #1 - Maintain Grass and Shrubbery Near Emert Drive

Maintain roadside grass and shrubbery to maximize available intersection sight distance. The cost to perform this maintenance would be minimal if completed by property owners within the subdivision.



ADDITIONAL IMPROVEMENT ALTERNATIVES

ALTERNATIVE #6: CONSTRUCT PEDESTRIAN AND BICYCLE CONNECTIONS FROM THE EMERT ADDITION TO THE CITY.

ALTERNATIVE #8: MODIFY CITY ORDINANCE TO ENSURE CONNECTIVITY BETWEEN CITY FACILITIES AND FUTURE RESIDENTIAL DEVELOPMENT.

ALTERNATIVE #9: INFLUENCE HIGHWAY 74 STREETSCAPE.

ALTERNATIVE #15: REDUCE VEHICULAR RELAINCE THROUGH ZONING AND DEVELOPMENT CODE REVISIONS.

ALTERNATIVE #16: PROMOTE ACCESS MANAGEMENT ALONG HIGHWAY 74.

ALTERNATIVE #17: IMPLEMENT TDM MEASURES.

LEGEND

CITY LIMITS

CREEK

IMPROVEMENT ALTERNATIVES

CITY OF IONE, OREGON
TRANSPORTATION SYSTEM PLAN
JUNE 1999

FIGURE 11

2899\DWGS\IONE\TSP\2899I011.DWG

Improvement Alternative #2 - Evaluate and Install Signing on Highway 74 Near Emert Drive

Install appropriate signing alerting drivers on Highway 74 to the subdivision access road, Emert Drive. This signing could include a "bus stop ahead" sign to alert drivers to the local school bus which serves the subdivision. Estimated cost to install the signing is $800.

Improvement Alternative #3 - Reconstruct Highway 74 in the Vicinity of the Highway 74/Emert Drive intersection

Reconstruct Highway 74 in the vicinity of the Highway 74/Emert Drive intersection to increase available sight distance. The estimated cost to reduce or remove the existing vertical curve and rebuild the Highway 74/Emert Drive intersection is $145,000.

Improvement Alternative #4 - Construct a Westbound Right-turn Lane at the Highway 74/Emert Drive Intersection

Construct a westbound right-turn lane on Highway 74 (including adequate storage space) to facilitate westbound turns into Emert Drive. The estimated cost to provide a right-turn lane and adequate deceleration distance is $75,000.

Improvement Alternative #5 - Construct an Eastbound Left-turn Lane at the Highway 74/Emert Drive Intersection

Construct an eastbound left-turn lane on Highway 74 at the Highway 74/Emert Drive intersection to facilitate eastbound turns into Emert Drive. The estimated cost to provide a left-turn lane and adequate storage (without overlaying the adjacent highway surface) is $170,000.

Improvement Alternative #6 - Construct Pedestrian and Bicycle Connections from the Emert Addition to the City

Construct pedestrian and bicycle amenities linking the Emert Addition subdivision with the remainder of the city. Additional discussion of pedestrian and bicycle links between the city and the subdivision will be presented later in this memorandum.

Improvement Alternative #7 - Provide a Roadway Link Between Emert Drive and Ella Road

Access within Emert Addition is provided by a long cul-de-sac that is not linked to the city's existing transportation system, except via the state highway on the edge of the urban growth boundary. Provision of a future connection to Ella Road would be desirable from a system connectivity perspective as well as for enhanced provision of emergency services.

No cost estimate is provided for this improvement. It is expected that the desired roadway connection would be developed in conjunction with future expansion within the Emert Addition and would be privately financed by property owners within the subdivision.

Improvement Alternative #8 - Modify City Ordinance to Ensure Connectivity Between City Facilities and Future Residential Developments

From a more global policy perspective, as new subdivisions are constructed within the City of Ione in the future, better consideration should be given to the placement and availability of pedestrian, bicycle, and vehicular access both within the subdivision and the linkages to the remainder of the city. City ordinances should be reviewed and modified as appropriate to encourage connectivity and to limit the lengths and use of cul-de-sacs. Suggested ordinance modifications are discussed in Section 7.

Emert Addition Recommendations

Recognizing that construction of one or more of the identified roadway improvement alternatives is unlikely to occur in the immediate future, the comparatively low-cost Alternative #1 and #2 measures are

recommended for near-term implementation as an interim mitigation to address access and connectivity issues associated with the subdivision. In addition, as indicated by Alternative #8, the city should review and modify its comprehensive plan to ensure that future developments provide for reasonable connectivity with the remainder of the city.

In the mid-term future, Alternatives #4, #5, and #6 should be implemented. At the time funding becomes available, Alternative #3 should be implemented and the improvement project should provide for right- and left-turn lanes on the highway if they have not yet been provided. In conjunction with future development, a roadway connection to Ella Road should also be provided.

It should be noted that the addition to or modification of Highway 74's cross section, as well as potential signing changes, would require the approval of the State Traffic Engineer. Identification and documentation of the need for such changes in the city's TSP does not guarantee the provision or modification will occur.

POSTED SPEED LIMIT ON HIGHWAY 74

Community input identified operating speeds on Highway 74 through the city as an issue of concern. The current posted speed limit of 45 miles per hour on the highway was established by ODOT and reflects the 85th percentile speed. Posting speed limits based on the 85th percentile recognizes that drivers will travel at a speed that they are comfortable with regardless of the posted speed limit.

Improvement Alternative #9 – Influence Highway 74 Streetscape

Given that changing the posted speed limit will not influence driver behavior, it is necessary to influence the driving environment to effect driver's speeds. Wide travel lanes and open shoulders convey a sense of security that encourages higher speeds. Specific changes to the roadway such as narrowing the travel lanes and condensing the road environment (through construction of curbs, lane restriping, other amenities such as planter strips, street trees, etc.) may contribute to reduced travel speeds on the highway. Once changes have been made to the roadway environment that effect drivers' perceptions, speeds will likely drop. Following these modifications, ODOT could conduct a speed study, determine the new 85th percentile speed, and evaluate the need to change the posted speed limit.

Highway 74 Recommendations

Through new roadway and land-use standards, future development activities and roadway improvements along Highway 74 should be focused to influence the streetscape of Highway 74. By modifying the streetscape of Highway 74, driver's perceptions can be influenced and travel speeds may be reduced. Section 5, **Transportation System Plan**, presents recommended roadway cross-section standards that will assist in fostering a more constrained perception of the Highway 74 travel environment.

TRUCK CIRCULATION ROUTES

Truck traffic has long been associated with the local agricultural harvest activities that occur in and around the City of Ione. While truck activity does contribute to the wear on city roadway facilities, the elevators and associated agricultural interests are a vital component of the local economy and there was no interest expressed in relocating the elevators. Accordingly, the goal of the community should be to redirect truck traffic from key community corridors while still providing reasonable direct access to local delivery points.

Improvement Alternative #10 - Extend "E" Street to Highway 74

Given the expectation that the elevators will not be relocated, one potential option for reducing the impact of truck traffic on Main Street and "H" Street would be the extension of "E" Street to Highway 74. This extension could be constructed specifically to support the additional weight and wide turning radii associated with truck traffic. From an access spacing viewpoint, extending "E" Street to Highway 74 is reasonable as an additional public street connection to the highway.

By creating a direct dedicated link between the elevators and the highway, most of the burden created by the truck traffic could be shifted off Main and "H" Streets. Rerouting truck traffic to an "E" Street extension would benefit both the community and the truck traffic itself. Trucks would be able to access the elevators more efficiently, the trucks would not need to travel through the downtown area of the city, and as a result, there would be a greater separation between truck traffic, local cars, and non-vehicular traffic. One impediment to implementing this improvement alternative the steep topography of the Reaping Grade ditch. The estimated cost to complete this improvement, assuming that a crossing of the ditch is necessary, is $245,000.

Improvement Alternative #11 - Improve Access Between "H" Street and the Morrow County Grain Growers' Elevator complex

Another alternative to improve access to the grain elevators and thereby enhance truck circulation would be to develop additional on-site circulation at the elevator site that allows truck traffic to enter and exit the site via expanded access to "H" street. Appropriate signing and/or access control could then be implemented along Main Street to encourage the use of "H" Street to access the elevators. No formal development alternatives or costing analysis was prepared for this improvement option.

Improvement Alternative #12 – Highway 74 Left-Turn Lanes

As improvements are considered to facilitate truck access to the elevators, consideration should also be given to developing westbound left-turn lanes on Highway 74 that would serve traffic entering either "H" Street or an extension of "E" Street. The left-turn lanes would provide a refuge for westbound left-turn traffic and would also serve to better separate turning traffic from through traffic. In this manner, highway speed differentials (between truck traffic turning left off the highway and through traffic) could be more safely accommodated. The cost to install a westbound left-turn lane at the "H" Street/Highway 74 intersection is estimated to be $150,000.

Truck Circulation Recommendation

In the short-term, the city should implement specific truck routes through town, as discussed in Alternative #11. As properties develop in the vicinity of "E" and "H" Streets and the issues associated with Reaping Grade are addressed, "E" Street should be extended to the highway. The extension of "E" Street will provide for a local truck circulation route and would likely be completed in conjunction with some form of improvement project at the elevator complex. Accordingly, the scope of such a project would be most adequately addressed by a collaborative effort involving the Morrow County Grain Growers and the city.

In addition, a westbound left-turn lane on the highway at "H" Street should be installed in the mid- to long-term future, most likely in conjunction with ODOT improvement projects along the highway. If the "E" Street extension is constructed, a westbound left-turn lane at "E" Street should also be provided in conjunction with the project.

SIGHT DISTANCE AT THE GREEN STREET/MAIN STREET INTERSECTION

Sight distance concerns were raised by community members with respect to the Green Street/Main Street intersection. Based on conversations with TAC members and a site visit, the sight distance limitations were attributed to building locations and the presence of on-street parking.

Improvement Alternative #13 - Restrict Parking at the Green Street/Main Street Intersection

To avoid sight distance obstructions at the Green Street/Main Street intersection, it is recommended that no on-street parking be permitted within 20 feet of the edge of the intersection. Implementation of this alternative would involve the minimal cost required to appropriately sign and stripe the parking restriction.

Green Street/Main Street Recommendation

Alternative #13 should be implemented in the near-term future.

TRAFFIC VOLUMES ADJACENT TO THE SCHOOL/CONTINUITY OF SPRING STREET

Improvement Alternative #14 – Extend Spring Street North to Highway 74 and Vacate the Green Street Connection to Highway 74

Currently, Spring Street terminates north of Main Street, and Green Street provides the nearest access to Highway 74. Because Spring Street does not connect to the highway, many travelers at the southwest end of town turn from Spring Street onto Third Street in the vicinity of the school to access Green Street. This additional traffic in front of the school is undesirable from a pedestrian/vehicle interaction perspective.

To enhance north-south connectivity and refocus traffic away from the school, Spring Street could be extended north to intersect with Highway 74. This connection would provide direct north-south access from the south side of the city north to Highway 74. In conjunction with the extension of Spring Street, the Green Street connection to Highway 74 could be vacated.

From a land use perspective, the vacation of Green Street would permit the city to enlarge the community park along the south side of Highway 74. In order to complete this project, the Spring Street approach to Highway 74 would require significant geometric improvements to address the existing grade difference between the two roadways. Care would also be required to ensure that adequate sight distance is available at the newly constructed Spring Street/Highway 74 intersection. The impact to business and private property owners along Green Street would also need to be evaluated. The overall benefit to the system associated with this project is limited given the low traffic volumes using Green and Spring Streets.

Given the constraints associated with this alternative, no formal costing analysis was prepared for this improvement option.

Spring Street Recommendation

This improvement alternative is not recommended for implementation due to the high projected cost associated with the necessary grading improvements and the lack of compelling operational issues that would require vacation of Green Street in favor of Spring Street. Concerns regarding traffic adjacent to the school building should be addressed through public education about adherence to school zones, pedestrian, bicycle, streetscape improvements, and/or other traffic calming improvements.

REDUCED RELIANCE ON THE AUTOMOBILE

Alternative #15 – Reduce Vehicular Reliance Through Zoning and Development Code Revisions

In part, Oregon's Transportation Planning Rule seeks to reduce the reliance on personal vehicles as a mode of travel through the creation of environments that foster alternative modes of transportation. Local land uses can have a significant impact on the form of transportation necessary to travel from one location to another. Specifically, by carefully structuring local zoning and development codes, development activities can be focused such that a more self-contained community can be achieved. Construction of mixed-use developments, the location of commercial and service businesses in the vicinity of residential land uses, and the provision of employment opportunities near residential areas are all means by which the need for travel by personal automobile can be reduced.

In relatively rural areas such as Ione, the need to travel long distances to employment, commercial, and service opportunities fosters a travel environment dependent on personal automobiles. This is an issue for Ione residents, many of who work in other communities such as Heppner and Boardman that are located 20 to 40 miles away. The recent closing of the Kinzua Mill between Lexington and Heppner may exacerbate this problem as residents who formerly were employed at the mill likely will have to drive even further to new jobs. Recent residential development also has contributed to reliance on the automobile. Much of the recent development in the city has occurred in the Emert Addition located on a hill in a recently annexed area northeast of the rest of the community. Access to all homes in the subdivision is via a long cul-de-sac (Emert Drive) connecting to Highway 74.

Currently there is no additional direct pedestrian and bicycle access from the west end of the subdivision (the end of the cul-de-sac closest to the rest of town). Development of vacant parcels within the central part of Ione or future development of large parcels on either end of the community with direct connections to the city's street grid system would reduce reliance on the automobile for short trips to local community commercial establishments and other uses.

Recommendation

Implementation of the land use recommendations identified in this TSP should be encouraged through appropriate zoning and development code revisions.

ACCESS MANAGEMENT

Alternative #16 – Promote Access Management Along Highway 74

The Oregon Department of Transportation has established access spacing standards for Highway 74. These standards, which are presented in detail in Section 5, are intended to ensure the long-term safety and efficiency of the Highway 74 corridor. Implementation of the standards as they relate to local development activities will be essential to ensure the long-term viability of the Highway 74 corridor.

The future conditions analysis, as presented in this document, assumes that current public roadway spacing along Highway 74 will be maintained into the long-term future. As long as the current public road access spacing standards along Highway 74 are maintained and new private access points are allowed in accordance with the access spacing standards presented in Section 5, it is expected that the forecast future traffic conditions will be reflective of long-term operations along the Highway 74 corridor. Conversely, if multiple additional access points are granted along Highway 74, it can be expected that additional incremental delay will be added to the highway's operations.

Access Management Recommendation

Access Management should be implemented in the immediate future. No specific construction need is evident to implement this improvement as it simply promotes compliance with existing roadway policy. No immediate land use actions would be required either. Instead, as property along Highway 74 is developed or redeveloped, appropriate action should be taken by local and state agencies to ensure that the relevant access spacing standards are reasonably enforced. Section 5, **Transportation System Plan** includes a full access management plan and corresponding implementation strategy complete with typical spacing standards, driveway widths, etc.

TRANSPORTATION DEMAND MANAGEMENT

Alternative #17 – Implement Transportation Demand Management Measures

Transportation Demand Management (TDM) measures identify opportunities to reduce the impact of trips generated by various land uses. Specifically, TDM techniques typically seek to reduce reliance on single-occupant vehicle trips and promote the use of alternative travel modes by persons accessing a given area or facility. The Transportation Planning Rule encourages the evaluation of TDM measures as part of the TSP development process.

TDM strategies often focus on major employers or other sources of traffic that can be influenced through scheduling changes, alternative transit opportunities such as carpools and buses, and other means. Oftentimes, financial disincentives are included in programs as a revenue generator to support other elements of an overall program. The success of commonly used disincentives is dependent on the environment in which a given employer is located.

Given the rural nature of Eastern Oregon and the City of Ione, the TDM measures available to the city are limited in scope as compared to larger metropolitan areas. One of the most promising options available to the city is the provision of a carpool or vanpool service for people who live in Ione and work in neighboring communities. Coordination of a vanpool and/or carpool(s) to the major employers in the area could help to reduce the number of single occupant vehicle commute trips from Ione and help the community to achieve transportation demand management objectives. The city could also promote carpooling to out-of-town employers through education.

Provision of a park-and-ride facility at a key location within the community is another means by which the use of non-auto dependent travel can be encouraged.

The cost of implementing a TDM program is dependent on the type and variety of measures selected. Facilitation of carpools, vanpools, or a park-and-ride facility could be completed through a volunteer network and/or coordination with major employers at minimal cost.

Recommendation

It is recommended that the City of Ione focus TDM efforts on supporting carpools and/or vanpools to major employers through education, coordination with employers, and provision of appropriate facilities such as park-and-ride areas.

SUMMARY

This section has presented the alternatives that have been developed and evaluated to address the near-term and long-range transportation deficiencies and to encourage infill/redevelopment within the City of Ione urban growth boundary. Table 6 summarizes the potential improvement alternatives and recommendations as to their implementation.

TABLE 6
SUMMARY OF IMPROVEMENT ALTERNATIVE RECOMMENDATIONS

Alternative Number	Improvement Description	Estimated Cost*	Implementation Timeline	Responsible Jurisdiction
#1	Maintain grass and shrubbery near Emert Drive	Minimal	Near-term future	Private/City
#2	Evaluate and install signing on Highway 74 near Emert Drive	$800	Near-term future	City/ODOT
#3	Reconstruct Highway 74 in the vicinity of the Highway 74/Emert Drive intersection	$145,000	Long-term future	Private/City
#4	Construct a westbound right-turn lane at the Highway 74/Emert Drive intersection	$75,000	Mid-to long-term future	Private/City
#5	Construct an eastbound left-turn lane at the Highway 74/Emert Drive intersection	$170,000	Mid-to long-term future	Private/City
#6	Construct pedestrian and bicycle connections from the Emert Addition to the city	$230,000 (See Section 5)	Near- to mid-term future	Private/City
#7	Provide a roadway link between Emert Drive and Ella Road	Not evaluated	Concurrent with future development	Private
#8	Modify city ordinance to ensure connectivity between city facilities and future residential developments	Administrative	Near-term future	City
#9	Influence the Highway 74 streetscape	Administrative	Mid-to long-term future	City
#10	Extend "E" Street to Highway 74	$245,000	Mid-to long-term future	City/Private
#11	Improve access between "H" Street and the Morrow County Grain Growers' Elevator complex	Not evaluated	Mid-to long-term future	Private/City
#12	Provide westbound left-turn lanes on Highway 74 at "H" Street and, if Alternative #11 is implemented, at "E" Street.	$150,000 each	Mid-to long-term future	City/ODOT
#13	Restrict Parking at the Green Street/Main Street intersection	Minimal	Near-term future	City
#14	Extend Spring Street to Highway 74/Vacate Green Street connection to Highway 74	Not evaluated	Not Recommended	—
#15	Reduce Vehicular Reliance Through Zoning and Development Code Revisions	Administrative	As appropriate	City
#16	Promote access management along Highway 74	Administrative	Near-term future	City/ODOT
#17	Implement Transportation Demand Management Measures	Administrative	As appropriate	City

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

Section 5, which follows, incorporates the recommended improvements into the city's transportation system.

Section 5

Transportation System Plan

Transportation System Plan

INTRODUCTION

This section describes the individual elements of the City of Ione Transportation System Plan. The preferred alternative presented in this TSP consists of those transportation improvements necessary to support the City of Ione's Comprehensive Land Use Plan. The TSP addresses several components for development of the future transportation network including:

- Preferred Land Use Plan
- Roadway System Plan
- Pedestrian System Plan
- Bicycle System Plan
- Public Transportation System Plan
- Marine System Plan
- Air/Water/Pipeline System Plan
- Access Management Plan
- Implementation Plan

The individual plans and policies presented in this section were developed specifically to address the requirements of Oregon's Transportation Planning Rule. Projects associated with each plan element have been identified and costs have been estimated as described herein. The recommendations set forth by this plan reflect the findings of the existing and forecast future conditions analyses, the alternatives analysis, and the concerns expressed by both the citizens of Ione and the public agencies that serve them.

PREFERRED LAND USE PLAN

Desirable Elements of the Preferred Alternative

The following are considered beneficial elements that should be explored as part of future land use planning and design efforts, preferably through amendments to the comprehensive plan, implementing ordinances and local street network:

- rezone the City Park from commercial to open space or recreational use;
- address potential use of commercially zoned land adjacent to Highway 74;
- amend the city's zoning ordinance to restrict residential uses in commercial zones;
- provide copies of the city's inventory of vacant and redevelopable properties to individuals interested in building or developing land in Ione;
- amend the city's zoning ordinance to allow for flag lot development;
- encourage future residential development to locate on the properties on the east and west ends of the city core;
- develop additional access, at a minimum for pedestrians and preferably also for bicycles and motor vehicles, from the Emert Addition to Ella Road;

- amend the city's subdivision regulations to limit cul-de-sac length;
- work with property owners in the Emert Addition to provide easements for right-of-way for direct connections to potential future development in this area; and,
- develop plans for or require a connection from future development northeast of the Emert Addition to Ella Road.

ROADWAY SYSTEM PLAN

Based on the identified existing and anticipated operational and circulation needs, the roadway system plan was developed. The city's roadway system plan provides guidance as to how to best facilitate travel within the city by addressing two key issues:

- a roadway functional classification system and corresponding roadway design standards, and
- roadway connectivity, including new and improved streets to meet future capacity, circulation, and safety needs.

Functional Classification

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation. A given roadway's functional classification determines its intended purpose, the amount and character of traffic that it is expected to carry, commitment to serve and promote non-auto travel, and its design standards.

The classification of a given street is intended to convey the requirements, capabilities, and capacity of each respective roadway while recognizing that roadway's contribution to the overall transportation system. It is imperative that the classification of streets is considered in relation to adjacent properties, the land uses that they serve, and the modes of transportation that can be accommodated. Further, each roadway must be appropriately designed so as to accommodate vehicles local to the roadway (i.e., passenger cars, heavy trucks, pedestrians, and bicycles). The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

The functional classification plan for the City of Ione incorporates three functional categories: arterials, collectors, and local streets.

Arterials

In small communities, arterials are roadways that are primarily intended to serve traffic entering and leaving the urban area. Arterials tend to carry significant intraurban travel between downtown areas and outlying residential areas. While arterials may provide access to adjacent land, that function is subordinate to the travel service provided to major traffic movements. Arterials are the longest distance, highest volume roadways within the urban growth boundary. Although focused on serving longer distance trips, pedestrian and/or bicycle activities often are associated with the arterial streetscape.

Collectors

Collector facilities link arterials with the local street system. As implied by their name, collectors are intended to collect traffic from local streets (and sometimes from direct land access) and channel it to arterial facilities. Collector facilities tend to carry lower traffic volumes at slower speeds than arterials. On-street parking is more prevalent and pedestrian amenities are typically provided. On collectors, bicycle facilities may be exclusive lanes or shared roadways.

For the purposes of TPR compliance, all collector facilities in this TSP are considered to be Minor Collectors. (The TPR requires that sidewalks and bike lanes be provided on all Major Collectors within a given Urban Growth Boundary).

Local Streets

Local streets are primarily intended to provide access to abutting land uses. Local street facilities offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic should be discouraged. On-street parking is common and sidewalks are typically present.

Using the roadway designations described, all current and future streets within the city have been designated in the functional classification plan presented in Figure 12. The roadway designations are summarized below.

Arterial

Highway 74

Minor Collector

- Main Street
- Spring Street (from Main Street south)
- Green Street (Highway 74 to Main Street)
- "H" Street
- "E" Street (north of Main)

Local Streets

The remaining roads in the city would be designated as local streets.

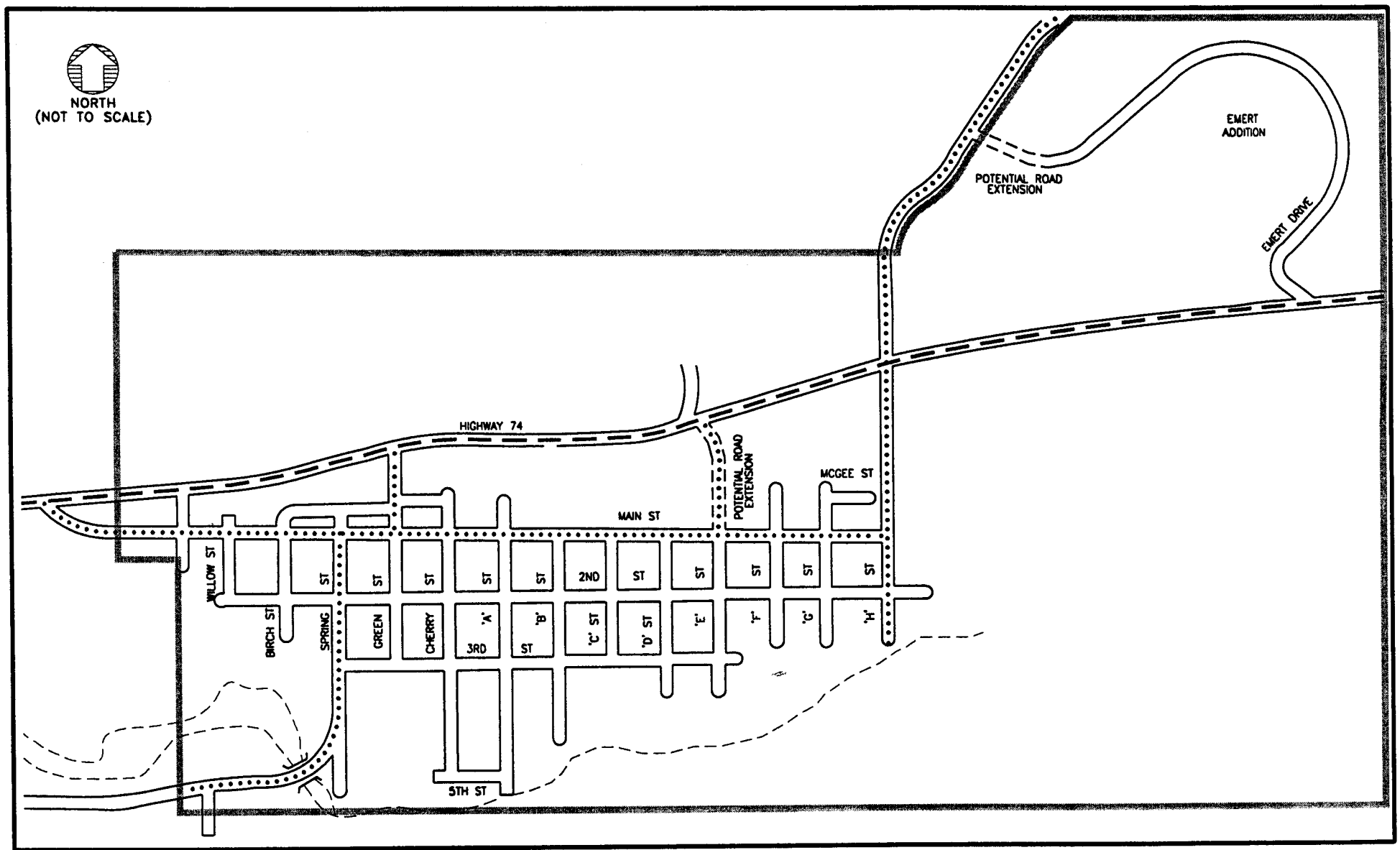
It should be stressed that the location of the potential roadway extensions as shown in Figure 12 is approximate and that the actual roadway alignment will need to be determined based on identified constraints and specific development plans for individual areas.

STREET DESIGN STANDARDS

Street design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. The standards are also established to provide appropriate separation between travel lanes and pedestrian and bicycle facilities. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands.

Figure 13 presents the typical cross sections for the various roadways identified in the functional classification system. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, and optional amenities such as landscape strips.

The cross sections illustrated in Figure 13 reflect the desire to develop multi-modal roadway facilities within the City of Ione in the future incorporating sidewalks where appropriate. The identified cross sections are intended for planning and design purposes for new road construction as well as for those locations where it is physically and economically feasible to improve existing streets.



LEGEND

- ARTERIAL
- MINOR COLLECTOR
- LOCAL STREET
- CITY LIMITS
- CREEK

NOTE: FUTURE ROADWAY ALIGNMENTS ARE CONCEPTUAL. FURTHER ENGINEERING IS REQUIRED TO DETERMINE FEASIBLE ALIGNMENT ALTERNATIVES.

ROADWAY NETWORK AND FUNCTIONAL CLASSIFICATION SYSTEM PLAN

CITY OF IONE, OREGON TRANSPORTATION SYSTEM SYSTEM JUNE 1999	FIGURE 12

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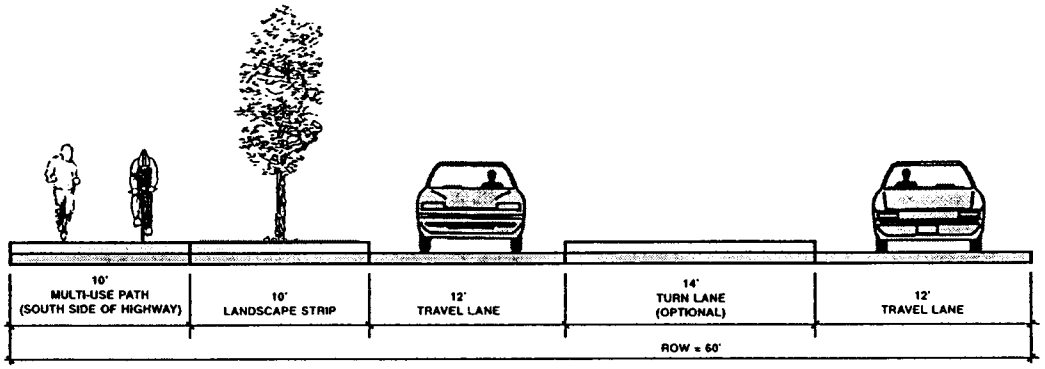
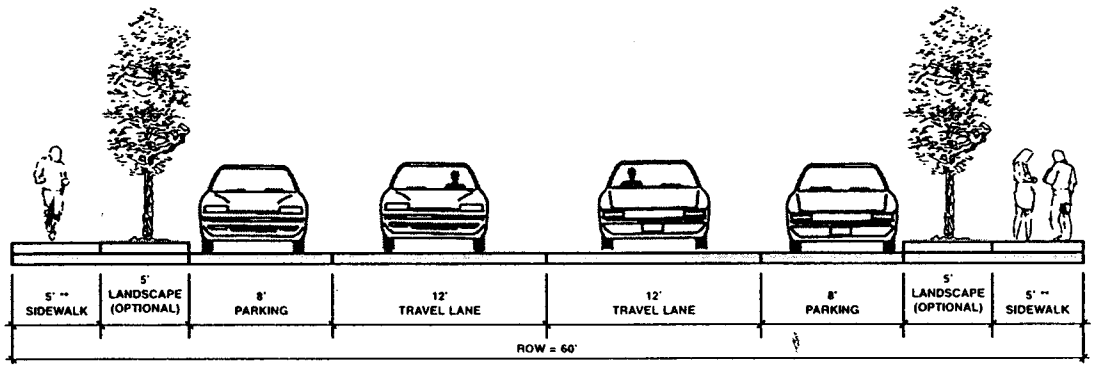
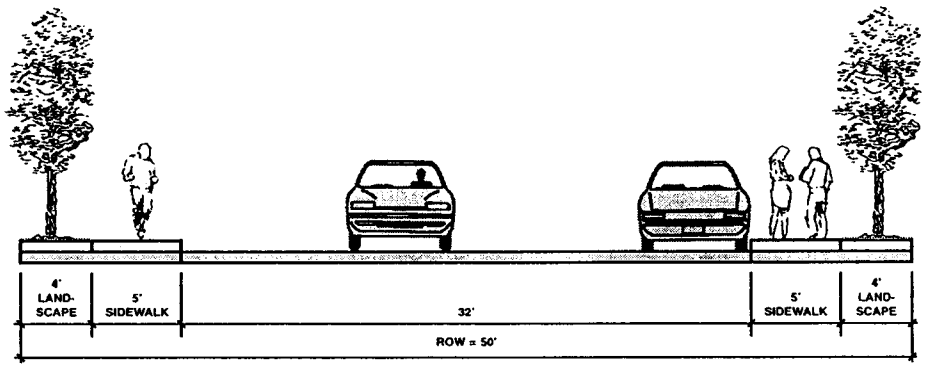


ARTERIAL STREET



MINOR COLLECTOR STREET*



LOCAL STREET*

***Note:** Sidewalks, landscape strip, and/or bikelanes can be substituted with 10' landscape strip and 10' multiuse path one side of road per pedestrian and bicycle plan.

****Note:** Optional 8' to 10' sidewalk with tree wells can be substituted for landscape strip in commercial areas along Main Street.

NOTE: ROW = RIGHT OF WAY

STREET CROSS-SECTIONS

TRANSPORTATION SYSTEM PLAN CITY OF IONE, OREGON JUNE 1999	FIGURE *13*

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The typical cross sections present standards for roadways that allow for flexibility in defining the actual roadway width through optional features such as planter strips, and on-street parking. The use of on-street parking and planter strips would be subject to the discretion of the City of Ione which would determine whether such amenities are required on a given street (in the case of Highway 74, appropriate representatives from ODOT would have ultimate authority over the roadway design).

Table 7 summarizes the street design standards for the different roadway classifications.

TABLE 7
STREET DESIGN STANDARDS

Classification	Cross Section	Right-of-Way	Turn Lanes?	Travel Lanes	Bike Lane?	Sidewalks?	On-Street Parking?	Landscape Strip?
Arterial	2 lanes	60 feet	Optional	12 foot	Multi-use path	Multi-use path	No	Yes
Minor Collector	2 lanes	60 feet	No	12 foot	No	Yes	Optional	Optional
Local Street	2 lanes	50 feet	No	Not striped (32' paved width)	No	Yes	Optional	Optional

[1] Minimum width = 12 feet

As indicated in Table 7, an arterial such as Highway 74 will have a right-of-way requirement of 60 feet and will include two 12-foot wide travel lanes. In addition, optional left-turn lanes may be provided at key locations. The arterial cross-section also incorporates a multi-use path as will be explained further within the Pedestrian and Bicycle System Plan. The 10-foot wide multi-use path will be separated from the highway by a 10-foot wide landscape strip. No on-street parking will be permitted. In reviewing these standards, it should be noted that ODOT would have the ultimate authority as to which improvements are implemented along Highway 74.

Minor collector streets will have a right-of-way requirement of 60 feet and a required cross-section consisting of two 12-foot wide travel lanes and five-foot wide sidewalks. As shown in Figure 13, optional landscape strips and/or on-street parking may also be required at the discretion of the city. Further, the cross section of Main Street (classified as a minor collector) may be altered in the downtown commercial area to permit the use of an eight- to ten-foot wide sidewalk with tree wells in lieu of a five-foot sidewalk and five-foot landscape strip.

Local streets will have a right-of-way requirement of 50 feet, a 32-foot wide paved cross section, and five-foot wide sidewalks. On-street parking may be required at the discretion of the city.

Requirement of adjacent landscape strips will be made at the discretion of the city. The landscaping strips are recommended to be located between the street and sidewalk on arterial and collector facilities to provide a buffer between cars and pedestrians. Locating the landscaping strip between the street and sidewalk allows for areas with no obstructions or impediments that would prevent or discourage pedestrian movements. Further, the landscape strips can be used for the location of street signs, power poles, utility easements, etc. to provide an unimpeded area for pedestrian movements.

For maintenance purposes, it is considered desirable to place landscape strips on local streets next to the adjacent property line rather than between the roadway and the sidewalks. The adjacent resident maintains the landscaping as part of their property (e.g., lawns, etc.). Further, city requirements revealed that a minimal amount of impeding projects will occur on local streets.

Through the flexible requirements provided in Table 7, the City of Ione will have an ability to reduce impervious surface and provide site-specific standards for roadway improvement projects that reflect local

conditions. The optional availability of streetscape treatments such as landscape strips and on-street parking may be valuable to the city in the future as an instrument by which the character of roadways can be influenced. For example, narrow collector streets may be desirable in some neighborhood areas for use as a deterrent to through or speeding traffic on local streets. It should be noted that ODOT would have the ultimate authority as to which improvements are made along Highway 74.

Relation to Development Activities

At the time development activities are proposed, the City of Ione, when appropriate, will require half-street improvements as part of a given project's conditions of approval. The conditions of approval should require that roadways adjacent to development activities be constructed to comply with the street standards presented in this TSP. Section 7, **Policies and Land Use Ordinance Modifications**, provides sample development review guidelines that are recommended for adoption by the city.

Relation to County Facilities

The Morrow County Transportation System Plan (Reference 3) identified roadway standards for county facilities. The county's right-of-way requirement for Rural Access Roadways is 60 feet; as opposed to the 50 foot requirement identified for local roads in this TSP. Although the county's Rural Access Roadways may be applicable to some roadways within the City of Ione Urban Growth Area, the roadway standards contained in the City of Ione TSP do not conflict with the county's standards. The county's Rural Access Roadway standards are intended for roads that do not exhibit substantial traffic volumes now but may be expected to expand in the future, hence the additional right-of-way requirement. It is likely that the county roads will become collectors when incorporated into city limits.

By comparison, the 50 foot right-of-way required on city streets designated as being local roads reflects the expectation that these roadways will not require additional widening in the long-term future (50 feet is for local neighborhood streets with urban densities). The city's collector designation would be an appropriate counterpart to the county's Rural Access Roadway designation.

Parking Restrictions

To ensure adequate intersection sight distance, curbside parking should be prohibited within 20 feet of the edge of a given intersection.

Access spacing standards for the respective roadway classifications are presented later within this section.

ROADWAY IMPROVEMENT PROGRAM

Transportation infrastructure improvements that are necessary within the City of Ione UGB over the next 20 years to meet both short- and long-term needs are listed below in Table 8. The projects are listed in priority order and have been divided into three time periods; 0 to 5 years, 5 to 10 years, and 10 to 20 years.

TABLE 8
ROADWAY IMPROVEMENTS

Improvement Description	Estimated Cost*	Responsible Jurisdiction
Near-Term, High Priority Projects (0-5 years)		
Maintain grass and shrubbery near Emert Drive	Minimal	Private/City
Evaluate and install signing on Highway 74 near Emert Drive	$800	City/ODOT
Restrict Parking at the Green Street/Main Street intersection	Minimal	City
Modify city ordinance to ensure connectivity between city facilities and future residential developments	Administrative	City
Construct pedestrian and bicycle connections from the Emert Addition to the city	$230,000 (See Table 12)	City
Mid-Term Projects (5-10 years)		
Construct an eastbound left-turn lane at the Highway 74/Emert Drive intersection	$170,000	Private/City
Construct a westbound right-turn lane at the Highway 74/Emert Drive intersection	$75,000	Private/City
Extend "E" Street to Highway 74	$245,000	City
Improve access between "H" Street and the Morrow County Grain Growers' Elevator complex	Not evaluated	Private/City
Reduce Vehicular Reliance Through Zoning and Development Code Revisions	Administrative	City
Implement Transportation Demand Management Measures	Administrative	City
Long-Term Projects (10-20 years)		
Reconstruct Highway 74 in the vicinity of the Highway 74/Emert Drive intersection	$145,000	Private/City
Provide westbound left-turn lane on Highway 74 at "H" Street and, if Alternative #11 is implemented, at "E" Street.	$150,000 each	City/ODOT
Concurrent with Development		
Provide a roadway link between Emert Drive and Ella Road	Not evaluated	Private
Promote access management along Highway 74	Administrative	City/ODOT
Through new roadway and land-use standards, focus future development activities and roadway improvements along Highway 74 to influence the streetscape of Highway 74.	Administrative	City

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

ACCESS MANAGEMENT STRATEGIES

As the City of Ione continues to develop, the arterial/collector/local street system will become more heavily relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/collector street system as new development occurs. Access locations on roadway sections need to be properly located to ensure safe and efficient travel along a given transportation facility. Access locations should be placed appropriately to limit potential conflicting turning movements, weaving maneuvers over short distances, and congestion along facilities.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access management categories. One objective of the Ione TSP was to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the city's streets. From a policy perspective, the Oregon Department of Transportation has legal authority to regulate access points along Highway 74 within the city's urban growth boundary. The City of Ione will manage access on other

collector and local streets within its jurisdiction to ensure the efficient movement of traffic and enhance safety.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways in the upper echelon of the functional classification system (i.e., arterials) tend to have stringent spacing standards, while facilities ranked lower in the functional classification system allow more closely spaced accesses. The following discussion presents the hierarchial access management system for roadways in Ione.

ODOT Access Management Standards

The *1991 Oregon Highway Plan* (Reference 1) specifies an access management classification system for state facilities and has classified Highway 74 as being of a *District Level of Importance (Category 6)*. The recently adopted 1999 *Oregon Highway Plan* maintains the *District Level of Importance* classification along Highway 74. With the adoption of the *1999 Oregon Highway Plan*, segment classifications will need to be defined through the City of Ione to determine the appropriate access spacing standards. Although Ione may designate the state highway as an arterial roadway within its transportation system, the access management categories for Highway 74 should generally follow the guidelines of the Oregon Highway Plan.

Impact on Local Development Activities

Future developments along Highway 74 (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the *1991 Oregon Highway Plan* Access Management policies and standards. Those policies and standards will then be succeeded by the new *1999 Oregon Highway Plan* at the time that it is adopted and the segment classifications have been determined.

As shown in Table 9, within urban or urbanizing areas, a new development will need to maintain a 500-foot (Category 6 highways) spacing (centerline-to-centerline) between public access points and 150-feet between private access points on both sides of the roadway and to either side of the proposed access point.

TABLE 9
HIGHWAY 74 ACCESS MANAGEMENT STANDARDS*

Classification	Intersection				Signal Spacing[3]	Median Control
	Public Road		Private Drive[2]			
	Type[1]	Spacing	Type	Spacing		
District Highway, Category 6	At-grade	500-foot	Left/right turns	150 feet	1/4mile	None

*Source: 1991 Oregon Highway Plan, Reference 1

[1] The basic intersection design options are as listed. Special treatments may also be considered including partial interchanges, jughandles, etc. The decision on design should be based on function of the highway, traffic engineering, cost effectiveness, and need to protect the highway. Interchanges must conform to the interchange policy.

[2] Generally, no signals will be allowed at private access points on regional highways. If signal warrants are met, alternatives to signals should be investigated, including median closing. Spacing between public and private access points is to be determined by acceleration needs to achieve 70 percent of facility operating speed. Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety.

[3] Generally, signals should be spaced to minimize delay and disruptions to through traffic. Signals may be spaced at intervals closer than those shown to optimize capacity and safety.

Additional property frontage along the state highway does not guarantee that additional approach roads will be allowed. The *1991 Oregon Highway Plan* further designates that traffic signal spacing shall maintain a minimum ¼-mile spacing and that no median control is necessary.

In addition to the standards shown in Table 9, according to the *1991 Oregon Highway Plan*, the impact in traffic generation from proposed land uses must allow a major street approach level of service "D" to be maintained for Category 6 segments within the development's influence area along the highway. The

influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property-line of the development (whichever is greater).

The existing legal driveway connections, public street intersection spacing, and other accesses to the state highway system are not required to meet the spacing standards of the assigned category immediately upon adoption of this transportation system plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, ODOT is required to ensure that all safety and capacity issues are addressed. Proposed land use actions that do not comply with the designated access spacing policy will be required to apply for an access variance from the City of Ione and/or ODOT.

Variance Process

Access variances may be provided to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming permit and would either have no reasonable access or cannot obtain reasonable alternate access to the public road system. In such a situation, a conditional access permit may be issued by ODOT and the City of Ione for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards.

The permit may carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. Approval conditions might also require a given land owner to work in cooperation with adjacent land owners to provide either joint access points, front and rear cross-over easements, or a rear-access upon future redevelopment. In addition, approval of a conditional permit might require ODOT-approved turning movement design standards to ensure safety and managed access. Under special circumstances, ODOT may be required to purchase property in order to prevent safety conflicts.

City Standards

Table 10 identifies the minimum public street intersection and private access spacing standards for the City of Ione roadway network as they relate to new development and redevelopment. Table 11 identifies standards for private access driveway widths. In cases where physical constraints or unique site characteristics limit the ability for the access spacing standards listed in Tables 10 and 11 to be met, the City of Ione should retain the right to grant an access spacing variance. County facilities within the city's urban growth boundary should be planned and constructed in accordance with these street design standards.

TABLE 10
MINIMUM INTERSECTION SPACING STANDARDS

Functional Classification	Public Street (feet)	Private Access Drive (feet)
Arterial	600	500
Collector	300	75
Local	150	15

TABLE 11
PRIVATE ACCESS DRIVEWAY WIDTH STANDARDS

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	12	24
Multi-Family Residential	24	30
Commercial	30	40
Industrial	30	40

Management Techniques

From an operational perspective, the City of Ione should consider implementing access management measures to limit the number of redundant access points along roadways. This will enhance roadway capacity and benefit circulation. Improvements that should be considered include:

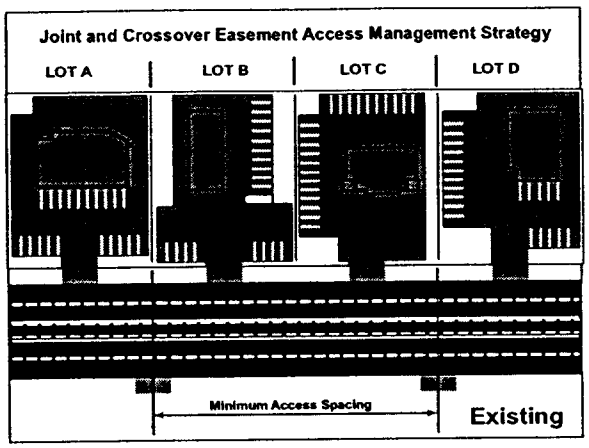
- planning for and developing intersection improvement programs in order to regularly monitor intersection operations and safety problems;
- purchasing right-of-way and closing driveways; and
- installing positive channelization and driveway access controls as necessary.

Enforcement of the access spacing standards should be complemented with the availability of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously effect the viability of the impacted properties. Thus, if an access management approach is taken, alternative access should be developed prior to "land-locking" a given property.

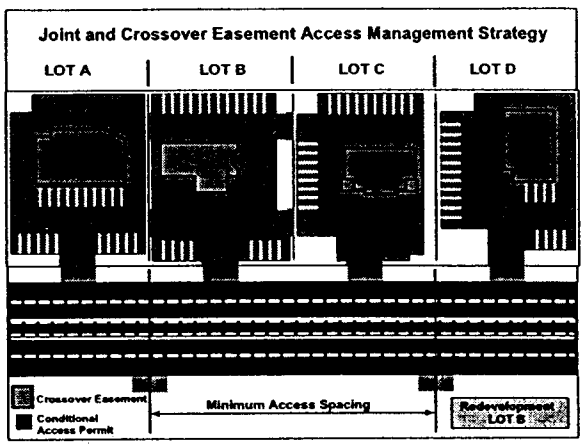
As part of every land use action, the City of Ione should evaluate the potential need for conditioning a given development proposal with the following items, in order to maintain and/or improve traffic operations and safety along the arterial and collector roadways:

- Crossover easements should be provided on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels. Figure 14 illustrates how this process would, in the long run, facilitate compliance with access management objectives.
- Conditional access permits should be issued to developments having proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing driveways.
- Right-of-way dedications should be provided to facilitate the future planned roadway system in the vicinity of proposed developments.
- Half-street improvements (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) should be provided along site frontages that do not have full-buildout improvements in place at the time of development.

Proposed Access Management Strategy



Step 1



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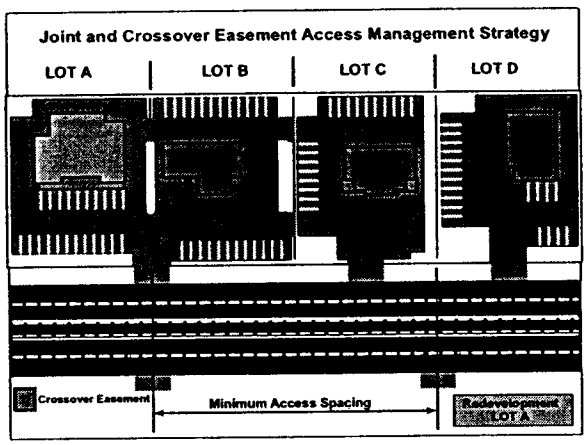
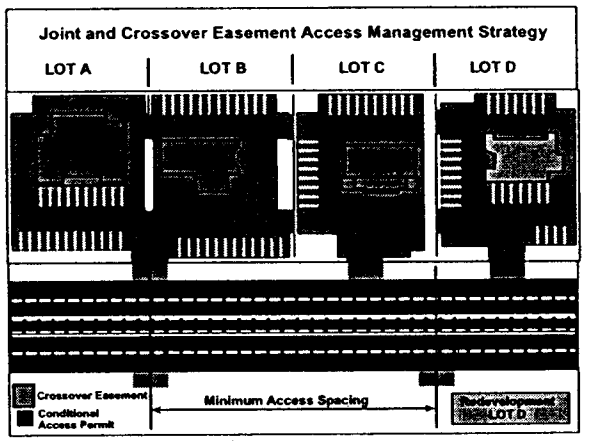


Step 3



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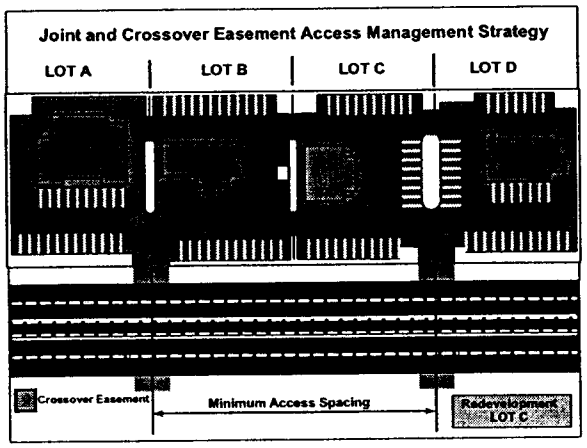

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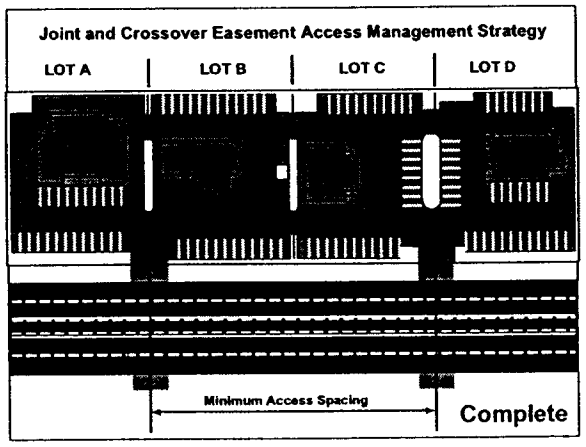

Step 6

EXAMPLE OF CROSS-OVER EASEMENTS AND CONDITIONAL ACCESS POLICY/PROCESS

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN	FIGURE 14
JUNE 1999	

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As suggested by Figure 14, using these guidelines, all driveways and roadways along the highway will eventually comply with the access spacing policy set for a particular segment of roadway as development and redevelopment occurs in the study area. It should be noted that not every parcel can or should be addressed through the process illustrated in Figure 14. The topography of the parcel, type of proposed or adjoining use, and/or highway frontage may preclude a development from using consolidated or crossover access points (e.g., consolidating access for a commercial business and an industrial or agricultural land use would be inappropriate). Further, it should be noted that the Reaping Grade ditch presents potential constraints to some of the roadway alignments in Figure 14, in addition to constraints for commercial development in the area at the east end of the city.

PEDESTRIAN SYSTEM PLAN

The pedestrian and bicycle system plan is shown in Figure 15. The key objective in the development of the pedestrian and bicycle system plan was to provide connectivity between major activity centers. Within Ione, these activity centers include the post office, the school, recreation areas such as the park, and local commercial businesses (primarily along Main Street).

The street design standards (refer to Figure 13) would ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed collectors and arterials. It is essential that existing sidewalks be connected to new sidewalks as new developments are constructed or as road improvements are made.

Multi-Use Facilities

Recognizing the limited resources available to finance separate pedestrian and bicycle facilities, a multi-use path should be developed along Highway 74 that supports both pedestrian and bicycle needs. As illustrated in Figure 15, this shared pedestrian/bicycle facility would link the Emert Addition with downtown Ione in an environment free of vehicular traffic. The cross section of the multi-use pathway would consist of 10-foot wide paved path separated from the roadway by a landscape strip that is at least 10-feet wide. Ultimately, the multi-use path should extend north from the highway into the subdivision to provide direct access to the local housing. When ODOT has the financial resources to construct sidewalks and bicycle lanes along Highway 74 throughout the duration of the Ione UGB, the multi-use path could be replaced with sidewalks and bicycle lanes on both sides of the highway.

It should be noted that multi-use paths are especially effective in undeveloped areas. If properties were to develop/redevelop at urban densities in Ione, the city should consider replacing the multi-use path with sidewalks on all streets and bicycle lanes on arterial and collector streets.

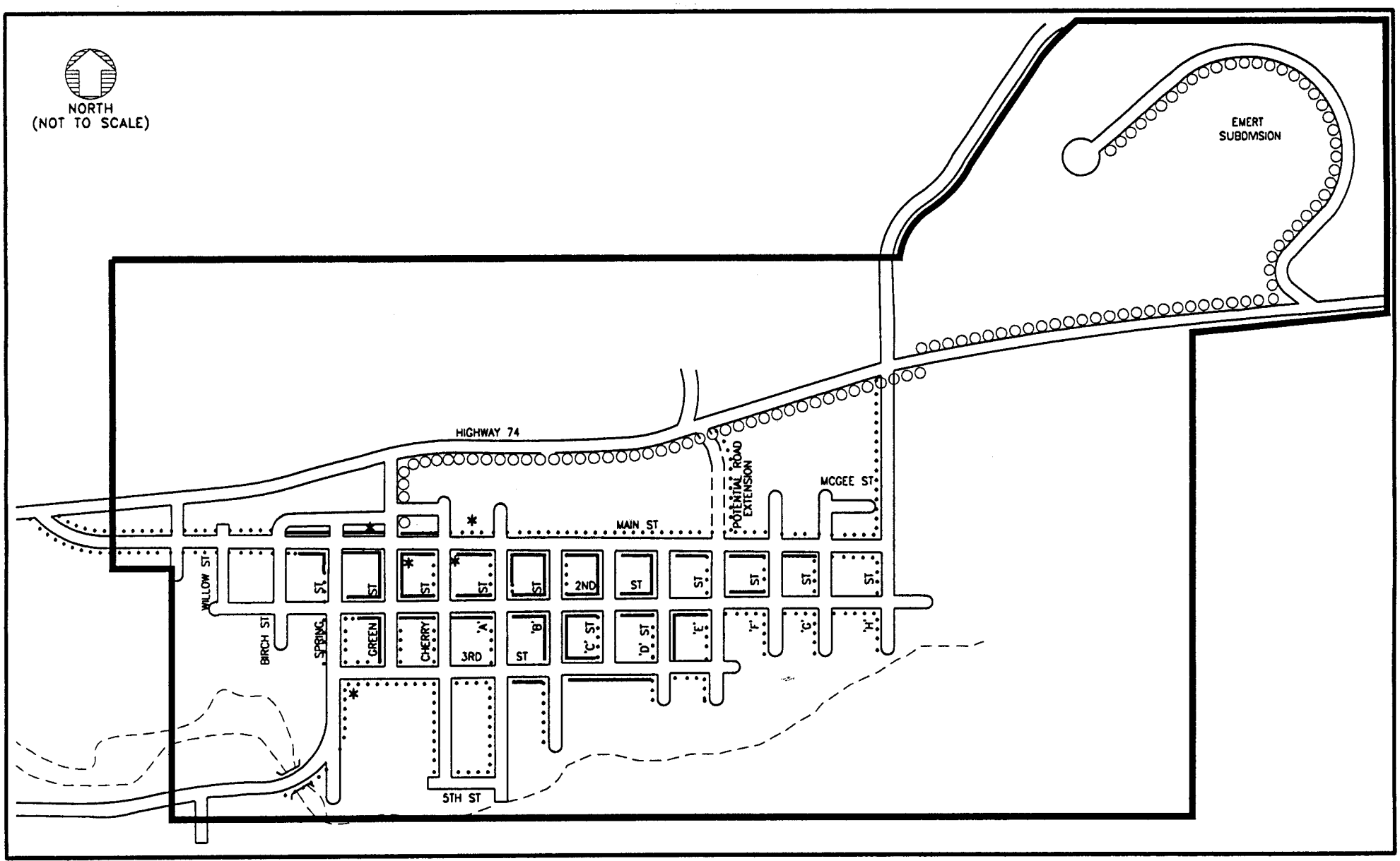
Other Pedestrian Amenities

It should be noted that alternate and/or additional multi-use paths would be desirable in conjunction with future development activities. Further, provision of sidewalks along one or both sides of key collector and local roads not specifically identified in this plan is also encouraged.

In addition to providing the pedestrian system components, additional street lighting should be provided at the point where the multi-use path crosses Highway 74 to provide clear visibility of pedestrians at night.

Bicycle Facilities

Bicycle routes within the city's collector and local-level street system were not considered to warrant exclusive roadway treatments and are to remain as undesignated shared facilities.



LEGEND

- EXISTING SIDEWALK
- PROPOSED SIDEWALK
- PROPOSED MULT-USE PATH
- CREEK
- CITY LIMITS
- * PEDESTRIAN/BICYCLE GENERATORS

NOTE: SIDEWALK & MULTI-USE PATH ALIGNMENTS ARE CONCEPTUAL. FURTHER ENGINEERING IS REQUIRED TO DETERMINE FEASIBLE ALIGNMENT ALTERNATIVES.

PEDESTRIAN AND BICYCLE SYSTEM PLAN

CITY OF IONE, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE 15

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Table 12 provides a summary of pedestrian and bicycle system projects as well as corresponding cost estimates.

TABLE 12
PEDESTRIAN AND BICYCLE SYSTEM IMPROVEMENTS

General Alignment	Project Start/End Point	Improvement Description	Estimated Cost*
Near-Term, High Priority Projects (0-5 years)			
Highway 74	Emert Drive to Green Street	Multi-Use Path	$230,000
Mid-Term Projects (5-10 years)			
Emert Drive	Highway 74 to northern terminus	Multi-Use Path	$135,000
Green Street	Second Street to Third Street	Sidewalk	$11,250
Spring Street	Main Street to Third Street	Sidewalk	$45,000
Third Street	Spring Street to "A" Street	Sidewalk	$33,750
Mid- to Long-Term Projects (5-20 years)			
Main Street	Cherry Street to "E" Street	Sidewalk	$65,250
Main Street	"E" Street to "H" Street	Sidewalk	$36,000
"H" Street	Highway 74 to Main Street	Sidewalk	$36,900

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

The remainder of the sidewalk facilities identified in Figure 15 should be provided in conjunction with development or redevelopment of adjacent properties. Similarly, many of the sidewalk and multi-use facilities presented in Table 12 could be completed incrementally as part of local development projects. Creating "partnership programs" with landowners and businesses to construct such facilities would be one method by which individual projects could be brought to fruition in a timely manner. The pedestrian facilities could be constructed as adjacent properties develop, thereby ensuring alternative modes of access to various land uses. The city would however, need to develop a reasonably equitable methodology of assessing the extent of facilities that individual developers would be required to provide.

In reviewing the cost estimates, two assumptions should be noted. First, the estimated cost for the multi-use paths assumes an asphalt concrete path, but does not include costs for landscaping the adjacent 10-foot wide strip (minimum width) that separates the multi-use path from the adjacent roadways. Second, the cost estimates for sidewalk facilities assume minimum slope grading work, drywells for drainage, roadside curbing, and the sidewalk itself.

PUBLIC TRANSPORTATION SYSTEM PLAN

Transit service provides mobility to community residents who do not have access to automobiles and provides an alternative to driving for those who do. Transit service should meet the needs both of travelers within the city and those of travelers making trips outside of the community.

The *1997 Oregon Public Transportation Plan* identifies minimum level of service standards for rural and frontier communities such as the City of Ione (Reference 4). Under the *1997 Oregon Public Transportation Plan*, public transportation in small communities and rural areas in the year 2015 (under Level 3-Respond to State and Federal Mandates and Goals) should:

- Provide public transportation service to the general public based on locally established service and funding priorities;

- Provide an accessible ride to anyone requesting service;
- Provide a coordinated centralized scheduling system in each county and at the state level;
- Provide phone access to the scheduling system at least 40 hours weekly between Monday and Friday; and
- Respond to service requests within 24 hours (not necessarily provide a ride within 24 hours).

Service Enhancements

Overall, the City of Ione should continue to monitor the adequacy of the transit service provided to the community and work with the county to extend service as necessary. The local transit program should also seek to meet the 2015 minimum level of service standards identified in the *1997 Oregon Public Transportation Plan*. Three improvement strategies are identified below for further consideration.

Increase Public Awareness

Both the city and the county should promote a greater public awareness of the available public transit services and the need for additional volunteer dispatchers and drivers. Greater awareness of the service and its needs will likely result in increased usage and availability. Provision of better recognition for drivers and/or driver meetings would be an additional avenue by which to encourage more volunteer participation in the program.

Coordinate Trips

Secondly, consideration should be given to coordinating trip requests to other neighboring communities and areas outside the county such as Hermiston and Pendleton. For example, a given day of the week could be designated for trips to Pendleton. This would then allow the city's residents to visit specialized medical service providers or satisfy other needs on a scheduled basis. Similarly, weekly shopping trips to Hermiston or other communities could be established to allow community members to purchase commodities not available through local commercial and service providers.

A recent survey conducted by transportation provider staff suggests that coordination of medical visits could be difficult due to the unpredictable nature of office visits, though the need for such a service should be more closely examined. Assuming that the demand for such a service exists, a scheduled weekly service would lend itself to greater coordination with service providers in the neighboring communities of Lexington and Heppner.

Close coordination between the City of Ione and adjacent communities is also encouraged and should increase ridership and efficiency through better use of the resources available. Such coordination could prove to be especially fruitful if the weekly trips previously discussed are established as a joint community service. Coordinated trips to local community events would likely generate significant interest. Ultimately, if an increased demand for service can be established and documented, additional resources (e.g., funding and equipment) may be successfully pursued through grant applications or other alternative financing sources.

Provide Commuter Service

It is recommended that a carpool or vanpool service be provided for people who live in Ione and work in neighboring communities. Provision of a vanpool and/or carpools to major employers in the area could help to reduce the number of single occupant vehicle commute trips from Ione and help the community to achieve transportation demand management (TDM) objectives.

Vehicle Replacement

The Morrow County Special Transportation Program replaces vehicles on an as-needed basis. No specific plans to replace the current vehicles in use in the City of Ione are in place. The county has budgeted to replace one vehicle in 1999 though that will not necessarily affect the vehicles in Ione. The county is pursuing additional funding for vehicles and has, through the Region 5 Public Transit Division, submitted a grant application that would allow the program to purchase a new modified van in 2001 and a small bus in 2003. In addition, a new bus barn would be built somewhere in the county if the grant were to be approved. The City of Ione should support the Morrow County Special Transportation Program in its pursuit of additional vehicles and funding.

MARINE SYSTEM PLAN

The City of Ione should actively support the continued presence and operation of port facilities along the Columbia River as an alternative means of transportation.

AIR TRANSPORTATION SYSTEM PLAN

Existing regional air service for passengers and freight is provided via the Lexington Airport as well as aviation facilities in Hermiston and Pendleton. The continued use and appropriate expansion of these facilities is recommended.

PIPELINE SYSTEM PLAN

The existing gas pipeline facilities located east of town should be use and expanded as appropriate.

IMPLEMENTATION PLAN

This section has outlined specific transportation system improvement recommendations as well as a corresponding timeline for implementation of the identified improvements. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather ranks projects to be developed over 0 to 5 year, 5 to 10 year, and 10 to 20 year horizon periods. In this manner, the implementation of identified system improvements has been staged to spread investment in this infrastructure over the 20-year life of the plan.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the City of Ione is to develop in an orderly and efficient way. Consequently, the plans identified for implementation in the TSP should be considered in light of developing infrastructure sequencing plans, and may need to be modified accordingly.

SUMMARY

The adoption and implementation of this Transportation System Plan will enable the City of Ione to address existing transportation system deficiencies while also facilitating growth in the study area population and employment levels assumed in this study.

Section 6

Transportation Funding Plan

Transportation Funding Plan

INTRODUCTION

The Transportation Planning Rule (OAR 660-12-040) requires that the City of Ione Transportation System Plan (TSP) include a transportation financing program. These programs are to include:

- a list of planned transportation facilities and major improvements;
- a general estimate of the timing for planned transportation facilities and major improvements;
- determination of rough cost estimates for the transportation facilities and major investments identified in the TSP (intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan(s) and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms); and,
- a discussion of existing and potential financing sources to fund the development of each transportation facility and major improvement (which can be described in terms of general guidelines or local policies).

Section 5 of this TSP identified the recommended improvement projects, an implementation timeline, and estimated improvement costs. This section provides an overview of the City of Ione's historic funding levels and available funding sources at a federal, state, county, and local level.

The timing and financing provisions in the transportation financing program are not considered a land use decision as defined by the TPR and ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under State law. In addition, the transportation financing program is intended to implement the comprehensive plan policies, which provide for phasing of major improvements to encourage infill and redevelopment of urban lands, prior to facilities that would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

CITY OF IONE FUNDING HISTORY

The City of Ione Street Fund provides an annual budget of approximately $75,800. This includes a $25,000 grant for improvements at the "H" Street/Main Street intersection and $50,800 for street maintenance, repair, and lighting. Maintenance and preservation are the major work activities performed on the local street system. Virtually all of the annual Street Fund budget is derived from the city's share of the state-wide gasoline tax and motor vehicle fees. This revenue sharing is based on population and distributed on a proportional share basis to all cities and counties.

It is expected that, for the foreseeable future, whatever funding is made available to the city through state and county resources will be applied to the maintenance and preservation of the existing street system. This practical approach has served the community well; however, the recommendations and requirements of the Transportation Planning Rule will influence this approach. Should the city obtain funds in excess of the budget necessary to maintain the existing system, the TPR will seek to balance the application of these funds across all modes of travel. Therefore, the list of identified needs provided in this TSP should be the primary source for future projects to be implemented.

The City of Ione currently does not have a transportation system development charge (SDC), which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new

roadway improvements. As a follow up to the Ione TSP study, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements.

OREGON TRANSPORTATION FUNDING HISTORY

Road-Related Funding

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the State. Through the fiscal year 1996, the matching ratio in Oregon for Interstate Funds was: Federal 92.22 percent and State 7.78 percent (Reference 5).

During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last three Oregon Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption. Nevertheless, fuel taxes are the largest single source of highway revenues at approximately $390 million annually (Reference 5). Weight-miles taxes are the second largest source of revenue to the Highway Fund, at approximately $215 million annually (Reference 5).

Oregon Highway Trust Fund revenues are distributed among State (60.05 percent), County (24.38 percent) and City (15.57 percent) governments to fund their priority road needs. Under the 1997-1999 legislatively adopted Department of Transportation budget, a total of $2,284 million revenue dollars was identified. Of the total available revenue, approximately $317 million dollars was allocated to counties and $185 million to cities (Reference 6).

Oregon law allows local government, in addition to receiving state highway trust fund revenues, to levy local fuel taxes for street related improvements. Multnomah and Washington Counties, and some small cities (Tillamook, The Dalles, and Woodburn) have used this authorization. Several attempts have been made by other jurisdictions, but have not been supported by the local electorate. As few local governments have implemented this option, non-user road revenues tend to be relied upon to supplement the funds received from state and federal user revenues. Other local funding sources have included property tax levies, local improvement district assessments, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other miscellaneous sources.

Oregon's current fee for cars and other light vehicles weighing 8,000 pounds or less is $30 biennially (Reference 5). Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities in Oregon have relied more on transfers from their general funds to support roadway improvements, than have counties. Ballot Measure 5, however, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the property tax rate for purposes other than for payment of certain general obligation indebtedness to $15 per $1,000 of assessed value. The measure further divided the $15 per $1,000 property tax authority into two components: $5 per $1,000 dedicated to the public schools; the remaining $10 dedicated to other local government units, including cities, counties, special service districts, and other non-school entities. The

tax rate limitation for cities and counties went into effect in July 1991. The school portion of the measure was phased in over a five-year period beginning in July 1991.

In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which further impacted the ability of cities and counties to pay for needed infrastructure through historic or traditional means. Ballot Measure 50 was then approved by Oregon voters in May of 1997 and, through implementing legislation, became law in July 1997. Ballot Measure 50 repealed Measure 47 and made efficiency changes to Measure 5. Measure 50 limits taxes on each property by rolling back the 1997-1998 assessed value of each property to 90 percent of its 1995-1996 value. Measure 50 also limits future growth on taxable value to three percent per year, with exceptions for new items such as new construction, remodeling, subdivisions, and rezoning. Permanent tax rates for Oregon's local taxing districts are also established in Measure 50 that replace the former tax base amounts of the district. Measure 50 allows voters to approve new short-term levies outside the permanent rate limit if approved by a double majority.

At the same time that increased growth and increased transportation demands are occurring, cities and counties have lost another traditional source of revenue for infrastructure construction and modernization - timber harvest receipts. Under a 1993 negotiated mitigation plan, federal forest receipts to support county roads are decreasing 3 percent per year. In 1996, counties received 74 percent of their 1986-90 average receipts, and by 2003 they will receive 55 percent of the late 1980s average receipts.

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, counties, or cities, for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the State, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996.

A result of these recommendations was the appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal included a process for identifying a "base" transportation system, with a priority of maintenance, preservation, and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. Other components included provisions for realizing efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. The State Legislature was unable to reach consensus on the means to collect and distribute the funds and the package failed.

A part of future transportation funding will include identification of relationships and responsibilities relative to delivery of projects and services. In Oregon, the primary state role has been to construct and maintain the state highway system and to assist local government with funding of other modes. The State also has a role in intercity passenger services and airports. This has historically been minor but would grow significantly, if serious efforts were put into intercity transportation improvements. Local governments provide local transit and airport support, in addition to providing maintenance, preservation, and construction for local roads, streets, and bridges. The Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) began moving decision-making for federal programs to states and this program and other state policies incorporated in the Oregon Transportation Plan (OTP) encourage reassessment of responsibilities and obligations for funding. The Transportation Equity Act for the 21st Century (TEA21), passed in 1998, has continued the efforts first initiated by ISTEA.

These changing relationships have resulted in two significant issues for State and local governments. First, there is no clear definition of State responsibility. At one time, the State operated on an informal

consensus that it should provide one-half the match on federally funded, local, and other projects that served statewide needs. No similar consensus seems to exist today. The State's responsibility for transit, airports, and other local transportation infrastructure and services is not clear. The question of regional equity is raised in considering especially high-cost project needs, such as the Bend Parkway or the Portland area light rail program. Regional equity will probably require consideration of all modes together, because different regions may have different modal needs and financial arrangements.

Given this dynamic transportation funding environment, it is clear that local governments need to reassess traditional methods of funding projects and look creatively at ways to meet public expectations of high quality transportation services.

Transit Funding

Transit service in Oregon has evolved from private development and reliance on user fees for operating revenue, to public ownership with public subsidy for operations. No clear philosophy of the State role in providing transit services is evident and the State is discussing how it should raise revenue in support of transit. The State has used general funds, lottery funds, cigarette tax revenue, and other funds at various times to support transit service. These efforts have largely been targeted towards supplying half the required match to federal capital improvement grants. To date, the State has provided no operating funds for transit, other than the elderly and disabled program. The State role has been one of granting authority to local governments to raise locally-generated operating revenue.

While the state's role in transit funding is limited, the ODOT Public Transit Section does currently administer three public transit funding sources. These include Small City and Rural Transit Assistance (Section 18), the Special Transportation Fund (STF), and Section 16.

The Small City and Rural Transit Assistance program is a federally funded initiative that provides capital to operate and acquire vehicles for public transportation systems in cities with populations of less than 50,000 and rural areas. This assistance program is funded annually through an appropriation from the Federal Transit Administration (FTA) to each state with funds allocated to eligible providers based on a three-part formula. Fifty percent of the funds are distributed based on population, 25 percent are based on ridership, and 25 percent are based on service hours. There is a 50 percent local match requirement for operating costs and a 20 percent match for capital costs. The program stipulates that service must be marketed as "public transit": exclusive transportation services such as those limited strictly to senior citizens or employers are not eligible for funding under this program. Additional funding details, application information, and general assistance with the Small City and Rural Transit Assistance is available through ODOT's Public transit Division.

The Special Transportation Fund is intended for elderly and disabled citizens and is funded through the State cigarette tax. Funding for the purchase of vehicles and equipment for special transportation providers (i.e., servicing the elderly and disabled) is provided through a federal funding program known as Section 16.

POTENTIAL TRANSPORTATION FUNDING SOURCES

There are a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state, and local governments. Appendix E (Table E-1) provides a summary of federal, state, and local highway, bridge, sidewalk, and bicycle funding programs respectively, which have typically been used in the past. Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 47 severely limit the opportunities for this funding source.

Appendix E (Table E-2) presents details of the revenue sources for streets, bridges, sidewalks, and bicycle facilities currently used by cities. The information is summarized by type of facility, and indicates the percent of revenue each funding source represents for all cities in Oregon, likely trends for the source, known constitutional or other limitations, and their respective rates. The general status of each funding source is summarized in Table E-3.

Funding Program

Major expenditures for transportation improvements within the City of Ione are anticipated over the course of the next 20 years. The city can expect to make significant investments to improve transportation facilities for existing development and to improve collectors and arterials that serve the entire area. In future years, however, the burden for expansion of the transportation network should be borne by the development community creating the additional demand and this is reflected in the project costs/responsibilities previously summarized in Table 8.

Based on the recommended roadway improvement projects identified in Table 8, at least $230,000 of roadway improvements have been identified for completion within the next five years. The vast majority of this expenditure is associated with the construction of a pedestrian and bicycle multi-use path linking Emert Drive and Green Street. Additional projects for which cost estimates could not be prepared are also anticipated, though the expenditures necessary to complete these additional projects are expected to be minimal. With the possible exception of evaluating and installing signing on Highway 74 near Emert Drive and maintaining grass and shrubbery in the vicinity, the City of Ione would bear most of the financial burden for near-term improvements. ODOT's funding involvement for roadway improvements potentially would be limited to supporting the signing improvements near the Emert Drive/Highway 74 intersection, which has an estimated cost of less than $1,000.

Within the mid-term (5 to 10 year) planning horizon, the provision of turn-lanes on Highway 74 at the intersection of Emert Drive is expected and is estimated to cost $145,000. The turn-lane improvements could be funded as a requirement of additional development activity and/or by the city. The extension of "E" Street to Highway 74 is also anticipated during the 5 to 10 year planning horizon and the estimated $245,000 expenditure associated with this project will likely funded by the city.

Within the 20-year planning horizon, three other major transportation improvement projects are anticipated. These include the potential reconstruction of the Emert Drive/Highway 74 intersection (estimated cost of $145,000), the provision of one or more westbound left-turn lanes on Highway 74 (estimated cost of $150,000 each; up to two may be provided), and the extension of Emert Drive to Ella Road. Financing of the Emert Drive extension and improvements to the Emert Drive/Highway 74 intersection would likely be provided by local development with some supplemental funding potentially provided by the city. The provision of westbound left-turn lanes would likely be financed by the city, potentially in conjunction with future maintenance work by ODOT along the highway. The transportation improvement projects near Emert Drive are assumed to occur at such time that additional development occurs, which may or may not fall within the 20-year planning horizon.

Pedestrian and bicycle improvement projects are expected to be implemented on a gradual basis as roadways are reconstructed, development activities occur, or alternative funding becomes available through grant projects or some other financing mechanism. With the possible exception of the multi-use path located along the north side of Highway 74, none of the identified bicycle/pedestrian improvement projects will directly affect ODOT facilities and little, if any, ODOT funding is anticipated for bicycle and pedestrian improvements. Thus, the $593,150 in identified pedestrian and bicycle improvement projects is expected to be financed either by the city or developers as appropriate. Funding programs such as the Transportation Enhancement Program provide funds for enhancing pedestrian and bicycle facilities,

landscaping, and other scenic beautification that may be a source of funding for adding sidewalks, multi-use paths, and bicycle facilities. Additional funding may be available through the creation of Local Improvement Districts or through grant projects.

State Funding

ODOT operates and maintains Highway 74 in the City of Ione. State and federal funds administered through ODOT will be the primary sources of funding for improvements to this facility. Further, most Federal funding is passed through ODOT to local jurisdictions. While improvement projects affecting ODOT facilities are documented in this TSP, the inclusion of such projects in the TSP does not obligate ODOT to finance them.

A good working relationship with ODOT Region 5 planning staff and the Region Manager will be important to ensure that major roadway improvement projects on state facilities within the city are included in ODOT's State Transportation Improvement Plan (STIP) when it is updated. The city and Morrow County should take an active role in jointly representing the transportation priorities of Ione to ODOT during its process of formally incorporating priorities into the STIP. For its part, the City of Ione Transportation System Plan will provide ODOT with highway-related transportation projects of importance to the city and should be used as a basis for discussion with ODOT.

Local funding participation in projects on state facilities may enable the ODOT to accelerate the priority of an improvement identified in the STIP. While not normally a requirement of project funding, local participation does demonstrate a strong commitment to ODOT and the local funds may be used to leverage state funds.

Local Funding

The City of Ione should continue to pursue federal, state, and county transportation funds for transportation projects. Given the high level of annual expenditures needed for construction of the transportation projects identified, existing sources of transportation revenue are not expected to be adequate to meet the demand for new projects. To meet the additional funding needs, the city may wish to consider additional revenue-generating options such as systems development charges, local improvement districts, and street maintenance fees as discussed below. It should be noted that, even with increased funding, it may prove difficult to fund all of the projects identified in this TSP within the 20-year planning horizon. Accordingly, the city should review the identified improvement projects on a periodic basis to prioritize local transportation system funding such that it most appropriately reflects current and projected needs.

Transportation System Development Charge

The City of Ione does not currently have a transportation system development charge, which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Ione TSP study, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements. The study should determine the feasibility of implementing SDC fees, particularly with respect to evaluating equitability with neighboring cities both in economic and political terms.

Local Improvement Districts

Local improvement districts could be formed to improve currently substandard and unimproved roads. These projects may or may not be fully completed within the 20-year planning horizon.

Street Maintenance Fee

The City of Ione could investigate local adoption of a street maintenance fee to raise revenues to be dedicated toward street rehabilitation projects. These revenues could also be used to supplement the current State Highway Fund (State gas tax and vehicle registration fees) revenues already used for on-going maintenance.

Additional Considerations

There are important limitations that should be considered with respect to additional funding options. For example, the dollar amount of SDCs that can be assessed must meet legal requirements for establishing SDCs. Also, the success of any funding plan will be reliant on the approval of the community. Accordingly, the involvement of citizens of the community in developing and implementing a funding package is essential.

SUMMARY

Transportation funding resources available to the City of Ione and ODOT are limited. It is expected that, for the foreseeable future, those funding sources that are available will predominantly be applied to maintenance and preservation of the existing transportation system. As additional funding becomes available, the list of transportation improvement projects identified in this TSP should used to select projects for implementation. In the interim, the City of Ione should consider developing alternative transportation funding sources such as System Development Charges, Local Improvement Districts, or Street Maintenance Fees as a mechanism by which to finance improvements to the city's transportation system.

Section 7

Policies and Land Use Ordinance Modifications

Policies and Land Use Ordinance Modifications

This section is provided under separate cover in the document "City of Ione Implementing Ordinances for the Transportation System Plan."

Section 8

Transportation Planning Rule Compliance

Transportation Planning Rule Compliance

In April 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the Transportation Planning Rule (TPR), OAR 660 Division 12. The TPR requires local jurisdictions to prepare and adopt a Transportation System Plan (TSP) by 1997. Outlined below is a list of recommendations (designated by *italics*) and requirements for a TSP for an urban area with a population between 2,500 and 25,000, and how each of those were addressed in the City of Ione TSP. The comparison demonstrates that the City of Ione TSP is in compliance with the provisions of the TPR.

DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

TPR Recommendations/Requirements	City of Ione TSP Compliance
Public and Interagency Involvement	
• Establish Advisory Committees.	A Management Team and Technical Advisory Committee was established at the outset of the project. Membership on the Management Team included members of the City, County, and ODOT staff. Membership on the Technical Advisory Committee included representatives from all facets of the community.
• Develop informational material.	Technical memoranda and current status reports of work undertaken and completed by the advisory committee were published and made available to the public throughout the project. Press releases concerning the project and opportunities for participation at public workshops were published and materials (including report text, charts, and maps) were prepared for review defining critical components of the City's TSP.
• Schedule informational meetings, review meetings and public hearings throughout the planning process. Involve the community.	Three Management Team/TAC meetings were held through the planning process. The meetings were advertised by distribution of meeting notices. All TAC meetings were advertised and open to the public.
• Coordinate Plan with other agencies.	Coordination with the City, ODOT, and Morrow County was accomplished by including agency representatives on the project mailing list, individual project briefings/meetings, and participation on the Management Team and the TAC.

Review Existing Plans, Policies, Standards, and Laws

• *Review and evaluate existing comprehensive plan.*	The following plans were reviewed as part of the development of the TSP: *1991 Oregon Highway Plan,* (June, 1991); 1996 *Oregon Bicycle Plan*; *City of Ione Comprehensive Plan,* (1987); Draft *Statewide Transportation Improvement Program* (2000-2003).
• *Land use analysis - existing land use/vacant lands inventory.*	In developing the forecast of transportation needs, an analysis was conducted of current land use designations and land status within the project area to determine the capacity for growth, which would increase demand for transportation services. Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and the City's economic role in the region. Estimates of needed housing, commercial, and employment lands were derived from these forecasts.
• *Review existing ordinances - zoning, subdivision, engineering standards.*	Existing City Subdivision Ordinances, Zoning Ordinances, and Comprehensive Plan engineering standards were reviewed for adequacy in the development of the City of Ione TSP.
• *Review existing significant transportation studies.*	Significant transportation studies reviewed as part of the City of Ione TSP include the above mentioned comprehensive plans and their associated transportation elements and the Morrow County TSP.
• *Review existing capital improvements programs/public facilities plans.*	The Morrow County CIP and the State TIP were reviewed as part of City of Ione TSP development.
• Americans with Disabilities Act requirements.	ADA requirements were reviewed and acknowledged as part of the City of Ione TSP development.

Inventory Existing Transportation System

• Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, *truck routes, number and location of accesses, safety, substandard geometry*).	An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and levels of service is provided in Section 2: Existing Conditions.
• Bicycle ways (type, location, width, condition, *ownership/jurisdiction*).	As noted in Section 2: Existing Conditions, there are no existing bicycle ways within the City of Ione.
• Pedestrian ways (location, width, condition, ownership/jurisdiction).	Section 2: Existing Conditions, summarizes the location of the existing sidewalk facilities within the City of Ione.
• Public Transportation Services (transit ridership, volumes, route, frequency, stops, fleet, intercity bus, passenger rail, special transit services).	A summary of the existing public transportation services is presented in Section 2: Existing Conditions. Only Special Transit and Intercity Bus services exist within the City of Ione.
• Intermodal and private connections.	A summary of the existing intermodal and private carrier transportation services is presented in Section 2: Existing Conditions.
• Air transportation.	A summary of existing air transportation facilities is provided in Section 2: Existing Conditions.
• Freight rail transportation.	As noted in Section 2: Existing Conditions, there are no freight rail transportation services within the City of Ione.
• Water transportation.	A summary of water transportation services is provided in Section 2: Existing Conditions.
• Pipeline transportation.	A summary of pipeline transportation services is provided in Section 2: Existing Conditions.
• *Environmental constraints.*	Development of the TSP did not include the identification of environmental constraints beyond those specifically documented in the TSP.
• Existing population and employment.	As outlined Section 1: Introduction, the 1997 City of Ione population is approximately 310 persons in the city. This information and employment data cited in Section 3: Future Conditions Analysis, is included in Future Conditions as the basis for the forecasts that were performed for this TSP.

Determine Transportation Needs

• Forecast population and employment	Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and City of Ione's economic role. This information is summarized in Section 3: Future Conditions.
• Determination of transportation capacity needs (cumulative analysis, *transportation gravity model*).	Travel demand forecasts were undertaken as part of this project. The methodology for travel forecasting and assumptions used in the transportation model are contained in Section 3: Future Conditions, which presents an analysis of future transportation conditions and identifies capacity needs.
• Other roadway needs (safety, bridges, reconstruction, operation/maintenance).	Non-capacity related transportation needs are identified and recommended for implementation in Section 5: Transportation System Plan.
• Freight transportation needs.	Freight transportation needs are adequately met via motor carrier freight services.
• Public transportation needs (special transportation needs, general public transit needs).	Public transportation needs are discussed in Section 5: Transportation System Plan.
• Bikeway needs. • Pedestrian needs.	Future bicycle and pedestrian improvements are to be made in conjunction with roadway improvements to provide cyclists and pedestrians with full accessibility to City of Ione's street system. Plans for these facilities are shown in Figure 15 of Section 5: Transportation System Plan.

Develop and Evaluate Alternatives

• Update community goals and objectives.	Goals were established as part of the TSP development (see Section 1: Introduction).
• Establish evaluation criteria.	Evaluation criteria was established from the study goals and objectives and used to develop the Preferred Alternative presented in Section 5: Transportation System Plan.
• Develop and evaluate alternatives (no-build system, all build alternatives, transportation system management, transit alternative/feasibility, improvements/additions to roadway system, land use alternatives, combination alternatives).	Section 4: Alternatives Analysis includes a summary of the land use and transportation alternatives considered and analyzed for City of Ione's TSP. Land uses, roadway alternatives, transportation system management options, bike and pedestrian options were analyzed.
• Select recommended alternative.	A recommended alternative for roadways, bikeways, and pedestrian facilities is contained in Section 5: Transportation System Plan.

Produce a Transportation System Plan

• Transportation goals, objectives and policies.	Section 7: Policies and Land Use Ordinance Modifications outlines specific recommendations regarding transportation goals and policies.
• Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).	The streets plan element is outlined in Section 5: Transportation System Plan.
• Public transportation element (transit route service, transit facilities, special transit services, intercity bus and passenger rail).	The public transportation element is outlined in Section 5: Transportation System Plan.
• Bikeway system element.	The bikeway plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Pedestrian system element.	The pedestrian plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Airport element (land use compatibility, future improvements, accessibility/ connections/conflicts with other modes).	The airport element is outlined in Section 5: Transportation System Plan.
• Freight rail element (terminals, safety).	There is no rail service available or anticipated to serve the City of Ione.
• Water transportation element (terminals).	The water transportation element is outlined in Section 5: Transportation System Plan

Produce a Transportation System Plan (Continued)

• *Transportation System Management element (TSM).*	TSM element not applicable per OAR 660-12-020(2)(f) and (g).
• *Transportation Demand Management element (TDM).*	TDM element not applicable per OAR 660-12-020(2)(f) and (g).

Implementation of a Transportation System Plan

Plan Review and Coordination

• Consistent with ODOT and other applicable plans.	See Section 7: Policies and Land Use Ordinance Modifications

Adoption

• Is it adopted?	*To follow.*

Implementation

• Ordinances (facilities, services and improvements; land use or subdivision regulations).	Included in Section 7: Policies and Land Use Ordinance Modifications.
• Transportation financing/capital improvements program.	The transportation finance plan is summarized in Section 6: Transportation Funding Plan.

Section 9

References

References

1. Oregon Department of Transportation. *Oregon Highway Plan.* 1991.
2. Transportation Research Board. *Highway Capacity Manual,* Special Report No. 209. 1994.
3. KCM, Inc. *Morrow County Transportation System Plan Final Report.* March 1998.
4. Oregon Department of Transportation. *1997 Oregon Public Transportation Plan.* April 1997.
5. Oregon Department of Transportation. *State Transportation Fiscal and Statistical Data for 1997.* September 1998.
6. Oregon Department of Transportation. *Financial Services Website,* http://www.odot.state.or.us/*fspublic.* May 1999.

Appendix A

Plan and Policy Review

Plans and Policies Review

Existing plan policies and other actions will influence the analysis of land use and transportation issues and the alternatives to address these issues as well as other community objectives. This appendix provides a summary of the plans and policies reviewed as part of the development of the Transportation System Plan.

URBAN GROWTH AREA JOINT MANAGEMENT AGREEMENT

Included in the city's Comprehensive Plan is an Urban Growth Area Joint Management Agreement with Morrow County, adopted June 1978. This agreement directs that the county and city shall cooperatively develop an implementation policy regarding streets and roads within the city urban growth area and corporate limits which is consistent with the city Comprehensive Plan. Such policy shall include, but not be limited to, the following:

- The circumstances under which the city will assume ownership of and maintenance responsibility for County Roads within the corporate limits.
- The conditions under which new streets and roads will be developed in conjunction with subdivisions within the city urban growth area.
- The conditions under which new public streets and roads will be developed within the city urban growth area.
- The conditions under which existing roads designated as future arterials in the city Comprehensive Plan will be approved.

CITY OF IONE COMPREHENSIVE PLAN

Ione's Comprehensive Plan and implementing regulations were acknowledged by the Land Conservation and Development Commission in October 1979. They were amended on June 20, 1979 (Ord #156); January 22, 1980 (Ord. #160); April 7, 1987 (Ord. #173); and June 2, 1987 (Ord. #175). Ione's Comprehensive Plan consists of 7 sections as follows:

Section 1:	Authority
Section 2:	Plan Technical Report
Section 3:	Plan Implementation Measures
Section 4:	Availability of Plan
Section 5:	Plan Goals and Policies (includes: Citizen Involvement, Land Use Planning, Agricultural Lands, Open Spaces, Scenic and Historical Areas, and Natural Resources, Air, Water and Land Resources Quality, Areas Subject to Natural Disasters and Hazards, Recreational Needs, Economic Development, Housing, Public Facilities and Services, Transportation, Energy Conservation, and Urbanization)
Section 6:	Plan and Implementation Measure Review
Section 7:	Plan Amendment

Section 5, Plan Goals and Policies, includes the following goals and policies that relate to land use and transportation planning:

- *Land Use Planning Goal:* To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.
- *Land Use Policy:* To determine the public facilities and services required to accommodate existing unmet public needs and expected economic and population growth.
- *Open Spaces, Scenic and Historical Areas, and Natural Resources Policies:* Examine any publicly-owned lands including street rights-of-way for their potential open space use before their disposition; and conserve the area's natural resources and protect open space and natural resources which should be preserved from urban development.
- *Economic Development Goal*: To diversify and improve the economy of Ione.
- *Economic Development Policies:* Encourage potential industrial development near or adjacent to transportation facilities, especially where intermodal connections or opportunities are feasible; and consider proximity to existing and planned transportation systems.
- *Public Facilities and Services Goal*: Plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban development.
- *Public Facilities and Services Policy*: Develop, maintain, update, or expand police and fire services, street, water and sewer system, and storm drains as necessary to provide adequate facilities and services to the community.
- *Transportation Goals*: To provide and encourage a safe, convenient and economical transportation system and to provide for an orderly and efficient transition from rural to urban land use.
- *Transportation Policies:*

  1. To develop good transportation linkages (pedestrian, vehicular, bicycle, etc.) between residential areas and major activity centers.
  2. To encourage industry to locate in areas which are or can be served by the railroad.
  3. To prioritize the sequence for the paving of city streets.
  4. To actively support development of a good, direct, all-weather road from the middle Willow Creek Valley to the Carty electric plant, Boeing Space Age Industrial Park, and Boardman.
  5. To support ongoing improvement to Highway 74 and the regional highway system in general, and to coordinate with the State Highway Division on highway improvement planning.
  6. To functionally classify streets and roads within the Ione city limits and the urban growth boundary.

- *Energy Conservation Goal*: Conserve energy and develop and use renewable resources.
- *Energy Conservation Policies*: Require the orientation of streets and buildings to allow for utilization of solar energy.

IMPLEMENTING REGULATIONS

Zoning Ordinance

The Zoning Ordinance (Ordinance #158 as amended) implements the Comprehensive Plan by establishing specific standards for use of the land by zoning districts and other development standards. The ordinance contains regulation for off-street parking and loading (Article 9) and parking lot access, but does not contain development standards related to streets, use of streets or additional access standards. More detail on street and sidewalk standards can be found in Ione's subdivision ordinance.

The zoning ordinance, as amended, states that all new and replacement streets, driveways and bridges shall be elevated so that they are not more than 1 foot below the 100-year or relevant historical flood elevation, to ensure ease of emergency access during flooding.

A provision is included in the ordinance regarding bicycle racks, that they must be firmly anchored, clearly labeled and convenient without interfering with pedestrian traffic, and separated from automobile access by some form of barrier for safety purposes.

Section 11.40, Street Trees, restates provisions detailed in the subdivision ordinance.

Subdivision Ordinance

Ione's Subdivision Ordinance has five sections regarding subdivision partition procedure and approval process and requirements for improvements and design.

Section 1 includes general provisions stating the purpose for the ordinance is to ensure that public facilities including streets are adequate to serve the subdivided or partitioned area.

Section 2, Subdivision and Partition Application Procedure and Approval Process, describes requirements for a sketch plan to be submitted prior to approval, giving particular attention to the arrangement, location and width of streets and their relation to the topography of the land.

Section 4, Requirements for Improvements, Reservations and Design Streets, requires that roads be related appropriately to the topography, that they be curved wherever possible to avoid conformity of lot appearance, and arranged to obtain as many as possible of the building sites at, or above, the grades of the streets. Where topography allows, residential streets shall be aligned to run east-west, with lots oriented north-south to provide greater opportunity for south orientation of windows in dwellings for solar energy utilization. Streetlights shall be installed by the developer in accordance with design and specification standards approved by the City Engineer.

Subsection 4.2.2, Design Standards, states that the following standards in Table A-1 are required.

TABLE A-1
DESIGN STANDARDS FOR ROADS

	Residential Density			Non-Residential (Business/ Industrial)
	High	Med.	Low	
Minimum Right-of-Way Width (in feet)				
Arterial	80	80	100	100
Collector	60	60	80	80
Continuous Minor Street	60	60	60	60
Minor Streets less than 2,400 feet in length which cannot be extended	50	50	60	60
Alleys	20	20	20	20
Minimum Surfaced Width (in feet)				
Arterial	44	44	52	52
Collector Street	40	40	48	48
Continuous Minor Streets	36	36	40	40
Minor Streets less than 2,400 feet in length which cannot be extended	28	36	40	40
Alleys	20	20	20	20
Maximum Grade (%)				
Local Road	10	10	8	6
Collector Road	8	8	8	6
Secondary Arterial	6	6	6	5
Primary Arterial	6	6	6	5
Minimum Grade	1	1	1	1
Minimum Radius of Curve (in feet)				
Local Road	100	100	100	200
Collector Road	100	100	100	200
Secondary Arterial	300	300	300	400
Primary Arterial	500	500	500	500

TABLE A-1 (CONTINUED)

	Residential Density			Non-Residential Density
	Low	Med.	High	(Business/ Industrial)
Minimum length of Tangents Between Reverse Curves (in feet)				
Local Road	100	100	150	200
Collector Road	100	100	150	200
Secondary Arterial	200	200	250	300
Primary Arterial	300	300	350	400
Minimum Sight Distance (in feet)				
Local Road	200	200	200	250
Collector Road	200	240	240	250
Secondary Arterial	275	275	300	300
Primary Arterial	275	300	300	400
Intersection	Across Corners – 75 ft Back Intersection			
Minimum Turnaround (in feet)				
Local Roads Right-of-Way	120	120	140	160
Pavement	100	100	120	140
Center Island Diameter (If Required)	40	40	50	60
Design Speed (Miles per Hour)				
Local Road	25	30	30	30
Collector Road	30	35	35	35
Secondary Arterial	40	40	40	40
Primary Arterial	40	40	40	50
Minimum Length of Vertical Curves				
Local Road	100 feet, but not less than 20 feet for each algebraic difference in grade.			
Collector Road Secondary Arterial	200 feet, but not less than 50 feet for each 1 percent.			
Primary Arterial	300 feet, but not less than 50 feet for each algebraic difference in grade.			

Subsection 4.2.2 b, Road Surfacing and Improvements states, that after utilities have been installed by the developer, the applicant shall construct curbs and gutters and shall surface roadways to the widths prescribed (in Table 1). Surfacing shall be suitable for expected traffic and in harmony with similar improvements in surrounding areas. Types of pavements shall be determined by the City Engineer, and adequate provision shall be made for culverts, drains and bridges. Further, the section states that all road pavements, shoulders, drainage improvements and structures, curbs, turnarounds and sidewalks shall conform to all construction standards and specifications adopted by the City Council upon recommendation of the City Engineer and shall be incorporated into the construction plans required to be submitted by the developer for plat approval. An exception states that minor roads and cul-de-sacs within rural-density developments may be provided with gravel roads designed and built to the appropriate County standards, provided that:

1. At the time of Final Plat or Map approval, the developer shall sign and have recorded, on behalf of himself, his heirs and assigns, an irrevocable consent to participate in a future local improvement

district or special assessment district to bring the roads up to regular city street standards as set forth (in Table 1) and

2. The developer shall cause to be formed a home-owners association which shall be legally responsible for maintenance of said gravel roads until such are brought up to city standards and accepted by the city for public maintenance.

Subsection 4.2.2c, Excess Right-of-Way, provides that excess right-of-way may be required when necessary to provide adequate earth slopes. Such slopes shall not be in excess of three to one.

Subsection 4.2.2 d, Intersections, states that:

- Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two new streets at an angle of less than 75 degrees shall not be acceptable. An oblique street should be curved approaching an intersection and should be approximately at right angles for at least one hundred (100) feet back from the intersection. Not more than two streets shall intersect at any one point.
- Proposed new intersections along one side of an existing street shall, wherever practicable, coincide with any existing intersections on the opposite side of such street. Street jogs with centerline offsets of less than 150 feet shall not be permitted, except where the intersected street has separated dual drives without median breaks at either intersection. Where streets intersect major streets, their alignment shall be at least 800 feet apart.
- Minimum curb radius at the intersection of two local streets shall be at least 20 feet; and minimum curb radius at an intersection involving a collector street shall be at least 25 feet. Alley intersections and abrupt changes in alignment within a block shall have the corners cut off in accordance with standard engineering practice to permit safe vehicular movement.
- Intersections shall be designed with a flat grade wherever practical. In hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than a 2% rate at a distance of 60 feet, measured from the nearest right-of-way line of the intersecting street.
- Where any street intersection will involve earth banks or existing vegetation inside any lot corner that could create a traffic hazard by limiting visibility, the developer shall cut such ground and/or vegetation (including trees) in connection with the grading of the public right-of-way to the extent necessary to provide an adequate sight distance.

Section 4.6, Sidewalks, includes required improvements as follows:

Required improvements -

- Sidewalks shall be included within the dedicated non-pavement right of way of all roads as given in Table 2.
- Concrete curbs are required for all roads where sidewalks are required by these regulations or where required in the discretion of the City Council.
- Sidewalks shall be improved as required in Section 4.2.2b (road surfacing and improvements) of these regulations. A median strip of grassed or landscaped areas at least 4 feet wide shall separate all sidewalks from adjacent curbs.

Pedestrian accesses –

- The City Council may require, in order to facilitate pedestrian access from the roads to schools, parks, playgrounds, or other nearby roads, perpetual unobstructed easements at least 20 feet in width. Easements shall be indicated on the plan, plat or map.

TABLE 2

SIDEWALKS REQUIRED

	Residential Density			Non- Residential
	High	Med.	Low	(Business/ Industrial)
Collector Road	Optional*	Optional*	Both sides 5' wide	Both sides 6' wide
Secondary Arterial	Optional*	Both sides 5' wide	Both sides 5' wide	Both sides 6' wide
Primary Arterial	Both sides 5' wide	Both sides 5' wide	Both sides 5' wide	Both sides 6' wide

* Optional, but where provided 4' minimum on one side of the road with concrete curbs.

Section 4.9, Preservation of Natural Features and Amenities, requires that existing features which would add value to the development or to the city as a whole, such as trees, shall be preserved in the design of the subdivision or partition. No trees shall be removed from any subdivision or partition nor any change of grade of the land effected until approval of the tentative plan or map has been granted. All trees on the plat or map required to be retained shall be preserved. The sketch plan must show the number and location of existing trees, and the location of all proposed trees required along the street side of each lot as required by the subdivision ordinance.

Section 4.10, Street Trees, discusses requirements for trees planted by the developer. As a requirement of subdivision or partition approval, the applicant shall plant street trees on the property of the subdivision or partition. Such trees are to be planted along the road or roads within and abutting the subdivision, or further back on the abutting property when conditions warrant. Presence of existing trees can satisfy street tree planting requirements. A list of recommended species and varieties should be available at City Hall, with a variety of species recommended throughout the city. Several species may not be planted such as poplar, willow, cottonwood, ailanthus, silver maple, boxelder, nut or fruit trees (except ornamental) and conifers.

Trees shall be planted at 30-40 feet intervals as approved by the city in required parkway strips or, if not available, within 10 feet of a street edge. Further direction is given for planting at intersections, spacing, size and type, time of planting, installation and maintenance and approval. The City Council may require the developer to reserve an easement authorizing the city to plant shade trees within 5 or more feet of the required right-of-way of the city.

Subsection 4.13, Bicycle Routes, states that the City Council may require installation of separate bicycle lanes within streets and separate vehicle paths.

Section 4.14, Nonresidential Subdivisions, states that in nonresidential subdivisions for commercial or industrial use subdivisions street rights-of-way and pavement shall be adequate to accommodate the type and volume of traffic anticipated to be generated. Special requirements may be imposed with respect to the street, curb, gutter, and sidewalk design and construction. Streets carrying nonresidential traffic, especially truck traffic, shall not normally be extended to the boundaries of adjacent existing or potential

residential areas. Every effort should be made to protect residential areas from potential nuisances; e.g., extra depth in parcels, or placement of landscaped strips.

MOBILE HOME PARK ORDINANCE

Adopted in 1979 and amended in 1987, Ione's Mobile Home Park Ordinance Section 2, Procedure for Mobile Home Park Plan Approval, requires that the sketch of the layout shall show the tentative layout for streets in the park. Section 3, Requirements for Improvements, Preservation, and Design, states that interior streets are required subject to applicable standards as approved by the City Council upon recommendation of the City Engineer. Optional improvements that may be required by City Council also upon recommendation of the City Engineer include curbs or sidewalks or both, streetlights, and guest or recreational vehicle parking areas.

STRATEGIC PLAN

The Vision Statement in Ione's 1997 Strategic Plan states that, in the year 2010, safe streets and the small town environment will activate a sense of community pride and volunteerism, "people looking out for their neighbors".

In the summary of strengths, weaknesses, opportunities and threats (SWOT), "inadequate infrastructure" is listed as a business development weakness without specifying which infrastructure. One quality of life weakness is listed as "housing availability". A physical infrastructure strength is "adequate access in and out of area".

Appendix B

Description of Level-of-Service Methods and Criteria

Appendix B

LEVEL OF SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various LOS from A to F.[1]

SIGNALIZED INTERSECTIONS

The six LOS grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average stopped delay per vehicle. Using this definition, LOS D is generally considered to represent the minimum acceptable design standard.

Table B1
Level of Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stop delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stop delay is in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

1 Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual*, Special Report 209 (1994).

Table B2
Level of Service Criteria for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (Seconds)
A	≤ 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The *1994 Highway Capacity Manual* provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of LOS for unsignalized intersections is presented in Table B4. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard.

Table B3
Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in queue.
B	• Some drivers begin to consider the delay an inconvenience. • Occasionally there is more than one vehicle in queue.
C	• Many times there is more than one vehicle in queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in queue. • Drivers feel quite restricted.
E	• Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B4
Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Total Delay per Vehicle (Seconds)
A	< 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. **While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections.** No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

Appendix C

Employment and Population Forecast Methodology

320 WOODLARK BUILDING
813 SW ALDER STREET
PORTLAND, OREGON 97205-3111
503/225-0192 • FAX 503/225-0224

COGAN
OWENS
COGAN

PLANNING,
COMMUNICATIONS,
GOVERNMENTAL AND
COMMUNITY RELATIONS,
ENVIRONMENTAL STUDIES

MEMORANDUM

DATE: February 3, 1999

TO: Julie Kuhn

FROM: Matt Hastie MH

RE: **Morrow County Population and Employment Projections**

We have completed projections to be incorporated in Technical Memorandum #3 for the Morrow County TSP project. This memo outlines the methodology and assumptions used to develop projections for the cities of Boardman, Heppner, Ione, Irrigon and Lexington. For Boardman and Irrigon, we have estimated future population for the City and urban growth area (area between the existing city limits and urban growth boundary (UGB)). For the other cities, we have provided projections for the city limits only. All employment projections are for the cities only.

METHODOLOGY

Population

The Oregon Office of Economic Analysis (OEA) has developed population and employment forecasts through the year 2040for each county in Oregon. These are recognized as the official projections to be used by state agencies and local jurisdictions for planning purposes. Counties are responsible for allocating population to their cities and unincorporated areas. For the purposes of buildable lands and other planning studies, local jurisdictions may modify the OEA projections if agreed to by the appropriate coordinating state agency. In 1997, Morrow County, in coordination with the Oregon Department of Land Conservation and Development (DLCD) and the cities of Boardman and Irrigon, agreed to a modified set of 1997 population estimates and future projections. These projections assumed a higher rate of growth than forecast by the OEA through the year 2002 and incorporate the OEA growth rates from 2002 through 2020. The higher growth rates are based on substantial recent/ ongoing population and employment growth in the region. In addition, growth rates for specific cities are assumed to fluctuate from the county average in the near term.

We used these 1997 estimates and modified growth rates in our projections. In addition, we estimated the number of people within the urban growth areas of Boardman and Irrigon (based on the number of dwelling units and the average number

of people per dwelling unit in Morrow County) to estimate and project the population within the UGB for these two cities.

Employment

Current estimates of employment for individual cities are not available through the County, state or any of the individual jurisdictions involved in this project. As noted above, the state has developed county-wide employment projections for non-agricultural employment which can be used to estimate future growth rates for the county. In estimating current and future employment, we assumed the following:

- Between 1990 and 1997, employment growth rates mirrored those for population growth with these exceptions:
  - The rate of employment growth was slightly lower than population growth in Boardman, where employment growth was high but population growth was likely higher, due to significant employment growth in Umatilla County (i.e., some new Boardman residents in the workforce work in Umatilla County).
  - The rate in Irrigon was significantly lower than the rate of population growth, given Irrigon's "bedroom community" characteristics and the high rate of population growth there.
- Between 1997 and 2002, we also estimate a somewhat higher rate of employment growth than the original OEA projections, following the same logic used to develop population estimates, as well as the assumptions stated above.
- For 2002 - 2020, as with the population estimates, we assumed the employment growth rates projected by the OEA.

The attached tables show the projections.

POPULATION PROJECTIONS

County/City		1997	2000	2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow		9,895	9,828	11,179	2.5%	10,723	1.8%	11,594	1.6%	12,463	1.5%	13,322	1.3%
Adjusted Morrow		9,895	11,131	12,039	4.0%	12,701	1.8%	13,750	1.6%	14,812	1.5%	15,801	1.3%
Boardman	City and	2700	3,126	3,446	5.0%	3,635	1.8%	3,936	1.6%	4,240	1.5%	4,523	1.3%
	City and UGA	3062	3,545	3,908	5.0%	4,123	1.8%	4,463	1.6%	4,808	1.5%	5,129	1.3%
Heppner	City and	1480	1,502	1,517	0.5%	1,601	1.8%	1,733	1.6%	1,867	1.5%	1,992	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Ione	City and	310	319	326	1.0%	344	1.8%	372	1.6%	401	1.5%	428	1.3%
	City and UGA		-	-	1.0%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Irrigon	City and	1200	1,470	1,683	7.0%	1,776	1.8%	1,922	1.6%	2,071	1.5%	2,209	1.3%
	City and UGA	1444	1,769	2,025	7.0%	2,137	1.8%	2,313	1.6%	2,492	1.5%	2,658	1.3%
Lexington	City and	290	294	297	0.5%	325	1.8%	352	1.6%	379	1.5%	404	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%

EMPLOYMENT PROJECTIONS

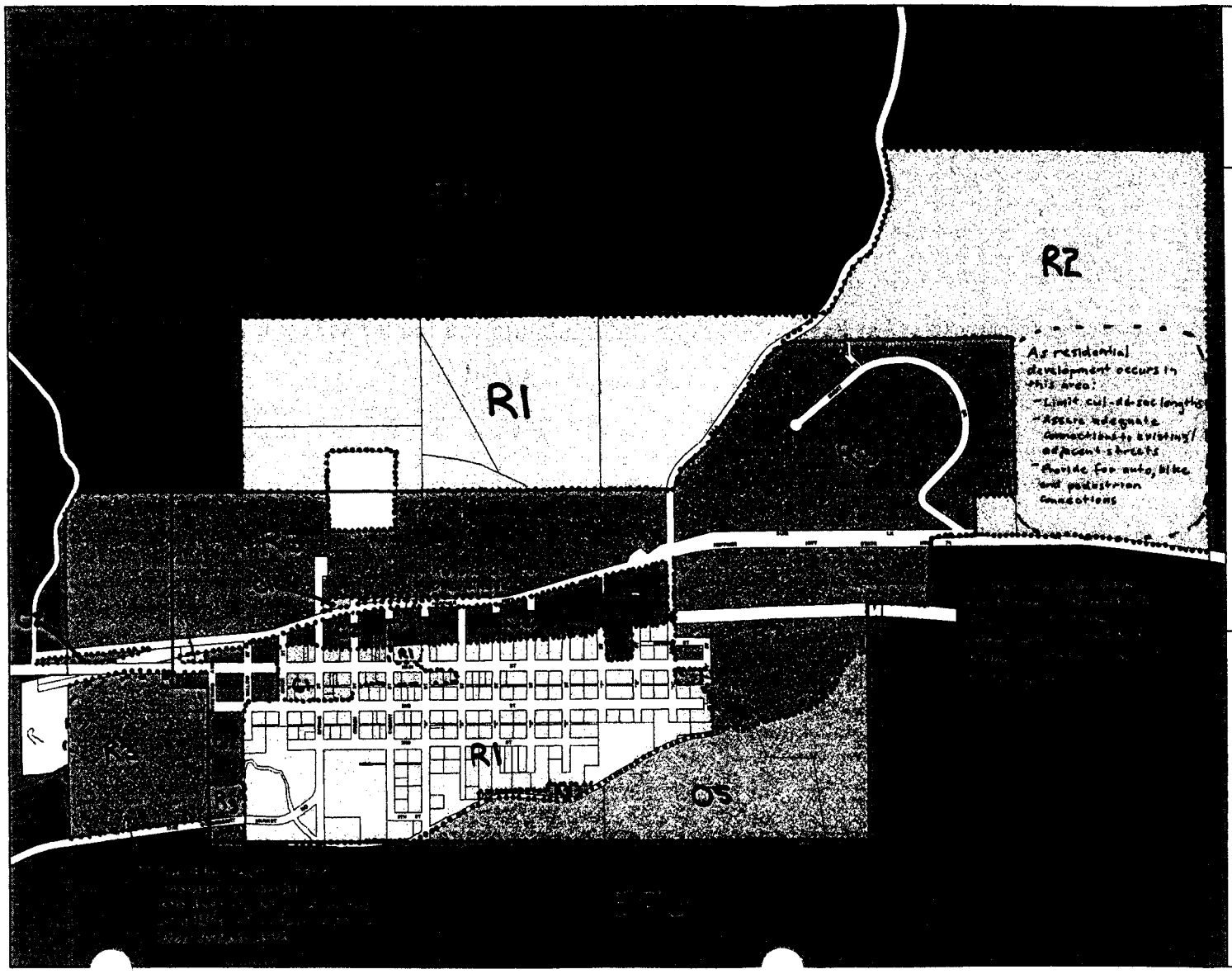
County/City	1990	1997	2000 % change		2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow Co. Proj.	2232	2,924	3,283	3.9%	3,449	2.5%	3,613	1.9%	3,890	1.5%	4,097	1.0%	4,290	0.9%
Boardman	641	1,029	1,261	7.0%	1,444	7.0%	1,528	1.9%	1,646	1.5%	1,730	1.0%	1,809	0.9%
Heppner	580	601	610	0.7%	616	0.5%	652	1.9%	702	1.5%	738	1.0%	772	0.9%
Ione	121	125	127	0.6%	128	0.5%	136	1.9%	146	1.5%	154	1.0%	161	0.9%
Irrigon	236	290	317	3.0%	336	3.0%	356	1.9%	384	1.5%	403	1.0%	422	0.9%
Lexington	108	110	110	0.2%	111	0.2%	117	1.9%	126	1.5%	133	1.0%	139	0.9%

Appendix D

Preferred Land Use Alternative

Land Use Alternatives

City of IONE Zoning



— Urban Growth Boundary
— City Limits
— Taxlots

Zoning

- C1
- C2
- EFU
- OS
- R1
- R2
- R3

Scale = 1:8000

Date : 6/4/99

Geographic Information Systems

Appendix E

Supplemental Funding Information

Table E-1
Ione Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Federal Sources

Program Name	Description
Community Development block Grants (CDBG)	Community Development Block Grants (CDBG) are administered by the Department of Housing and Urban Development (HUD) and potentially be used for transportation improvements in eligible areas.

Table E-1 (Continued)
Ione Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: State Level

Program Name	Description
State Highway Fund	The State Highway Fund composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carrier. In 1994, the state gas tax was $0.24 per gallon. Vehicle registration fees were $15 annually. Revenues are divided as follows: 15.57 percent to cities, 24.38 percent to counties, and 60.05 percent to ODOT. The city share of the State Highway Fund is allocated based on population. ORS 366.514 requires at least one percent of the State Highway Fund received by ODOT, counties and cities be expended for the development of footpaths and bikeways. ODOT administers the bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.
Special Public Works Fund (SPWF)	The State of Oregon allocates a portion of revenues from the state lottery for economic development. The Oregon Economic Development Department provides grants and loans through the SPWF program to construct, improve and repair infrastructure to support local economic development and create new jobs. The SPWF provides a maximum grant of $500,000 for projects that will help create a minimum of 50 jobs.
Transportation Access Charges	The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed, limited access corridors; service in high-demand corridors; and bypass facilities to avoid congested areas. Congestion pricing, where drivers are charged electronically for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements; but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods. The Oregon Revised Statutes allow ODOT to construct toll bridges to connect state highways and improve safety and capacity. The Statues also allow private development of toll bridges. Recent actions by the Oregon legislature provide authority for developing toll roads. State authority for congestion pricing does not exist; new legislation would be required.
Immediate Opportunity Fund (IOF)	Financed at a level of $5 million per year to a maximum of $40 million through FY96. The fund is to support specific economic developments in Oregon through the construction and improvement of roads and is restricted for use in situations that require a quick response and commitment of funds. It is anticipated that the maximum amount available for a single project is $500,000 or 10 percent of the annual program level. This fund may be used only when other sources of financial support are unavailable or insufficient and are not a replacement or substitute for other funding sources.
OR Transportation Infrastructure Bank	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.

Table E-1 (Continued)
Ione Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: State Level

Program Name	Description
OR Transportation Infrastructure Bank	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
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Table E-1 (Continued)
Ione Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Local Sources

Program Name	Description
Special Assessments/Local Improvements Districts	Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works projects as street paving, drainage, parking facilities and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct and/or financial benefit to its owners. Local Improvement Districts (LIDs) are legal entities established by the City to levy special assessments designed to fund improvements that have local benefits. Through a local improvement district (LID), streets or other transportation improvements are constructed and a fee is assessed to adjacent property owners.
Systems Development Charges (Impact Fees)	Systems Development Charges (SDCs) are fees paid by land developers intended to reflect the increased capital costs incurred by a municipality or utility as a result of a development. Development charges are calculated to include the costs of impacts on adjacent areas or services, such as increased school enrollment, parks and recreation use, or traffic congestion. Numerous Oregon cities and counties presently use SDCs to fund transportation capacity improvements. SDCs are authorized and limited by ORS 223.297 - 223.314.
Local Gas Tax	A local gas tax is assessed at the pump and added to existing state and federal taxes. Tillamook, The Dalles and Woodburn are Oregon cities that have a local gas tax. Multnomah and Washington Counties also have gas taxes.
Local Parking Fees	Parking fees are a common means of generating revenue for public parking maintenance and development. Most cities have some public parking and many charge nominal fees for use of public parking. Cities also generate revenues from parking citations. These fees are generally used for parking-related maintenance and improvements.

Table E-1 (Continued)
Ione Area Transportation System Plan
Summary of Road-Related Transportation Funding Programs: Local Sources

Program Name	Description
Street Utility Fee	Most city residents pay water and sewer utility fees. Street user fees apply the same concept to city streets. A fee would be assessed to all businesses and households in the city for use of streets based on the amount of use typically generated by a particular use. For example, a single-family residence might, on average, generate 10 vehicle trips per day compared to 130 trips per 1,000 square feet of floor area for retail uses. Therefore, the retail use would be assessed a higher fee based on higher use. Street services fees differ from water and sewer fees because usage cannot be easily monitored. Street user fees are typically used to pay for maintenance more than for capital projects.
Vehicle Registration Fees	Counties can implement a local vehicle registration fee. The fee would operate similar to the state vehicle registration fee. A portion of the County fee would be allocated to the City.
Property Taxes	Local property taxes could be used to fund transportation, although this is limited by Ballot Measure 5 and 47.
Revenue Bonds	Revenue Bonds are bonds whose debt service is financed by user charges, such as service charges, tolls, admissions fees, and rents. If revenues from user charges are not sufficient to meet the debt service payments, the issuer generally is not legally obligated to levy taxes to avoid default, unless they are also based by the full faith and credit of the insuring governmental unit. In that case, they are called indirect general obligation bonds. Revenue bonds could be secured by a local gas tax, street utility fee, or other transportation-related stable revenue stream.

Table E-2
Currently Used Revenue Sources For Cities (millions of 1995 dollars)

Facility	Revenue Source	Importance (not 100%)	3-Year Trend	Dedication	Rate
Streets/Bridges/ Sidewalks/ Bike Lanes	Oregon Highway Trust Fund	51% of total road or $89.	Growing about 1.75% per year.	Constitutionally limited to funding activities that benefit autos & trucks.	24¢/gal. for gas; $30/biennium registration fee.
	General Fund Transfers	9% or $15.	Varies but assume growth @ 3%/yr. But not used by all cities.	May be used for any purpose.	Varies widely.
	Special Property Tax Levies	5% or $7.	Increasing, only used by about 18 cities.	May be used for purpose described in election.	Varies widely.
	Improvement District Assessments	7% or $12.5.	Varies but increases when local development increases.	May be used for construction of adjacent streets-sidewalks.	Varies with construction cost & local ordinances.
	Systems Development Charges/Traffic Impact Fees	4% or $7.	Varies but increases when local development increases, only used by about 2 dozen cities.	May be used for construction of new streets.	Varies with construction cost & local ordinances. Rates generally higher in Portland Metro area.
	Utility Franchise Fees	3% or $4.	Grows roughly w/population and inflation.	Is a general revenue used by some cities for streets.	Statutory limit of 5% of utility gross receipts.
	Interest Earnings	4% or $6.	Varies w/current interest rates.	Have same Constitutional limits as Highway Fund.	Used as general street revenue.
	Local Gas Tax	0.44% or $0.7	Unchanged.	Have same Constitutional limits as Highway Fund.	Used by Tillamook, The Dalles, and Woodburn.
	Private Contributions	3% or $4.3	Varies widely.	Usually contributions are related to specific development street impacts.	Negotiated individually.

Table E-2: (Continued)
Currently Used Revenue Sources For Cities (millions of 1995 dollars)

Facility	Revenue Source	Importance (not 100%)	3-Year Trend	Dedication	Rate
	Misc. - permit fees, finds, fines, parking, Motel Tax, other	8% or $14.5.	Gradual growth.	General revenues used for streets.	Varies widely by City.
	Federal - FHWA+HUD	3% or $5.6.	Relatively stable	Used mainly for new construction w/some rehab.	Based on federal allocation to Oregon.
	Misc. State Revenues - mainly Lottery funds.	2% or $3.	Varies, no trend.	Used mainly for economic development capital improvements.	Specific grants to individual cities each year.
Off-street Bike Paths	Misc. general funds & ISTEA	??	Varies from year to year.	ISTEA & General Funds used for construction, General Funds used for maintenance & repair.	Varies from year to year.

Table E-3
Ione Area Transportation System Plan
Currently Used Revenue Sources in Oregon

Transit Service Type/Function	Funding Source	Status
Urban Public Transportation (Portland & Eugene) (operating & capital)	1. Local Payroll Tax - operating 2. Federal grants - capital 3. Federal grants - operating 4. Fares & advertising	1. Major Source - $100 million/yr. Growing - Sensitive to Economic Conditions 2. Major source - $10 million/yr - Stable 3. Minor source - $5 million/yr - Declining 4. Minor source - Growing w/ridership
Urban Public Transportation (Salem, Corvallis, Medford, K-Falls)	1. Property tax (typically a taxbase or stand-alone levy w/in $10 cap for local gov't services) 2. Federal grants - capital 3. Federal grant - operating 4. Fares & advertising	1. Major Source - Growing Slowly 2. Major Source - $2 million/yr. - Stable 3. Major Source - $2 million/yr. - Declining 4. Minor Source - Growing w/ridership
Small City & Rural (Astoria, Union County, etc.) (operating & capital)	1. Federal grants - capital & operating 2. Local Property Tax (typically w/in city or county operating levy) 3. Fares, donations & advertising	1. Major Source - Declining 2. Major Source - Stable 3. Minor Source - Stable
Mobility for Seniors & People with Disabilities - (operating & capital)	1. Special Transportation Fund (2¢ state cigarette tax) - operating & capital 2. Social Service Agency grants / contracts - operating 3. Local Property Tax (typically w/in city or county operating levy) 4. Federal grants - capital & operating 5. Fares, donations advertising	1. Major Source - $5 million/yr. - Declining 2. Major Source - Declining 3. Minor Source - Stable 4. Major Source - Declining 5. Minor - Stable
Intercity Bus (operating & capital)	1. Major Interstate Routes: Fares 2. Branch & feeder routes: Private capital, Fares	1. Sole Source - Declining 2. Private

City of Irrigon Transportation System Plan

Irrigon, Oregon

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Updated in 2005 by the City of Irrigon
In co-operation with the Oregon Department of Transportation

Adopted March 22, 2005

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Preface

Preface

This project is partially funded by a grant from the Transportation Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds. The contents of this document do not necessarily reflect the views or policies of the state of Oregon.

The progress of this plan was guided by the Management Team, Transportation Advisory Committee, and Consultant Team identified below.

Management Team:

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Morrow County Planning Department
Linda Fox
Mayor, City of Irrigon
Cheryl Jarvis-Smith
Oregon Department of Transportation
George Ruby
Oregon Department of Transportation

Transportation Advisory Committee:

Don Hurd
Dick McCombs
Don Eppenbach
Keith Kitcher
Carol Ford
Patti Burres

Advisory Committee members devoted a substantial amount of voluntary time and effort to the development of the Transportation System Plan, and their participation was instrumental in the development of the recommendations that are presented in this report. The Consultant Team and Management Team believe that the City of Irrigon's future transportation system will be better because of their commitment.

Consultant Team

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Chris Brehmer

Cogan Owens Cogan, Inc.
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Steve Shapiro

This plan was **updated, enhanced, and adopted March 22, 2005** by the following:

Irrigon Planning Commission

Irrigon City Council

Irrigon City Administrators – Patrick Reay; David Sawyer; Susan Jackson

The Oregon Department of Transportation – Patrick Knight

Section 1

Introduction

Introduction

The City of Irrigon, in conjunction with Morrow County and the Oregon Department of Transportation (ODOT), initiated a study of the city's transportation system during the summer of 1998. The purpose of this study is two-fold: to guide the management and development of appropriate transportation facilities; and to incorporate the vision of the community into a land use and transportation system that addresses both the potential for infill and redevelopment strategies and the multi-modal needs of the community.

Several community-specific issues that needed to be addressed as part of the study process were identified at the project inception stage. From the beginning, it was recognized that transportation and land use issues are strongly interconnected in the Irrigon community. Accordingly, this study closely examined the interrelationships between transportation and land use and how such relationships will direct future growth and development in Irrigon. For example, the Irrigon urban growth boundary (UGB) covers a large expanse of land; however, low-density development could consume more land than necessary and cause a need to expand the UGB. Irrigon also lacks an established downtown commercial core and needs additional, concentrated commercial development. How and where future commercial development occurs were considered to be pivotal issues in terms of helping Irrigon establish a stronger identity and character while also developing a comprehensive transportation system that corresponds to land uses. The analysis, findings, and recommendations of this report incorporate a diverse spectrum of vehicular, pedestrian, bicycle, and other multi-modal circulation and connectivity solutions.

This study was prepared as part of a Transportation Growth Management Grant. The report is formatted to provide the necessary elements for the City of Irrigon to assemble its Comprehensive Plan and provides Morrow County and ODOT with recommendations for incorporation with their respective planning efforts.

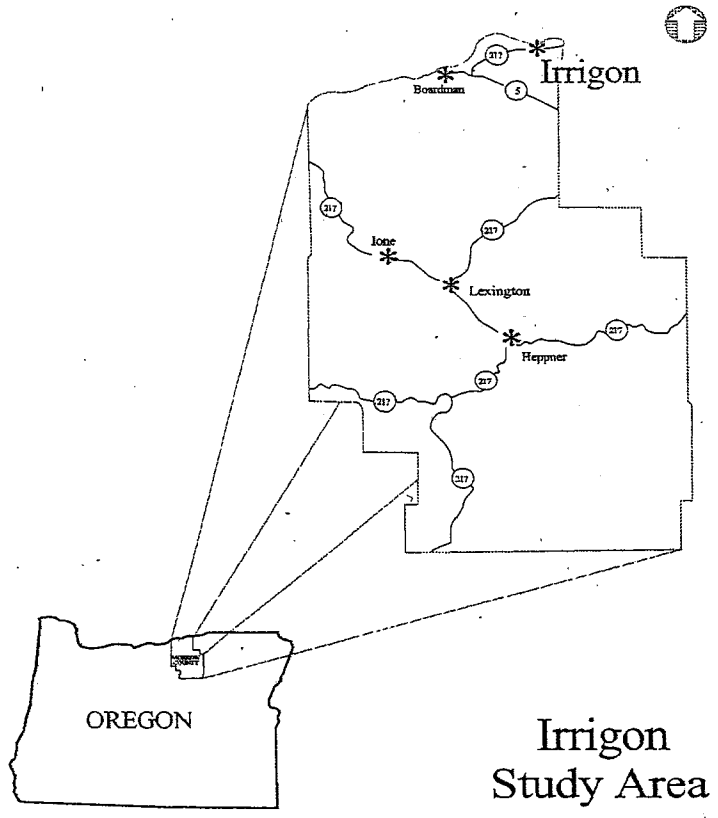
State of Oregon guidelines stipulate that the TSP must be based on the current comprehensive plan land-use map and must provide a transportation system that accommodates the expected 20-year growth in population and employment that will result from implementation of the land use plan. Oregon Revised Statute 197.712 and the Land Conservation and Development Commission (LCDC) administrative rule known as the Transportation Planning Rule (TPR) require that all jurisdictions develop the following:

- a road plan for a network of arterial and collector streets;
- a public transit plan;
- a bicycle and pedestrian plan;
- an air, rail, water, and pipeline plan;
- a transportation finance plan; and,
- policies and ordinances for implementing the transportation system plan

The TPR requires that alternative travel modes be given equal consideration and that reasonable effort be applied to the development and enhancement of the alternative modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions adopt land use and subdivision ordinance amendments to protect transportation facilities and to provide bicycle and pedestrian facilities between residential, commercial, and employment/institutional areas. It is further stipulated that local communities coordinate their respective plans with county and state transportation plans.

STUDY AREA

Figure 1 – Study Area Map



The City of Irrigon is located along Highway 730 in the northeastern quadrant of Morrow County, Oregon, as shown in Figure 1. The city, which is bordered by the Columbia River to the north, is home to an estimated population of 1,780 persons (Portland State University 2003 estimate). Incorporated in 1957, the city's economy is primarily based on agriculture, though the downtown area contains a mix of commercial, residential, and public land uses.

The majority of the commercial land uses within Irrigon are located along Highway 730 while light industrial zoning is provided along the south side of Highway 730. Residential land uses are located throughout the city, with farmland located along the city's southern periphery. Reflecting the area's rural character, Irrigon's residential development is primarily of low-density design. Single-family homes, manufactured homes, and some duplexes on modest lots are located throughout the city.

Future growth may be limited by current water capacity and infrastructure deficiencies. The City will work towards eliminating these deficiencies by the year 2025.

PUBLIC INVOLVEMENT AND STUDY GOALS

The TSP planning process provided the citizens of Irrigon with the opportunity to identify their priorities for future growth and development. Expressing their vision for the future in terms of goals and objectives for the TSP was a central element of the public involvement process. The goals and objectives identified by the community were used as guidelines for developing and evaluating alternatives, selecting a preferred transportation plan, and prioritizing improvements.

Two committees were formed to guide the planning process: the Management Team and the Transportation Advisory Committee (TAC). The Management Team was composed of representatives of the City of Irrigon, Morrow County, ODOT, and the consultant team. The Transportation Advisory Committee included several community members with a specific interest in transportation and land use planning in the community. The two committees convened at several key junctures of the project including: project inception, completion of the existing conditions analysis, presentation of the future conditions and alternatives analysis findings, and presentation of the draft TSP.

Given the city's Comprehensive Plan, and through the direction provided by both the two TSP committees and the public hearing process, a series of transportation system goals and objectives evolved that provided the planning process with direction as well as evaluation criteria. Those goals and objectives are listed below.

Goal 1

Promote a balanced, safe, and efficient transportation system.

Objectives

1. Develop a multi-modal transportation system that avoids reliance upon one form of transportation as well as minimizes energy consumption and air quality impacts.
2. Protect the qualities of neighborhoods and the community.
3. Provide for adequate street capacity and optimum efficiency.
4. Promote adequate transportation linkages between residential, commercial, public, and industrial land uses.
5. Minimize conflicts between through and local traffic on Highway 730 to reduce traffic hazards and expedite the flow of traffic.

Goal 2

Ensure the adequacy of the roadway network in terms of function, capacity, level of service, and safety.

Objectives

1. Develop a functional classification system that addresses all roadways within the study area.
2. In conjunction with the functional classification system, identify corresponding street standards that recognize the unique attributes of the local area.
3. Identify existing and potential future capacity constraints and develop strategies to address those constraints, including potential intersection improvements, future roadway needs, and future street connections.
4. Evaluate the need for modifications to and/or the addition of traffic control devices.
5. Identify access spacing standards on Highway 730 that conform to the Oregon Highway Plan.
6. Provide an acceptable level of service at all intersections in the city, recognizing the rural character of the area. Intersection operations on Highway 730 should conform to the level of service and volume/capacity ratio requirements identified in the Oregon Highway Plan.
7. Identify existing and potential future safety concerns as well as strategies to address those concerns.

Goal 3

Promote alternative modes of transportation.

Objectives

1. Develop a comprehensive system of pedestrian and bicycle routes that link major activity centers within the study area.
2. Encourage the continued use of public transportation services.

Goal 4

Identify and prioritize transportation improvement needs in the City of Irrigon, and identify a set of reliable funding sources that can be applied to these improvements.

Objectives

1. Develop a prioritized list of transportation improvement needs in the study area.
2. Develop construction cost estimates for the identified projects.
3. Evaluate the adequacy of existing funding sources to serve projected improvement needs.
4. Evaluate new innovative funding sources for transportation improvements.

TRANSPORTATION SYSTEM PLAN STUDY METHODOLOGY AND ORGANIZATION

The development of the City of Irrigon's Transportation System Plan began with an inventory of the existing transportation system and a review of the local, regional, and statewide plans and policies that guide land use and transportation planning in the city (Appendix "A" contains the plans and policies review). The inventory included documentation of all transportation-related facilities within the study area and allowed for an objective assessment of the current system's physical characteristics, operational performance, safety, deficiencies, and general function. A description of the inventory process, as well as documentation of the existing conditions analyses and their implications, is presented in **Section 2** of this report. The findings of the existing conditions analysis were presented to and verified by the two TSP committees.

Upon completion of the existing conditions analysis, the focus of the project shifted to forecasting future travel demand and the corresponding long-term future transportation system needs. Development of long-term (year 2020) transportation system forecasts relied heavily on population and employment growth projections for the study area and review of historical growth in the area. Through the city's Comprehensive Plan and land use projections provided by the consultant team, reasonable assumptions could be drawn as to the potential for and location of future development activities. **Section 3** of this report, *Future Conditions Analysis*, details the development of anticipated long-term future transportation needs within the study area.

Section 4 of this report, *Alternatives Analysis*, documents the development and prioritization of alternative measures to mitigate identified safety and capacity deficiencies, as well as projects that would enhance the multi-modal features of the local transportation system. The process where transportation system projects are identified and prioritized included extensive cooperation with both TSP committees. The impact of each of the identified alternatives was considered based on individual merits, conformance with the existing transportation system and land use, as well as potential conflicts to implementation and integration with the surrounding transportation system and land use components. Ultimately, a preferred plan was developed that reflected a consensus as to which elements should be incorporated into the city's long-term transportation system.

Having identified a preferred set of alternatives, the next phase of the TSP planning process involved presenting and refining the individual elements of the transportation system plan through a series of decisions and recommendations. The recommendations identified in **Section 5**, *Transportation System Plan*, include a Roadway Network and Functional Classification Plan, a Pedestrian Plan, a Bikeway Plan, a Public Transportation Plan, and other multi-modal plans.

Section 6, *Transportation Funding Plan*, provides an analysis and summary of the alternative funding sources available to finance the identified transportation system improvements.

The city's existing comprehensive plan and zoning ordinances were limited and did not allow the city to develop the type of transportation system desired. In an effort to rectify this situation and ensure compliance with the TPR, several comprehensive plan and zoning ordinance modifications have been developed. Development review guidelines were also drafted. The recommended modifications presented in **Section 7**, *Policies and Land Use Ordinance Modifications*, address major land use and transportation issues identified through development of the TSP and reflect the desire to enhance all modes of the transportation system.

Finally, **Section 8**, *Transportation Planning Rule Compliance*, lists the requirements and recommendations of the Oregon Transportation Planning Rule (OAR 660 Division 12) and identifies how the City of Irrigon TSP satisfies that criterion.

Section 2

Existing Conditions

Existing Conditions

INTRODUCTION

The development of this transportation system plan began with an assessment of the existing land use and transportation system conditions. This section describes the existing land uses and conditions for all transportation modes that the transportation system plan will address, including trucks, cars, pedestrians, bikes, transit, air, marine, and pipeline facilities. The purpose of this section is to provide an inventory description of existing facilities while setting the stage for a basis of comparison to future conditions.

LAND USE HISTORY

Settled first in 1861 as a supply point for the gold fields of Montana, Idaho, and eastern Oregon, Irrigon was incorporated in 1957. Early transportation of goods focused on the river. The first railroad serving the area was completed in 1883 and the first highway, the Columbia River Highway, was completed in 1921. In 1964, planners were hired to provide guidance on the city's long-term development goals – a water supply and distribution system and the eventual need for sewer collection. In the 1970's, when the highway system was expanded, Highway 30 became Highway 730. The Columbia River Highway, relocated, still serves as the main transportation route through the city today.

The majority of the commercial land uses within Irrigon are located along Highway 730 while light industrial zoning is provided along the south side of Highway 730. Residential land uses are located throughout the city, with farmland located along the city's southern periphery. Reflecting the area's rural character, Irrigon's residential development is primarily of low-density design. Single-family homes, manufactured homes, and some duplexes on modest lots are located throughout the city. Figure 2 illustrates the local zoning.

Irrigon has grown quite rapidly since the expansion of the highway system in the 1970's. Population increased 47% from 1990 to 1997 – from 737 to 1,200 people. Population in 2003 has reached 1780. Growth in the region continues to be generated by regional economic forces, including expansion at the Port of Morrow in Boardman, the new correctional facility in Umatilla County, the Army Depot Incinerator in north Umatilla and Morrow Counties, a new Wal-Mart distribution facility in Hermiston, and the expansion of Union Pacific Railroad's Hinkle Rail yard in Hermiston.

Conversations with members of the Irrigon TAC indicate that residents feel that there is considerable opportunity for commercial development and redevelopment in town to capitalize on these regional economic impacts.

TRANSPORTATION FACILITIES

The City of Irrigon's transportation system includes facilities that serve several different modes. All of these facilities are identified and discussed in detail in the remainder of this section.

ROADWAY SYSTEM

Jurisdictions

All public roadways within the City of Irrigon are operated and maintained under the auspices of one of three jurisdictions – the Oregon Department of Transportation (ODOT), Morrow County, and/or the city. The following paragraphs highlight the existing roadway network, which is illustrated in Figure 3.

State Facilities

Highway 730

Highway 730, also known as the Columbia River Highway, is operated and maintained by ODOT and classified as being a Regional Highway as identified by the 1999 Oregon Highway Plan. The primary function of a Regional Highway is to provide connections and links to areas within regions of the state, between small, urbanized areas and larger population centers, and to higher-level facilities. The highway generally parallels the Columbia River, providing a continuous east-west route between Interstate 84 and the State of Washington and serves as a city-to-city link between neighboring cities.

Highway 730 provides the backbone of the city's transportation system and serves as the primary east-west corridor through the community. The cross-section design of Highway 730 consists of three lanes throughout the city with the speed limit posted as 35 miles per hour. Given the location of Highway 730, the roadway effectively bisects the city. As a result, while the highway links the east and west portions of the community, it also limits north-south connectivity by creating a barrier that affects adjacent land use as well as pedestrian and bicycle access.

City of Irrigon Facilities

The City of Irrigon's roadway system is comprised of a number of north-south and east-west streets that provide connections to Highway 730. A basic grid network of roads is provided on the north side of Highway 730 within the city. The transportation related study prepared for the city in 1993 identifies the street classification used by the city as having three distinctive groups, arterials, collectors, and local roads (Reference 2). The classification of city streets is summarized below and in Figure 2.

Arterials:

- Highway 730

Minor Collectors:

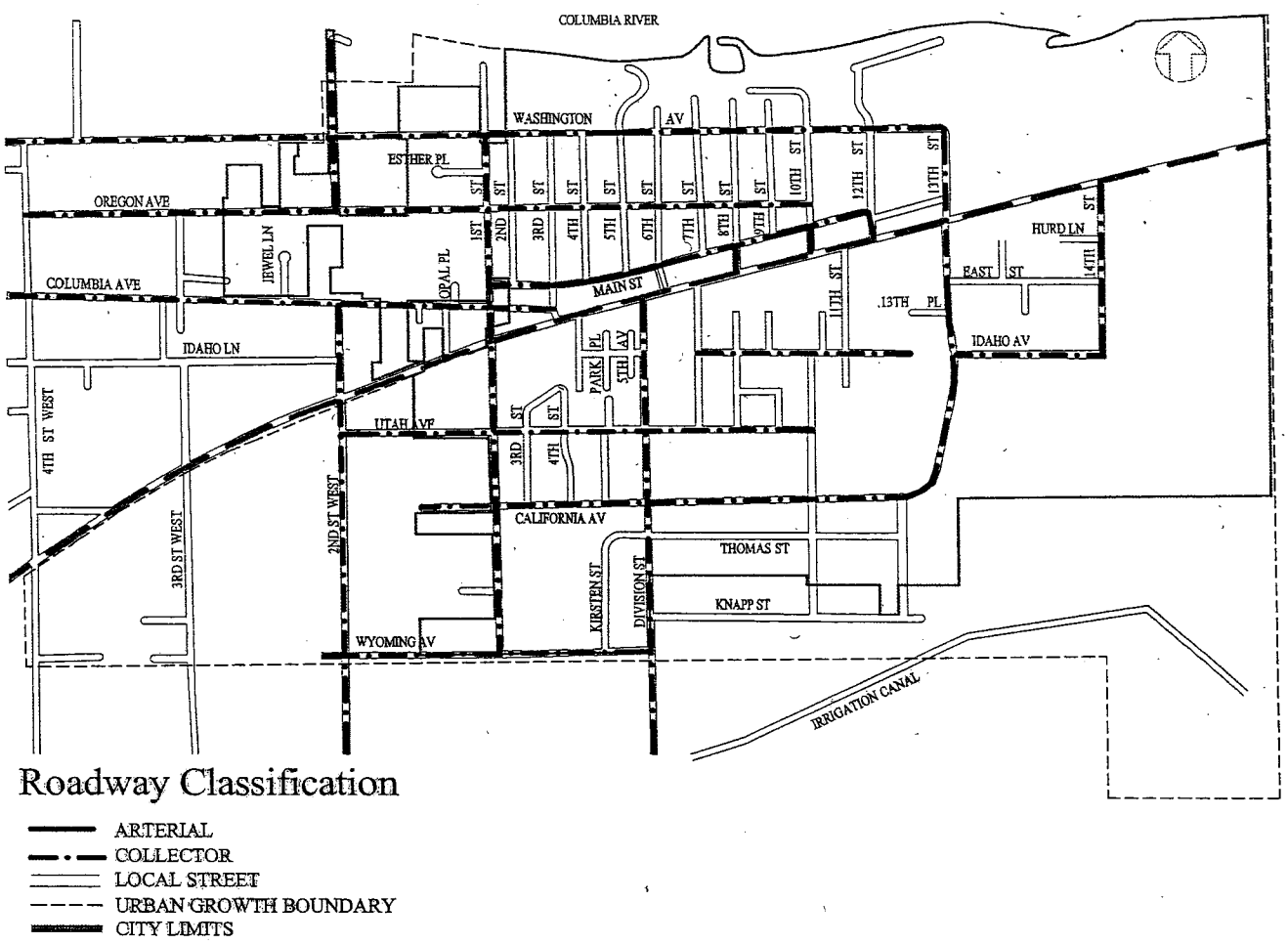
- Washington Avenue
- North East Main Avenue
- Utah Avenue
- Second Street West
- First Street
- Division Street
- Thirteenth Street
- Wyoming Avenue (Future)
- Fourteenth Street (Future)
- Oregon Avenue (Future)
- California Avenue (Future)
- Idaho Avenue (Future)

The remainder of the streets within the City of Irrigon is classified as local streets.

The city's Street, Sidewalk, Bikeway, and Handicapped Access Study identifies street cross-section design standards. No striped on-street parking is provided within the city, though several homeowners appear to park off the shoulders of local streets within the residential areas.

Figure 3 identifies the existing pavement condition of roadways within the city. As suggested by Figure 3, there is unimproved gravel roadways within the city, primarily within the expanding residential areas located on the south side of the city. Some of the roadways exhibit half-street paving projects, apparently completed in conjunction with development activities.

Figure 2 – Existing Roadway Classification



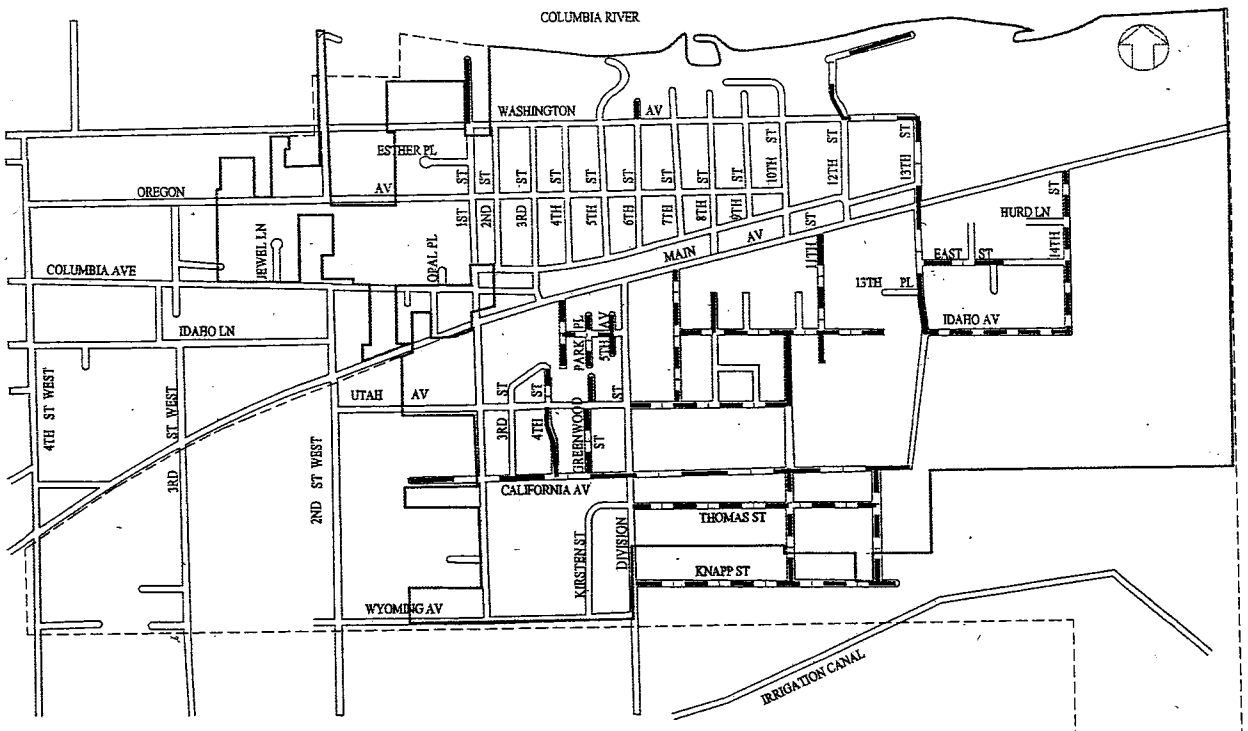
PEDESTRIAN SYSTEM

The City of Irrigon does not currently have sidewalk facilities except on the property of some public buildings and the multiuse path along Highway 730. Instead, the city's pedestrian network relies exclusively on shared roadways and unimproved footpaths.

The city's *Street, Sidewalk, Bikeway, and Handicapped Access Study* previously reviewed the locations of pedestrian generators within the city and documents suggested pedestrian circulation routes for students, senior citizens, and recreational/residential interests though there is currently no infrastructure to support those routes. The suggested circulation patterns seek to minimize the number of crossings of Highway 730, thereby reducing the number of potential locations of pedestrian/vehicle interaction.

The community has discussed potential crosswalks on Highway 730 and suggested that a pedestrian crossing of Highway 730 be constructed at Division Street in conjunction with provision of supplemental pedestrian facilities on Division Street. A multiuse path has been constructed to convey pedestrians along the north side of Highway 730. Placement of raised median (safety) islands or pedestrian refuges on Highway 730 has been discussed as potential 'gateway' elements to connect pedestrian paths to and from the new post office and the grade school. Sidewalks and curbs along 730 would greatly improve pedestrian safety in the area.

Figure 3 – Existing Conditions Roadway Inventory



Roadway Inventory

PAVED STREET
HALF-STREET IMPROVEMENT
GRAVEL
URBAN GROWTH BOUNDARY
CITY LIMITS

BICYCLE SYSTEM

There are few designated bicycle facilities within the City of Irrigon. However, the city's *Street, Sidewalk, Bikeway, and Handicapped Access Study* recommends construction of a bike lane to facilitate the travel of students to and from the two local school buildings. In conjunction with the previously discussed pedestrian issues, the city is also considering development of a bike facilities on the along Division Street and providing safe crossings of Highway 730 through raised safety islands or some other treatment measures. Off-street bike paths linking the middle school and elementary school have also been evaluated but not yet implemented.

PUBLIC TRANSPORTATION SYSTEM

Within the City of Irrigon, limited public transportation services are available through the county, the local school district, the RSVP/CAPECO program, and Greyhound (Boardman).

Morrow County Special Transportation Program

Morrow County provides two public transportation programs that serve the City of Irrigon. A senior bus service is available to groups by appointment and provides service for seniors, disabled persons, and low-income persons. Other users are welcome as long as they do not displace the primary users (i.e., seniors, the disabled, and the disadvantaged). A dial-a-ride service is also available by appointment to serve the same audience. Both programs are funded through Special Transportation Funds and rely on a volunteer pool of drivers. While increased usage of these services is desirable, there are no current or pending plans to expand public transportation services to the area. Further information regarding the program may be found by calling Stokes Landing Senior Center at (541) 922-3603.

Other Services

The local school district provides school bus service to portions of the city on school days, and the RSVP/CAPECO program based in Pendleton provides a transportation option. Under the RSVP/CAPECO program, qualified drivers are reimbursed for transporting others in personal vehicles when the local county transportation service is unavailable. This program requires an initial application process and authorization prior to persons being qualified for reimbursement. Reimbursement is then available for qualified trips on a per mile basis. The RSVP Program Contact may be reached by calling (541) 278-5669.

General Comments

Discussions with local agency staff and TAC members indicated that, with the exception of school bus and Greyhound service, the public transportation services available are not as well used as they could be. A commonly repeated theme was the notion that there is a need to create greater awareness of the programs among community members. Community input stressed the need for convenient access to public transit service for the elderly. It was further observed that the population under the driving age is particularly under-served and, as the community grows in geographic size; their overall accessibility will be diminished. Although enhanced service is desired, no segment of the city's population was specifically identified as being without transportation service.

Aside from the aforementioned services, for most of the city's residents, private transportation is the only available option to get to the local medical, social, and retail services and the educational and employment opportunities located in adjacent communities.

AIR TRANSPORTATION SYSTEM

No commercial or private aviation facilities are located within the City of Irrigon. Regional freight cargo and air passenger services are provided at the Eastern Oregon Regional Airport at Pendleton, located approximately 45 miles southeast of Irrigon via I-84, and at the Tri-Cities Airport located approximately 40 miles to the north in Pasco, Washington. Both the Eastern Oregon Regional Airport and the Tri-Cities Airport provide regional passenger air service, connecting to national and international airports. In addition, the City of Hermiston owns and operates a general aviation airport that offers charter service. Port of Morrow is working towards a commercial air service.

RAILROAD TRANSPORTATION SYSTEM

Freight rail service would potentially be available through the Port of Morrow, though intermediate non-rail transport to the Port of Morrow would be necessary. The rail service at Port of Morrow is being upgraded to accommodate greater shipping traffic and adding a spur loop to serve the industrial area. Shippers in the area have the use of two inter-modal facilities, located in Spokane, Washington and Nampa, Idaho.

Passenger rail service was discontinued in May 1997. The nearest service is provided by Empire Builder line (Portland – Spokane) in Pasco, Washington, approximately 35 miles to the north.

MARINE TRANSPORTATION SYSTEM

Irrigon has a small public marine park and recreational boat ramp located on the north side of the community at the end of 10th Street. Marine freight transportation is not available within the City of Irrigon, though the Port of Morrow maintains a barge area along the Columbia River in Boardman, Oregon to the west. To the east of Irrigon, the Port of Umatilla maintains a marina and a freight transfer area along the Columbia River in the City of Umatilla.

PIPELINE TRANSPORTATION SYSTEM

No major pipelines within the City of Irrigon were identified; however, it was noted that a natural gas line owned and operated by Cascade Natural Gas runs parallel to the north side of Highway 730.

TRAFFIC OPERATIONS ANALYSIS

Seven intersections within the city were selected for operational analysis under 1998 existing conditions. Traveling west to east, those intersections include Highway 730 and:

- Second Street West
- First Street West
- Third Street
- Columbia Avenue
- Division Street
- Sixth Street
- Twelfth Street

Traffic Control

Figure 4 illustrates the existing lane configurations and traffic control devices at each of the study intersections, all of which are currently un-signalized.

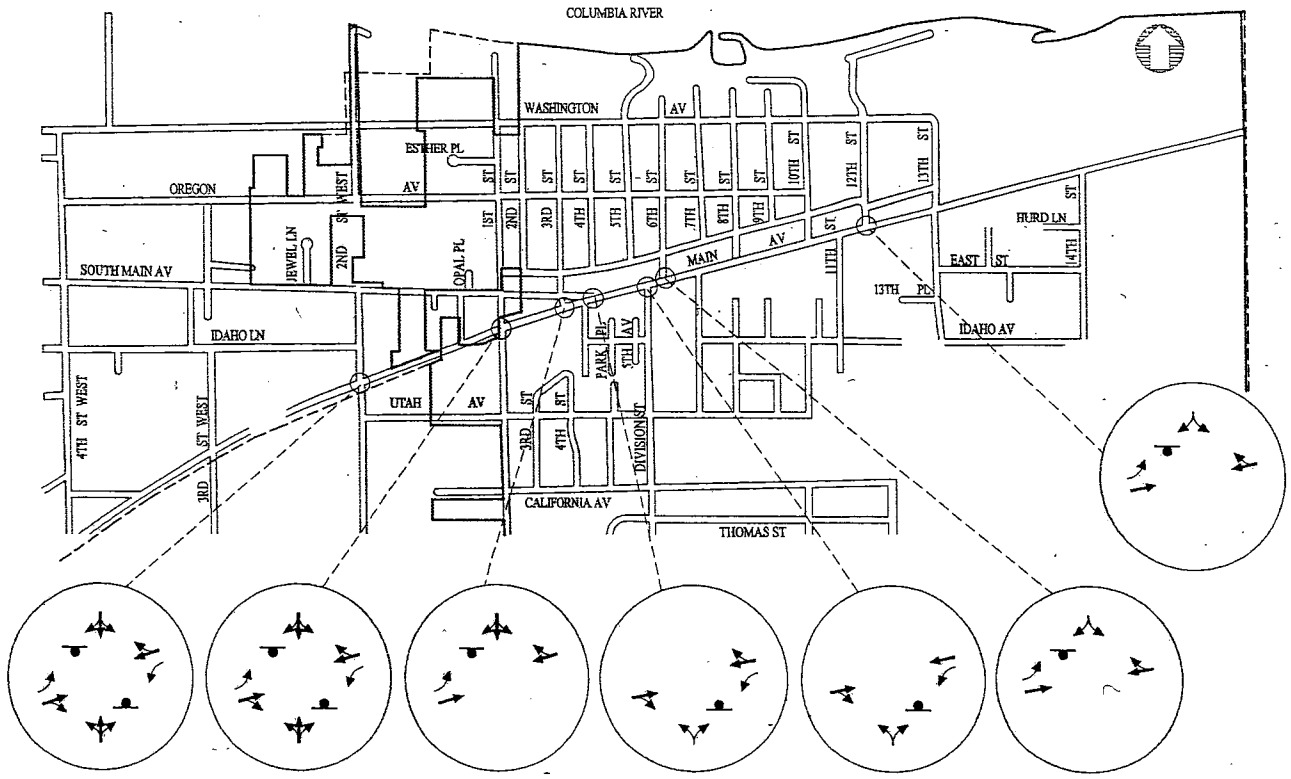
Traffic operations at each of the intersections were examined during the weekday p.m. peak hour. The p.m. peak period represents the worst-case condition for traffic operations on the transportation system. Travel patterns during this weekday time-period typically combine commuting, shopping, and recreational trips, thus generating higher traffic volumes on the transportation system than during any other time-period or day of the week.

Traffic Volumes

Weekday p.m. peak hour manual traffic volume counts at the intersections were conducted in mid-November 1998. Manual turning movement traffic-counts were conducted between 3:30 p.m. and 5:30 p.m. on a mid-week day. The highest one-hour flows during these periods were used in this study.

Based on the turning movement counts conducted at study area intersections, the system-wide p.m. peak hour of traffic on a typical weekday afternoon was estimated to occur between 4:30 and 5:30 p.m. Existing weekday p.m. peak hour traffic volumes are shown in Figure 5. Traffic volumes have been rounded to the nearest five vehicles per hour. For comparative purposes, local average daily traffic (ADT) volume data obtained from ODOT are summarized in Figure 6.

Figure 4 – Existing Lane Configurations and Traffic Control Devices



LEVEL OF SERVICE AND VOLUME TO CAPACITY RATIO ANALYSIS

Transportation engineers have established various standards for measuring traffic capacity of roadways or intersections. Each standard is associated with a particular level of service (LOS). The LOS concept summarized in Appendix B, requires consideration of factors that include travel speed, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort and convenience, and operating cost. In the 1991 Oregon Highway Plan, levels of service were defined by a letter grade from A-F, with each grade representing a range of volume to capacity (v/c) ratios. A volume to capacity ratio (v/c) is the peak-hour traffic volume on a highway divided by the maximum volume that the highway can handle. If traffic volume entering a highway section exceeds the section's capacity, then disruptions in traffic flow will occur, reducing the level of service. LOS A represents relatively free-flowing traffic and LOS F represents conditions where the street system is totally saturated with traffic and movement is very difficult. The 1999 Oregon Highway Plan maintains a similar concept for measuring highway performance, but represents LOS by specific v/c ratios to improve clarity and ease of implementation. Table 1 presents the level of service criteria and the corresponding volume to capacity ratio for arterial and collector streets.

Figure 5 – Traffic Volumes Weekday Peak Hour (1998)

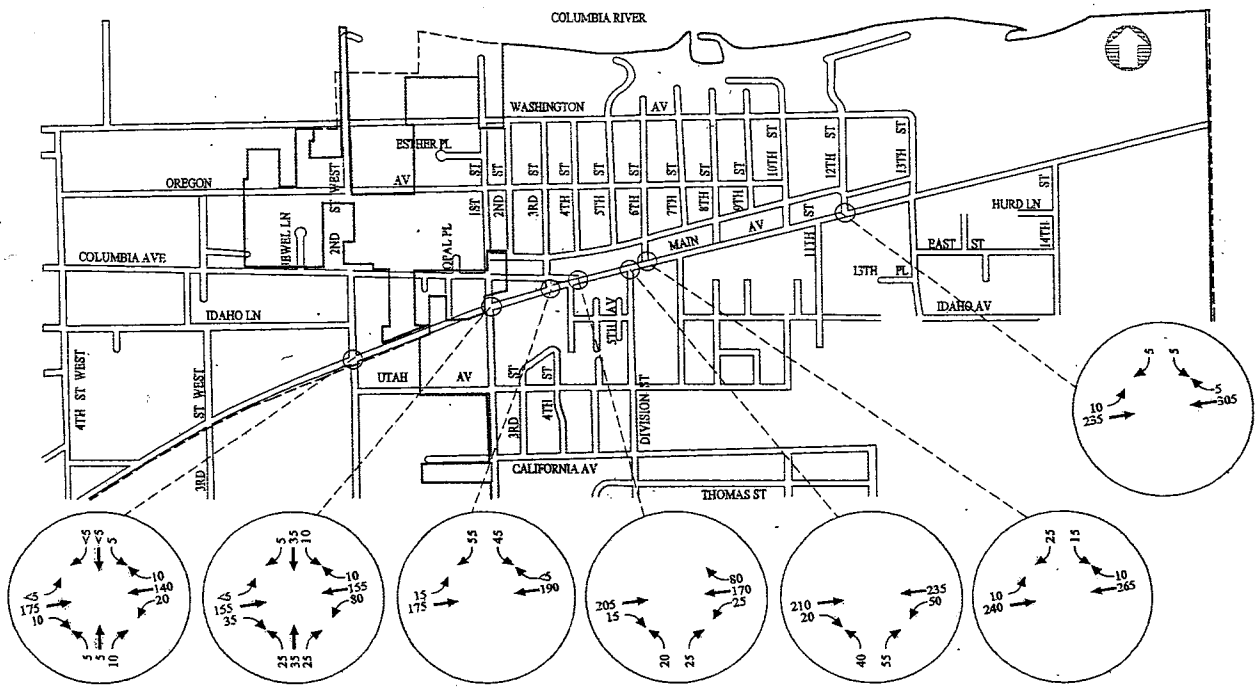


TABLE 1 – LEVEL OF SERVICE AND VOLUME TO CAPACITY RATIO CRITERIA FOR ARTERIAL AND COLLECTOR STREETS

Service Level – (Volume to Capacity Ratio)	Typical Traffic Flow Conditions
A (0.0 – 0.2)	Relatively free flow of traffic with some stops at signalized or stop sign controlled intersections. Average speeds would be at least 30 miles per hour.
B (0.2 – 0.4)	Stable traffic flow with slight delays at signalized or stop sign controlled intersections. Average speed would vary between 25 and 30 miles per hour
C (0.4 – 0.6) (0.4 – 0.7)	Stable traffic flow with delays at signalized or stop sign controlled intersections. Delays are greater than at level B but still acceptable to the motorist. The average speeds would vary between 20 and 25 miles per hour
D (0.6 – 0.8) (0.7 – 0.9)	Traffic flow would approach unstable operating conditions. Delays at signalized or stop sign controlled intersections would be tolerable and could include waiting though several signal cycles for some motorists. The average speed would vary between 15 and 20 miles per hour.
E (0.8 – 1.0) (0.9 – 1.0)	Traffic flow would be unstable with congestion and intolerable delays to motorists. The average speed would be approximately 10 to 15 miles per hour.
F (1.0)	Traffic flow would be forced and jammed with stop and go operating conditions and intolerable delays. The average speed would be less than 10 miles per hour

Source(s): Transportation Research Board, *Highway Capacity Manual*, Special Report 209; ODOT, *SIGCAP Users Manual*. ODOT, 1984

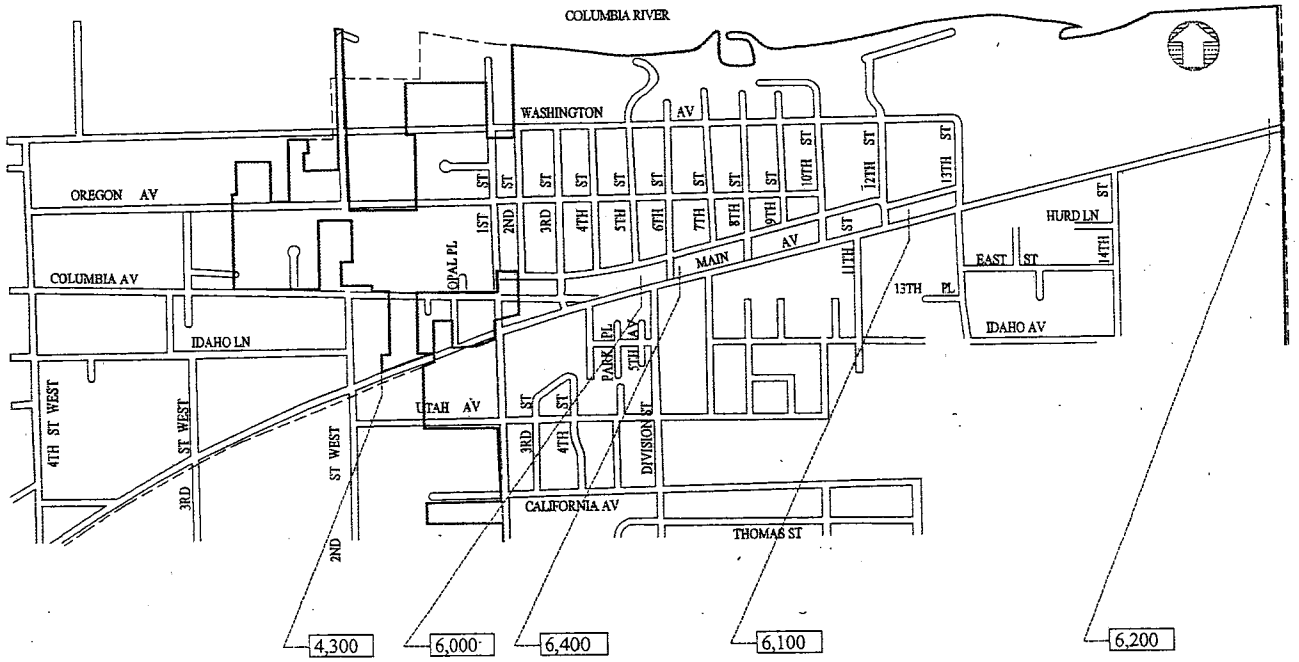
Using the weekday p.m. peak hour turning movement volumes shown in Figure 6, an operational analysis was conducted at each of the study area intersections to determine existing levels of service. All level of service analyses described in this study was conducted in accordance with the 1994 Highway Capacity Manual, published by the Transportation Research Board (Reference 3). Appendix "B" summarizes the level of service concept.

To ensure that this analysis was based on a reasonable worst-case scenario, the peak 15 minute flow rate during the weekday p.m. peak hour was used in the evaluation of all intersection level of service and volume to capacity ratio analyses. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average weekday p.m. peak hour. Traffic conditions during all other weekday periods will likely operate under better conditions than those described in this report. It should be noted that peak seasonal traffic conditions typically occurs during the summer harvest season, hence Design Hour Volumes may be up to 25 percent higher than the peak hour analyzed in the TSP.

Un-signalized Intersections

For un-signalized two-way stop-controlled (TWSC) intersections, level of service (LOS) and volume to capacity ration (v/c ratio) is based on an intersection's capacity to accommodate the worst, or critical, movement. Typically, the left-turn from the stop-controlled approach is the most difficult movement for drivers to complete at a TWSC intersection. This is due to this movement being exposed to the greatest potential number of conflicting, higher-priority movements at the intersection. Available gaps in the through traffic flow of the uncontrolled approach(s) are used by all other conflicting movements before the side-street left-turn can be negotiated. Therefore, the number of available gaps for the side street left-turn to negotiate its movement safely is likely to be substantially lower than any other movement. As a result, the side-street left-turn typically experiences the highest delays and the worst level of service. For the Highway 730 corridor through the City of Irrigon, the Oregon Highway Plan stipulates that a maximum volume to capacity ratio of 0.80 (Reference 1). Table 2 summarizes the level of service and volume to capacity ratio results for the un-signalized study intersections.

Figure 6 – 1997 Estimated Average Daily Traffic Volumes



Estimated Average Daily Traffic Volumes (1997)

– – – – URBAN GROWTH BOUNDARY
——— CITY LIMITS

TRAFFIC VOLUMES BASED ON 1997 ODOT TRANSPORTATION VOLUME TABLES

TABLE 2 – 1998 PM PEAK HOUR LEVEL OF SERVICE AND VOLUME TO CAPACITY RATIO, UNSIGNALIZED INTERSECTIONS

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
2nd Street West/Highway 730	Southbound	0.02	5.9	B	A
4th Street/Highway 730	Southbound	0.12	7.6	B	A
3rd Street/Highway 730	Southbound	0.17	5.7	B	A
South Main Street/Highway 730	Northbound	0.08	5.7	B	A
Division Street/Highway 730	Northbound	0.18	6.8	B	A
6th Street/Highway 730	Southbound	0.08	5.9	B	A
12th Street/Highway 730	Southbound	0.02	6.4	B	A

Legend: LOS = Level of Service; V/C = Volume/Capacity Ratio

As Table 2 indicates, all of the un-signalized study area intersections well below maximum volume to capacity ratios under existing weekday p.m. peak hour conditions.

TRAFFIC SAFETY

Another important aspect of the transportation system is safety. The safety analysis described in the following section focuses on the accident history for Highway 730 within the City of Irrigon urban growth boundary.

Intersection Accident Analysis

The accident history of the study intersections was examined for potential and existing safety problems. ODOT accident data for the period January 1993 through June 1998 were used for this analysis. In addition, the ODOT District 12's 1996-1998 Safety Priority Index System (SPIS) lists were reviewed. The SPIS list identifies locations with relatively high accident rates and locations that have been the site of one or more fatal accidents.

Table 3 presents accident rates for the individual study intersections. Accident rates for intersections are calculated by relating the total entering volume of traffic at the intersection, on an average daily basis, to the number of reported accidents for a given period. The accident rate for intersections is expressed as the number of accidents per million entering vehicles (acc/mev).

TABLE 3 – STUDY INTERSECTION ACCIDENT RATES

Intersection	Number of Accidents*	Accident/MEV
2nd Street West/Highway 730	0	0
4th Street/Highway 730	4	0.35
3rd Street/Highway 730	0	0
South Main Street/Highway 730	0	0
Division Street/Highway 730	0	0
6th Street/Highway 730	0	0
12th Street/Highway 730	1	0.09

*ODOT Accident data search period of 1993 – 1998

As shown in Table 3, the only study intersections with reported accidents during the review period were the First Street/Highway 730 intersection and the 12th Street/Highway 730 intersection. A single accident was reported at the 12th Street/Highway 730 intersection in August of 1994. There were no SPIS sites within the city limits.

During the study period, the First Street/Highway 730 intersection had four reported accidents, all of which involved vehicles on First Street not yielding to vehicles traveling on Highway 730. Field inspection revealed that the First Street approach to Highway 730 was below the grade of the highway and was aligned at a skew, potentially contributing to the potential for accidents at the intersection. Local residents further noted that sun glare looking to the west from First Street during the evening hours often makes entry to the highway difficult. The First Street/Highway 730 intersection needs to be improved to accommodate the intended functionality of First Street (Collector) and maintain appropriate north/south connectivity.

OTHER IDENTIFIED EXISTING TRANSPORTATION DEFICIENCIES

As an extension of the existing conditions analysis, different aspects of the transportation system with existing deficiencies were identified. A description of the deficiencies and potential improvements follows. The summary is based on field data/observations and information/suggestions that were made by members of the respective transportation agencies and the public.

Highway 730

Members of the Irrigon community raised several concerns regarding the cross-section and function of Highway 730. These issues reflect both vehicular and pedestrian/bicycle access concerns and include:

- The current lack of pedestrian or bicycle facilities along the highway raise safety issues with the exception of the multiuse path on the North side of Highway 730. Several agency staff members and citizens noted that, although there are no sidewalk facilities or bicycle facilities, children routinely walk along and across the highway going to and from school. Several other citizens also routinely cross the highway to reach residences and/or commercial destinations on opposite sides of the highway. Ultimately, there is a lack of safe places for pedestrians to cross Highway 730 due to few breaks in the traffic stream and the width of the roadway itself.
- Growing traffic volumes on the highway impact community mobility, making access to Highway 730 from side streets increasingly difficult, though adequate capacity currently exists for ingress and egress. (As previously documented, approximately 6,000 vehicles currently traverse Highway 730 through the city on a daily basis.)
- There is a perception among local residents that drivers' speeds along the highway are too fast
- The parking of large trucks along the shoulders of the highway (and to a lesser extent, cars) was noted to obstruct visibility for drivers at adjacent intersections.
- Parking availability along fruit stands within the community is limited and is a safety concern. Sidewalks and curbs along Highway 730 would help define these areas and control traffic ingress and egress.

System Connectivity

During the TAC meeting process, it was noted that there is a continuing need to provide strategic north-south connections across Highway 730 for both vehicles and pedestrians. Similarly, there is a need to ensure that the city provides adequate east-west facilities parallel to Highway 730 such that the community does not become entirely dependent on highway access to facilitate local trips. In addition,

with the large amount of residential development occurring on the south side of the city, there is a need to review the layout of the city's roads to ensure that reasonable connectivity is preserved.

Use of Traffic Control Devices

The placement of some traffic control devices within the City of Irrigon was questioned by local citizens. Based on field inspection, it appears that both stop and yield signs have been inappropriately installed in the past as traffic calming measures. An example of this situation exists along Washington Street. There are several All-Way stops that have been installed along Washington Street, apparently at the request of local residents who were hoping to lower speeds on the roadways.

There are two primary concerns associated with the inappropriate placement of traffic control devices:

1. The placement of the traffic control devices represents a liability to the city if they are inappropriately used (Placement standards are identified in the Manual on Uniform Traffic Control Devices, Reference 4).
2. The inappropriate use of traffic control devices tends to result in disrespect for the device; potentially leading to driver complacency and future accidents (for which the city may then be liable).

SUMMARY

Through an inventory of existing conditions, several key findings were identified. Those findings include:

- The City of Irrigon's roadway network is focused around Highway 730 with supplemental access to local commercial and residential areas provided by city streets.
- The future growth potential of Irrigon is currently limited by existing water and sewer infrastructure deficiencies.
- Few sidewalk facilities are provided along public roadways within the city. There is a need for pedestrian facilities linking residential neighborhoods to the existing and proposed school buildings, as well as to facilitate safe pedestrian crossings of Highway 730.
- Few bicycle facilities were identified within the city.
- Public transit service is available in the form of a senior bus and dial-a-ride service provided through Morrow County. Other transportation services include bus service provided by the local school bus service, and a personal vehicle reimbursement program for special needs that is funded through RSVP/CAPECO.
- On a typical weekday afternoon, the transportation system experiences its peak roadway traffic demand between 4:30 and 5:30 p.m. During this peak period, the transportation system operates well within established standards.
- Review of accident data from the study intersections did not identify any specific safety deficiencies, though field inspection of the 1st Avenue/Highway 730 intersection suggests that the geometric design of the intersection could be improved.
- Since the realignment of Highway 730 in 1999, the intersection of NE 3rd, Columbia Lane, and Highway 730 has created an intersection that does not operate as intended. This has a detrimental effect on the commercially zoned properties within this proximity.
- The use of some traffic control devices within the city is inappropriate.

Section 3

Future Conditions Analysis

Future Conditions Analysis

INTRODUCTION

This section presents estimates of long-term future travel conditions within the TSP study area. The long-term future transportation needs for the City of Irrigon were examined based on available employment and population forecasts, identified development activities, review of the proposed roadway network, results from the operational analysis of the existing street system, and extensive discussions with regional transportation personnel and local citizens.

TRANSPORTATION DEMAND

Future transportation demand within the City of Irrigon urban growth boundary was estimated based on expected growth in the study area population, employment, and traffic traveling through the study area for the horizon year 2020. Alternative land uses were compared with the land use mix proposed in the city's Comprehensive Plan during development of the long-term travel demand forecast. The unique trip making characteristics of residential as well as employment-based activities were then considered in the development of the future travel demand estimates. As part of this analysis, planned developments and transportation improvement projects were identified and reviewed within the city's urban growth boundary. Historic transportation trends were compared with proposed future site-specific growth to arrive at a reasonable forecast condition.

Land Use/Demographics

Year 2020 traffic volumes on the City of Irrigon transportation system were forecast based on population and employment estimates developed by the State of Oregon for Morrow County and the city. Estimates were compared with development trends, planned developments, and area forecast growth rates. This information was provided by local agencies to verify their appropriateness. The 20-year planning horizon was chosen to ensure compliance with the Transportation Planning Rule.

Population and Employment

Tables 4 and 5 summarize population and employment projections prepared for the City of Irrigon in conjunction with the TSP process. The population information is based on forecasts prepared by the State Economist's office for Morrow County. In reviewing the two tables, it should be noted that the estimates contained in Table 4 include the population within the city limits as well as the Urban Growth Boundary (UGB). The employment estimates shown in Table 5 are for the city only.

TABLE 4 – POPULATION PROJECTIONS

Year	1990	1997	2000	2002	2005	2010	2015	2020	1997-2020 Average
City of Irrigon Projections									
Projected Population including UGB	737	1,200 -1,444	1,470 -1,769	1,683 -2,025	1,776 -2,137	1,922 -2,313	2,071 -2,492	2,209 -2,658	--
Annual Percent Change	--	7.2%	7.0%	7.0%	1.8%	1.6%	1.5%	1.3%	2.7%
Morrow County Projections									

Projected Population	–	9,895	11,131	12,039	12,701	13,750	14,812	15,801	–
Annual Percent Change	–	–	4.0%	4.0%	1.8%	1.6%	1.5%	1.3%	2.1%

TABLE 5 – EMPLOYMENT PROJECTIONS

Year	1990	1997	2000	2002	2005	2010	2015	2020
City of Irrigon Projections								
Projected Employment	236	290	317	336	356	384	403	422
Annual Percent Change	–	3.0%	3.0%	3.0%	1.9%	1.5%	1.0%	0.9%
Morrow County Projections								
Projected Employment	2,232	2,924	3,283	3,449	3,613	3,890	4,097	4,290
Annual Percent Change	–	3.9%	3.9%	2.5%	1.6%	1.5%	1.0%	0.9%

As shown in Table 4, the City of Irrigon population (including those persons in the UGA) is forecast to grow by an average annual rate of 2.7 percent (approximately 1,215 people) between 1997 (estimated population of 1,444) and 2020 (projected population of 2,658). During the same 23-year period, approximately 130 additional employment opportunities are anticipated in the city. The growth projections prepared for the city suggest that the city's growth will be substantial in the near-term and will moderate in the long-term.

Over the course of the same forecasting period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020). The County is anticipating strong growth in the near-term horizon with the annual growth rate more closely paralleling Irrigon after the year 2005. Clearly, the City of Irrigon will be contributing significantly to the near-term growth of the overall county population.

Such findings are reflective of the current development patterns being experienced in the area, including unprecedented development activities that have been transpiring within Irrigon in the last few years. The availability of new employment opportunities related to the Two Rivers Correctional Facility, the U.S. Army Chemical Weapons Incinerator Project, the Wal-Mart Distribution Center, and other projects in neighboring communities is expected to result in continued residential development in Irrigon.

If population and employment growth in Irrigon meets the projected growth rates, the ratio of employment to population will decrease from 1/3 in 1990 to 1/5 in 2020. This is a significant decrease and represents a major imbalance between population and employment. The 1997 population and employment estimates indicate that the employment to population already has dropped to below 1/4 in that year. This is the result of extremely high population growth in the 1990s and relatively low estimated employment growth during the same period.

The employment rate in Irrigon was estimated to be lower than the population growth rate for the period 1990 through 1997 because of Irrigon "bedroom community" characteristics. Irrigon historically has been a bedroom community for people employed in nearby cities such as Boardman and Hermiston. This trend continued during the 1990s and population growth is expected to remain high in the short term (the next two to three years). At the same time, employment growth is expected to continue to lag, with no major planned employment opportunities in Irrigon in the near term. Consequently, most of the continued exacerbation of Irrigon employment/population imbalance will occur in the next several years. In the longer term, the growth projections indicate that population and employment growth rates will even out

somewhat (i.e., the situation will not continue to worsen) but there will continue to be a serious imbalance between the number of people living and working in Irrigon.

Further details regarding the employment and growth assumptions for this report are detailed in Appendix "C".

While the contractor produced population figures for transportation demand for this document, ODOT continues to monitor needs within the community. ODOT continually updates current needs based on development and traffic movement within the community.

It is important to recognize that the City of Irrigon uses an annual average growth rate of 5% growth. They base this average annual growth rate on a 1977 report prepared for the City of Irrigon by J. Val Toronto and Associates, Inc., listed the following populations for the City.

YEAR	POPULATION
1960	232
1970	261
1975	390
1980	700

While updating their population the City hired Anderson-Perry and Associates to evaluate the City's water system in 1984. That report indicated a 1984 population of 900.

YEAR	POPULATION
1984	900
1991	737
1997	1245
1998	1447**
2020	1702

**City staff estimated the 1998 population.

SCM Consultants, Inc., the City of Irrigon's engineering company, calculated an average annual growth rate for the City from the period of 1960 to 1998—a period of 38 years—of 4.94%. Furthermore, SCM suggested using a 5% rate for all future growth calculations. The City of Irrigon bases all population estimates on a 5% annual average growth rate.

Anticipated Future Growth

In an effort to account for regional traffic growth, a net annual growth rate was chosen to forecast the year 2020 traffic analysis. This rate was determined based on a review of historical traffic volume trends, anticipated population and employment growth, regional population densities, and local knowledge of planned development.

Historical Growth

A review of local Oregon Department of Transportation traffic volume data on Highway 730 indicated a historical 0.6 percent growth rate between 1960 and 1996. Considering only the past five years and using additional data available for Interstates 82 and 84, the annual traffic growth rate was approximately three percent. Based on the data available, it appears that the relationships between historical employment, population, and traffic growth trends in the study area have been relatively consistent. Given this information, the addition of new residents in the area over the next 20 years is expected to result in a

growth in traffic of approximately 2.9 percent annually. The traffic growth can be expected to parallel population growth; hence, the near-term growth in traffic volumes is expected to be more substantial than the long-term growth rate.

FORECAST FUTURE TRAFFIC VOLUMES/DEFICIENCIES

Future conditions within the City of Irrigon were forecast by applying the 2.9 percent annual growth rate assuming a "no-build" condition (i.e., no new roadways would be constructed in the 23-year horizon) to the 1997 local average daily traffic (ADT) volume data (refer to the Existing Conditions section). Figure 6 illustrates the resulting forecast year 2020 average daily traffic volumes under the no-build condition.

A similar analysis of traffic volumes at the study intersections was completed by applying the 2.9 percent annual growth factor to the 1998 existing intersection traffic counts identified in Figure 7. Figure 8 summarizes the forecast year 2020 weekday p.m. peak hour traffic volumes at the study intersections under the no-build condition.

Typically, a two-lane rural highway with geographic features similar to Highway 730 (i.e. relatively flat and straight) can accommodate a maximum of 15,000 to 20,000 vehicles (including vehicles in both directions) daily based on the Highway Capacity Manual (Reference 3). It should, however, be noted that the daily traffic volumes on the Highway 730 should be in the range of 9,000 to 12,000 vehicles to maintain the level of service that residents of Irrigon are accustomed to.

Reviewing the volumes shown in Figure 6, the forecast volumes suggest that the downtown area of Highway 730 east of First Street will experience increased delay in the future that result in a degradation of service below levels currently experienced. While delay will increase, congestion in a commercial area such as Highway 730 should be expected. The forecast volumes clearly indicate that no capacity deficiencies are anticipated for highway traffic.

Level of Service Analysis

For the Highway 730 corridor through the town of Irrigon, ODOT stipulates a maximum volume to capacity ratio of 0.80.

To ensure that the local study area intersections will continue to operate at an acceptable volume to capacity ratio, the forecast future traffic-volumes were analyzed. The findings of this analysis are summarized in Table 6.

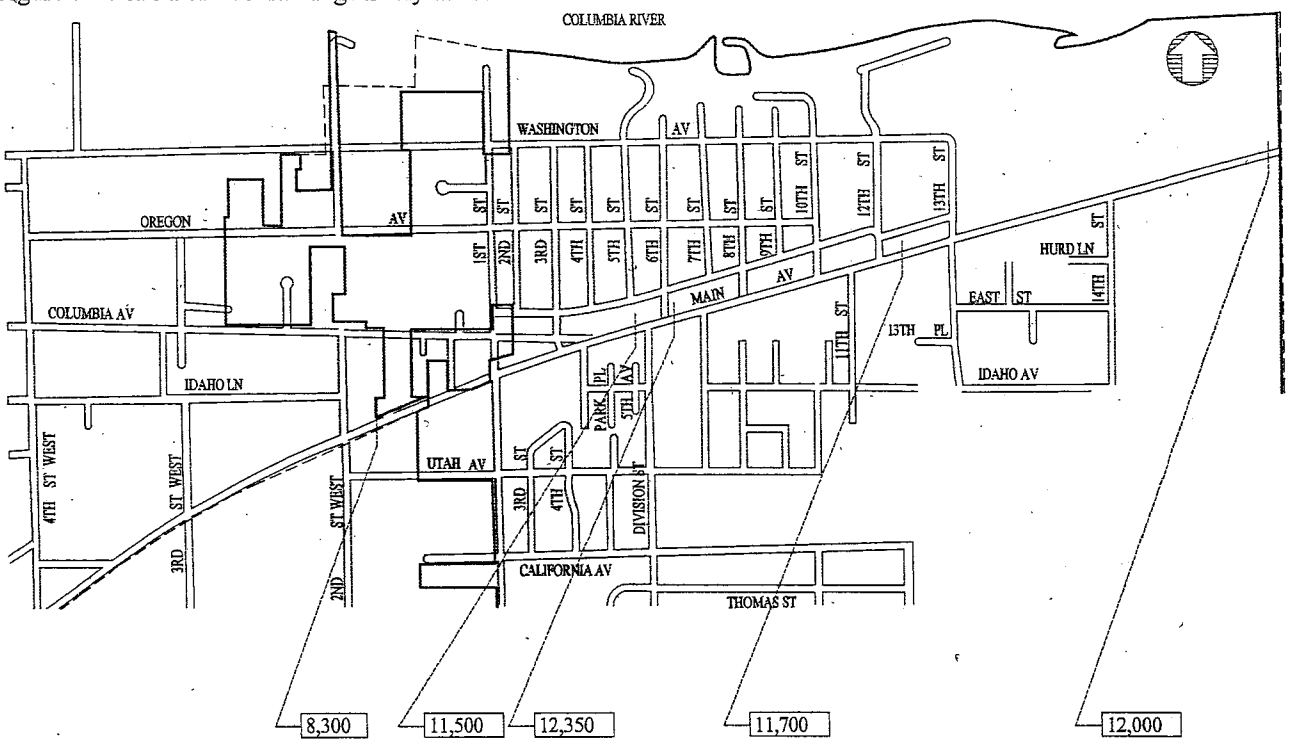
TABLE 6 – 2020 FORECAST LEVEL OF SERVICE AND VOLUME TO CAPACITY RATIOS (UN-SIGNALIZED INTERSECTIONS)

Intersection	Critical Movement	V/C	Average Delay (Sec/Veh)	Critical Movement LOS	Major Street LOS
Second Street NE / Highway 730	Southbound	0.06	8.1	B	A
First Street / Highway 730	Southbound	0.64	30.1	E	A
Third Street / Highway 730	Southbound	0.17	16.6	C	A
South Main Street / Highway 730	Northbound	0.23	10.2	C	A
Division Street / Highway 730	Northbound	0.63	26.7	D	A
10th Street / Highway 730	Southbound	0.24	12.5	C	A
Tweltth Street / Highway 730	Southbound	0.07	13.1	C	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 6 indicates, the major street movements of all of the un-signalized study area intersections are forecast to continue operating at acceptable volume to capacity ratios under year 2020 weekday p.m. peak hour conditions.

Figure 7 – 2020 Forecast Average Daily Traffic Volumes

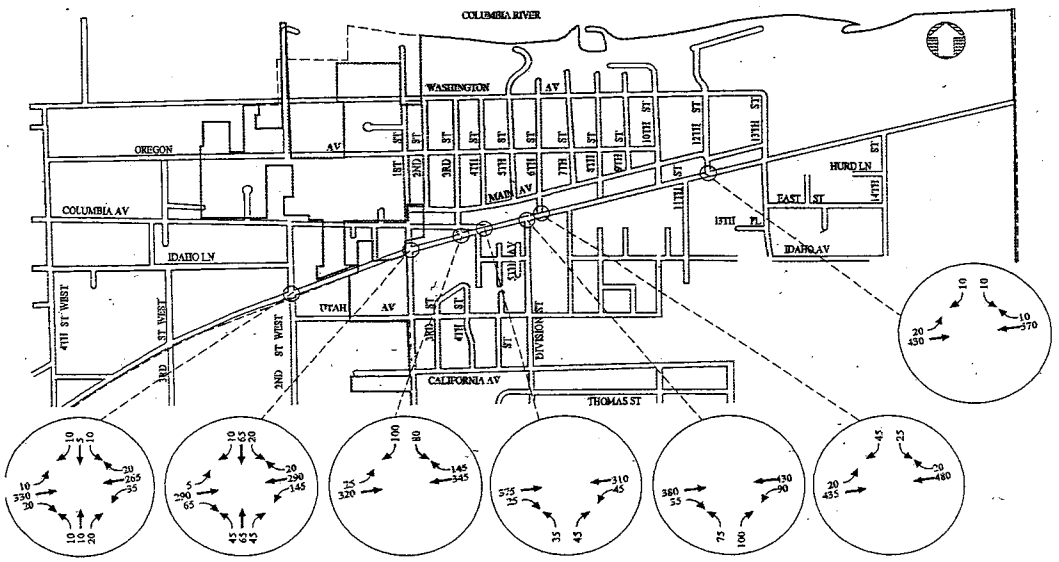


Forecast Average Daily Traffic Volumes (2020)

----- URBAN GROWTH BOUNDARY

——— CITY LIMITS

Figure 8 – 2020 Forecast Traffic Volumes, Weekday PM Peak Hour



Forecast Traffic Volumes Weekday PM Peak Hour (2020)

----- URBAN GROWTH BOUNDARY

——— CITY LIMITS

Potential Capacity Improvements

The potential need for signalization of the First Street/Highway 730 intersection was examined based on the forecast traffic volumes. Signal warrant analysis results suggest that a traffic signal will be warranted at the intersection within the 20-year planning horizon.

Placement of a traffic signal along Highway 730 within the city will be driven largely by whether First Street or Division Street becomes the primary north-south conduit to Highway 730 and how land uses near those intersections are developed. This in turn, is partially dependent on whether geometric improvements are made to the First Street/Highway 730 and/or Division Street approach. For more information refer to the Existing Conditions section - an accident history exists at the First Street/Highway 730 intersection which is partially attributed to the intersection's existing geometric design and Division Street changes slope from flat to sloped near Highway 730.

The potential need for, and placement of, a traffic signal on Highway 730 within the 20-year planning horizon will be further discussed in Section 4, **Alternatives Analysis**. That discussion includes consideration of the impact of a signal on Highway 730, the potential affects a traffic signal could have on adjacent un-signalized intersections, as well as overall safety for both vehicles and pedestrians.

With the exception of a potential traffic signal along Highway 730, no roadway capacity-related mitigation measures are anticipated. The next section of the TSP presents an analysis of potential improvement alternatives that address existing and future forecast traffic conditions.

SUMMARY

Several significant findings were identified through the future conditions analysis, most notably:

- The City of Irrigon's population (including those persons in the UGB) is forecast to grow by an average annual rate of 2.7 percent (approximately 1,215 people) between 1997 (estimated population of 1,444) and 2020 (projected population of 2,658). The growth projections prepared for the city suggest that the city's growth will be substantial in the near-term and moderate in the long-term. The current population of 1780 (2003) far exceeds the projected 2.7 percent average annual growth rate that was assumed for this project.
- During the same period, the population of Morrow County is projected to increase approximately 2.1 percent annually from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020.
- The City of Irrigon's transportation system is generally expected to accommodate forecast future growth in travel demand without triggering the need for major capacity-related roadway improvements. One potential capacity-related improvement that warrants further consideration is the long-term need for a traffic signal along Highway 730.

Section 4

Alternatives Analysis

Alternatives Analysis

INTRODUCTION

This section presents a summary of future transportation improvement alternatives that could be implemented to mitigate existing and projected future transportation system deficiencies. Potential roadway improvement alternatives are presented and recommendations are offered as to their feasibility. As potential deficiency mitigation projects were developed, consideration was given to how a multi-modal approach could contribute to individual projects. Thus, while the primary impetus for a given mitigation alternative may center on increasing vehicular capacity, provision of appropriate bicycle and pedestrian facilities was given equal consideration.

Special effort was provided in considering and recommending improvements to the pedestrian and bicycle systems. Recommendations were developed that create direct linkage to all identified pedestrian/bicycle generators and provide for a core pedestrian and bicycle transportation system. The alternative analysis and subsequent recommendations process were handled separately to ensure that a complete system for each mode was identified without constraint.

It should be noted that, in this section, formal alternatives development and analysis have only been presented for the roadway network and its components. Other elements of the transportation system such as pedestrian access, bicycle access, etc. currently exist at a level such that an entire network needs to be developed. The **Transportation System Plan** section of this report contains the recommended improvements to all of the modal systems.

The remainder of this section is organized into two parts. First, a general discussion of improvement needs and associated ramifications is presented. A discussion of specific improvement alternatives, including estimated costs, then follows.

LAND USE/TRANSPORTATION SYSTEM RELATIONSHIP

The existing and future land uses within the City of Irrigon have a substantial impact on the local transportation system. As a result, the city's transportation system will continue to reflect a strong relationship to local land use well into the future. For illustrative purposes, the following discussion presents some of the transportation implications associated with various land use alternatives.

Background

As stated in the **Existing Conditions** section, most of the opportunities associated with development and redevelopment over the next 20 years focus on Highway 730 and the parallel North Main Street. Land use opportunities and constraints are described below for industrial, commercial, and residential land. A description of land use alternatives available to the city is then presented.

One of the most prominent opportunities for Irrigon in terms of land use in the context of the transportation system is the abundance of commercially zoned land, including 22 currently vacant and redevelopable acres in the Urban Growth Boundary. Sixteen of these were estimated in the buildable lands inventory to be in excess of the amount needed for the next twenty years. Excess commercial land often contributes to a diffused pattern of commercial development and detracts from objectives to create commercial focal points such as a downtown area. An over supply of land will help keep land prices low but at the expense of efficient use of the land supply. Inexpensive, abundant land is a disincentive to efficient land use resulting in extremely auto-dependent land uses and site design, large parking lots with excessive parking and disconnected development.

While it would seem that the city is attractive for commercial development because it has such a large supply, the opposite can actually be the case to achieve long-term, stable business development.

Scattered commercial development also has these disadvantages:

- Difficulty of creating pedestrian-oriented commercial districts. Auto-dependency increases vehicle trips and can disadvantage those who cannot drive automobiles to access needed services.
- The inability to create synergistic effects where businesses can benefit themselves and the community through co-location such as customer patronage and increased sales, shared parking and signage, landscaping, managed access, etc.
- The difficulty in establishing a strong business district identity that in turn can attract more business development.
- The difficulty in establishing a strong community identity that contributes to the community's social fabric and sense of well-being.

Future residential growth will provide an increased local market for a range of goods and services that will also benefit existing residents. The current arrangement of commercial land in Irrigon is strip commercial along the Highway without defined parking areas. To summarize, this arrangement, exacerbated by lack of definition of the city's beginning and end, risks distracting the consumer base from stopping and shopping. Additionally, the lack of defined access to stores poses not only a consumer but a safety hazard.

Related land use opportunities include:

- The commercial center at the west end of the city (including the bank, Bakes, the Sentry Market and the hotel) is the most defined downtown center area and can be considered the downtown commercial center.
- Several fruit market stands along Highway 730 in the highway right-of-way are a regional draw and enjoy a considerable reputation. Although these have historically developed in a dispersed fashion along the highway, centralization of this market type, with available parking and signage, could encourage an increased consumer base and add to the agricultural aspect of the city's identity. One location for such a use could be between Fifth Street and Sixth Street to the north of Highway 730 as a transitional use between the commercial zone and the city park. (Refer to Figure 2 and the land use scenario maps contained in Appendix "D" for conceptual illustrations of the proposed zone changes.
- There are currently a number of residential uses on commercial land in Irrigon. By allowing non-commercial uses in commercially zoned areas, the city may be inhibiting the potential for future main street or commercial core development/redevelopment and encouraging strip commercial development along both Highway 730 and North Main Street.
- At the time the buildable lands inventory for Irrigon was completed in 1997, there were over 700 acres of residentially zoned property within the Irrigon Urban Growth Area that were vacant, redevelopable, or had the potential for infill. Redevelopment was projected to occur at densities similar to existing densities (3.5 – 5.5 units per acre). Neither multi-family housing nor mobile home parks are allowed outright in any of Irrigon's residential zones. Mobile homes are allowed outright on single lots in the R-1 zone. Since the buildable lands inventory has been completed, much of the Northwest quadrant was removed from the Irrigon UGB.
- There are approximately 50 acres of industrially zoned land on the eastern city limit that is not being used for industry. Due to the retail commercial, rather than industrial economic nature of Irrigon, and the excess regional supply of industrial land, particularly owned by the Port of Morrow in Boardman, members of the City Council are considering rezoning some or all of this land. Rezoning the industrial

land to commercial where it is currently located at the western end of town could dilute consumer draw from the eastern end of town where the immediate potential for a downtown center is pronounced.

Irrigon thus has an opportunity to create a downtown or main street character to help define the "center" of the city. The existence of a downtown, central commercial core or other focus for retail business is important to the city for a variety of reasons:

- Downtowns perform an important economic function. A downtown provides a center where businesses can congregate and mutually support each other, providing a stronger benefit to each other and the community than when they are separated.
- Downtowns provide a convenient, central location where the community can obtain a variety of goods and services. It performs a social function, especially if civic buildings are located in the downtown, by bringing people together with a sense of pride and ownership in the community.
- Downtowns provide an organizing element to the physical growth and development of the community that help establish logical arrangements of land use that are mutually supportive.
- Downtown's help a community establish its identity.

Traditionally, downtown's have these characteristics:

- Grid system of streets;
- 200' – 300' blocks;
- wide sidewalks;
- combination of on-street and off-street parking;
- shallow front yard set-backs;
- zero side yard setbacks with attached buildings;
- rear alleys and loading areas; and
- mix of uses – retail, services, public buildings and residential (often above retail businesses)

Many, but not all downtowns have also incorporated landscaping, distinctive lighting, and other street fixture design or design themes.

Whether in a downtown or Main Street, public investment is often a critical factor in creating successful new centers or revitalizing older ones. The location of post offices, city halls, libraries, public safety buildings and other similar facilities helps create the environment of community activity and supports retail businesses. These also help downtowns and main streets be more interesting places, become centers of community life and contribute to the community's identity and self-image.

Land Use Alternatives Evaluation

The abundant supply of land in Irrigon, while presenting problems and challenges, is also an opportunity, presenting the community with several choices on how to develop the Main Street, residential and commercial areas.

This analysis presents three alternatives for consideration by the community: 1) continuation of the existing trend, 2) development of a defined commercial downtown center, and 3) development of a mixed-use commercial downtown zone and main street.

Land Use Alternative 1: Continue Existing Trend

If the existing development pattern is continued, strip commercial development pattern along Highway 730 will result. Lack of multi-family housing will encourage continued development of RV and mobile home parks in a scattered nature throughout the city and urban growth boundary. Undefined commercial and associated parking areas will contribute to a confused transportation system on Highway 730 for both residents and visitors, and risks diffusing the potential market base. Appendix "D" Figure D-1 contains an illustration of this alternative.

Advantages:

- Allows market to operate freely, generally unconstrained;
- Requires limited commitment by city to promote or regulate;
- Ample area for expansion; and
- Diffuses traffic impacts associated with commercial development

Disadvantages:

- Continues undefined strip commercial development pattern;
- May be difficult to attract quality commercial development along entire strip;
- Commercial development unrelated to residential development;
- Spreads out development making it virtually impossible to achieve a 'downtown' character in any one area;
- Diffuses potential market base;
- Not conducive to pedestrian use;
- Tends to increase infrastructure costs; and
- Lack of definition of end or beginning of city, such as 'gateways'.

Land Use Alternative 2: Defined Commercial Downtown Area/Refined Parking Strategy

Land Use Alternative 2 would build upon areas of existing development and refines city zoning to develop a concentrated commercial downtown between the western city limits and Sixth Street. The primary elements of this alternative include: 1) defined commercial zoning and design standards focus commercial development in the downtown and desired Main Street areas, 2) a parking strategy for both the downtown (refer to Appendix Figure D-2, Character 1) and Main Street areas (Figure D-2), Character 2), and 3) development of recognizable "gateways" to the city.

To ensure infill and redevelopment opportunities, existing ordinances would be reviewed to ensure that they do not contain regulations that could inhibit infill and redevelopment of parcels in the city core.

Advantages:

- Allows current uses to continue;
- Creates a small, tight area as a commercial focus;
- Stimulates efficient use of commercial land, infill and redevelopment activity;
- Commercial area close to open space/park area and City Hall;

- Provides a more defined main street feel with pedestrian and bicycle accessibility and facilities at key areas; and
- Can be expanded over time.

Disadvantages:

- Tighter traffic circulation; potential conflicts between inter and intra-city traffic, including freight traffic without adequate signage;
- Will need to be revised, expanded over time; and
- Potential for conflict between auto, pedestrian and bicycle uses.

Land Use Alternative 3: Development of a Mixed Use Commercial Downtown Zone and Main Street with North-South Connections

Lacking any zone where multi-family housing is allowed in Irrigon, a commercial downtown zone lends itself to a mixed-use blend of development. Under Alternative 3, property would be rezoned to allow residential development above commercial/retail development in the Main Street area (C1), a new C2 zone for more auto-oriented uses would be created for the western and eastern ends of the community (see Figure D-3), and access alley parking would be allowed in the downtown and Main Street zones. Such a development pattern would decrease safety/access problems associated with currently undefined parking on Highway 730. A new multifamily zone would also be designated in the Main Street area of the city as depicted in Figure D-3, close to pedestrian and bicycle facilities, public use areas, and retail/commercial zoning.

Advantages:

- Creates a small, tight area as a commercial focus;
- Makes use of and builds upon what is already developed;
- Builds upon the city's geographic location and recreational opportunities;
- Allows for more compact commercial and residential development;
- Stimulates efficient use of commercial land, infill and redevelopment activity as well as multifamily units close to key services and transportation routes;
- Utilizes open space/park area;
- Provides a more defined main street feel with pedestrian and bicycle accessibility and amenities at key areas, including commercial center and City Hall;
- Consolidates parking both in front of and behind businesses;
- With consolidated parking behind businesses, more left-turn lanes for commercial access are possible;
- Enhances recreational and tourism opportunities; and
- Can be expanded over time.

Disadvantages:

- Tighter traffic circulation; could cause conflicts between inter and intra-city traffic, including freight traffic and
- Will need to be revisited and evaluated with potential for commercial area expansion over time.

Zoning Code Issues

Several zoning code issues were considered in selecting a preferred land use alternative. These issues are presented below.

1. Commercial lands supply and uses allowed in zone.
   - The 1997 buildable lands inventory identified buildable commercial land within the city limits and the urban growth boundary. At that time, the study identified 32 acres of vacant and redevelopable commercial land, 17 acres in excess of need through the year 2017 based upon projected population and employment growth.
   - The study found that residential uses are allowed in the commercial zone, eroding the developable commercial base, and encouraging commercial sprawl or strip commercial development. As previously described, unconstrained strip commercial development is likely to pose market and aesthetic disadvantages over the long term.
   - Currently, there are no residential uses allowed above retail in Irrigon, a historic development pattern that can be very conducive to a downtown 'main street' environment.
   - The City Park between North Main Street and Highway 730 is currently zoned commercial.
2. Residential supply and lack of a multifamily residential zone.
   - At the time of the 1997 buildable lands study, there were an estimated 178 vacant residential lots in the city (363 acres) and the opportunity for 121 units of infill, or building of additional dwelling units on large lots (52 acres). This supply exceeded projected demand by 176 acres for the next 20 years.
   - The buildable lands study also described the need, based upon local demographics, for a variety of housing types in Irrigon, including allowing multifamily development in at least one residential zone as an outright permitted use. Lack of a designated zone could discourage provision of needed housing.
3. Related traffic safety issues.
   - The **Existing Conditions** section identified ingress and egress between Highway 730 and commercial land uses as a subject of existing pedestrian and traffic safety issues. The proximity of commercial development to Highway 730 coupled with the lack of definition of the roadways, driveways and parking areas results in driver confusion and safety problems for both vehicles and pedestrians. Sidewalks and curbs along with a parking strategy will help to minimize these conflicts.

Preferred Alternative

To address the issues described above, Land Use Alternative 3, the Mixed Use Commercial Downtown Zone and Main Street alternative is the recommended preferred alternative, with modifications, including creation of an additional commercial zone. The primary reasons for and benefits of this alternative include:

- Efficient use of vacant and redevelopable commercial land for 20 years of community growth in retail and service needs in a pattern conducive to focused commercial growth.
- Provision of areas for multifamily development in areas that take advantage of residential proximity to downtown services and uses. Brings zoning code into compliance with statewide land use planning Goal 10 (Housing) requiring a range of housing types.

- The ability to incorporate and surround the downtown with public uses, mixed use, single and multiple family development within walking and bicycling distance of commercial services.
- The capacity of the current and future street system to accommodate growth of commercial and residential development over a long period, simultaneously increasing the safety of the street network, particularly regarding Highway 730.
- To focus commercial development that allows retail uses above the ground floor in close proximity to the central business district.
- The potential to establish a strong identity for the city that will foster community cohesion and pride.

Appendix "D" contains graphical renderings that illustrate elements of the preferred land use alternative. Section 5 of this TSP, **Transportation System Plan**, provides additional information on the implementation of the preferred land use alternative.

There are also several transportation improvements that will be necessary in the future. The remainder of this section provides improvement alternatives that could be implemented to mitigate existing and anticipated transportation system deficiencies.

INTERSECTION IMPROVEMENTS

The need for mitigation of existing and future roadway/intersection operations in the City of Irrigon is relatively limited in scope. The long-term future forecast conditions analysis described in the **Forecast Future Conditions** section only identified one anticipated capacity-related intersection deficiency along Highway 730.

Provision of a Traffic Signal along Highway 730

Based on the long-term future forecast traffic conditions, the minor street northbound movement at the First Street/Highway 730 intersection is forecast to operate at a volume to capacity ratio of 0.64 by the year 2020. While the First Street/Highway 730 intersection is considered to operate at a marginally acceptable volume to capacity ratio, the potential need for signalization of the intersection was examined based on the forecast future traffic volumes. Signal warrant analysis results suggest that a traffic signal will be warranted at the intersection within the 20-year planning horizon; however, several issues affect that potential need.

Issues Related to Signalizing an Intersection on Highway 730

There are several interrelated issues that surround the potential installation of a traffic signal along Highway 730 within the City of Irrigon.

Location of a traffic signal

The appropriate location of a signal should be given consideration with respect to its implications on access and circulation for pedestrians, bicyclists, and motorists in the community. The location where the majority of local land uses are concentrated will influence the location of the traffic signal.

The forecast future conditions analysis results suggest that the location which will warrant a traffic signal in the future will depend on whether First Street or Division Street becomes the primary conduit to Highway 730 and how land uses in the vicinity of those intersections are developed. This in turn, is partially dependent on whether geometric improvements are made to First Street's approach and/or Division Street's approach near Highway 730. Refer to the Existing Conditions section - an accident history exists at the First Street/Highway 730 intersection that is partially attributed to the intersection's existing geometric design. Both of these intersections should be improved to improve safety conditions.

Connectivity Considerations

There are also broad connectivity and non-vehicular access issues that will be affected by placement of a traffic signal along Highway 730. One of the issues that have been raised by community members is the need for convenient access across Highway 730 between the north and south sides of the city. Signalization of an intersection on Highway 730 will include installation of pedestrian signals, thereby enhancing safety for both vehicles and pedestrians crossing Highway 730. Given that vehicular, bicycle, and pedestrian crossing of Highway 730 will be facilitated by a traffic signal, the future signalized intersection can be expected to become a community focal point for north-south connections. Considering the implications of that focal effect, it may not be desirable to signalize a particular intersection in order to avoid concentrating traffic in certain areas. Conversely, locating a traffic signal near areas such as the middle school is good for serving pedestrian needs.

Emergency Access to Highway 730

Another potential benefit of a traffic signal would be the ability to facilitate local emergency access to the highway. A traffic signal could be used to pre-empt highway traffic and provide emergency vehicles from the fire station (located on North Main Avenue between 7th Street and 8th Street) with priority access to the highway in response situations. The use of the traffic signal for pre-emptive purposes would be especially useful in instances where emergency vehicles need to respond to incidents on the south side of the city. For the purposes of fire pre-emption, provision of a traffic signal at the Highway 730/ Division Street intersection would be desirable as compared to First Street or Second Street West, though a signal anywhere along Highway 730 would be valuable.

Impact on Adjacent Intersections

Installation of a traffic signal is also expected to have other direct and indirect impacts on the local transportation system. The traffic signal should have a positive impact on adjacent un-signalized intersections due to the gaps created in the Highway 730 traffic stream as vehicles on Highway 730 are occasionally stopped at a signal to allow for side street movements. The gaps in the traffic stream will allow for easier access to Highway 730 from un-signalized intersections.

Impact on Highway 730 Traffic

It should be recognized that the installation of a traffic signal on Highway 730 will increase delay to vehicles on the highway as highway traffic will be stopped during those periods when side-street traffic is served by the traffic signal. Although highway traffic will experience some increase in delay, all highway approaches will operate at an acceptable level of service.

Conclusion

Based on these considerations, the intersections of 2nd Street West/Highway 730, 1st Street/Highway 730, and Division Street/Highway 730 all are potential candidates for signalization. It is anticipated that one of these intersections will warrant signalization within the 20-year planning horizon. The final determination of which intersection to signalize is dependent on signal warrant analysis and consideration of how the traffic signal could be integrated into the overall transportation system. Accordingly, the ODOT and the City of Irrigon should monitor operations at each intersection over the next 20 years to determine when and if a traffic signal is required at any location. *(It should be noted that the addition or modification of a traffic signal on any ODOT facility requires the approval of the State Traffic Engineer. Identification and documentation of the need in this TSP does not guarantee the provision or modification will occur.)*

CIRCULATION IMPROVEMENTS

The City of Irrigon roadway system should be developed to ensure that adequate circulation is provided. Currently, there is a continuing need to provide north-south connections across Highway 730. Similarly, the city needs to ensure that adequate east-west facilities parallel to Highway 730 are provided such that the city does not become entirely dependent on highway access to facilitate local trips. The city should also consider development of access management techniques to further circulation needs. These issues are described further below.

North-South Connectivity

There are several potential opportunities to strengthen north-south connectivity within the City of Irrigon. Some of the improvement alternatives include:

- The potential placement of a traffic signal along Highway 730 at 2nd Street West, 1st Street, or Division Street would create an opportunity to provide the community with a north-south focal point for pedestrian, bicycle, and vehicular connections across the highway.
- 2nd Street West will eventually be extended from Columbia Avenue to Oregon Avenue.
- Extend SE 11th Street to California Avenue.
- Extend SE 7th Street from Utah Avenue to California Avenue.
- 13th Street will eventually be extended from Idaho Avenue to Wyoming Avenue.
- 14th Street will eventually be extended from Idaho Avenue to Wyoming Avenue.
- 15th Street will eventually be extended to Wyoming Avenue.
- Median treatments along Highway 730 that provide an island that serves as a pedestrian refuge and gateway treatments. This project is especially important in the area of schools and the Post Office as well as other pedestrian generators.
- The 1st Street/Highway 730 intersection needs to be improved to accommodate the intended functionality of First Street (Collector) and maintain appropriate north/south connectivity.
- Remove the NE 3rd Street intersection with Highway 730. NE 3rd Street would remain but not connected to Highway 730.
- Other roadway cross-section improvements that more clearly define the shoulders of Highway 730 and/or minimize the straight-line crossing distance for pedestrians and cyclists, such as curbs, bike lanes, and sidewalks.
- Provision of access-management techniques that consolidate access points along Highway 730 as property develops or redevelops and allow for more focused north-south movements across the highway at intersections with public streets. Addition of sidewalks, curbs, and pedestrian refuge facilities would aid in resolving issues along Highway 730.
- Continued development of a grid system as properties develop in the south part of the city.

East-West Connectivity

In addition to improving north-south connectivity, it is important to ensure that convenient east-west connectivity is also preserved such that the city does not become entirely dependent on highway access to facilitate local trips. With the large amount of residential development occurring on the south side of the city, there is a need to ensure that the city's east-west roads are connected in a logical manner.

Further, ODOT has access control lines within the city that limit future connections to Highway 730. Specifically, Highway 730 is access controlled on both sides from milepost 174.1 to milepost 175.5 (approximately from 4th Street West to Columbia Avenue) and on the south side from milepost 165.05 to milepost 178.70 (milepost 178.70 represents the Morrow County line).

Potential opportunities to strengthen east-west connectivity within the City of Irrigon include:

- Wyoming Avenue will eventually be extended from Division Street to 15th Street and from 2nd Street West to 4th Street West.
- California Avenue will eventually extend from 1st Street to 3rd Street West and from 10th Street to 15th Street.
- Utah Avenue will eventually extend from 10th Street to 15th Street.
- Idaho Avenue will eventually extend from 13th Street to 15th Street.

Main Avenue Connectivity/Impact on the A.C. Houghton Elementary School

Columbia Avenue and North East Main Avenue offer city residents a frontage road that is a convenient alternative to Highway 730 for east-west travel. While such a connection is desirable from a connectivity perspective, there is at least one major concern associated with the frontage road concept. The A.C. Houghton Elementary School is located on the north side of NE Main Avenue between 10th Street and 12th Street. Currently, there is not adequate delineation between the lanes of NE Main Avenue and the school parking lot located on the south side of NE Main Avenue. There also are no pullout lanes for school buses to load and unload students, though the *City of Irrigon Street, Sidewalk, Bikeway, and Handicap Access Study* recommends provision of such facilities. Because of the current layout of NE Main Avenue and the school parking lot, this section of NE Main Avenue has been the subject of safety concerns.

Access Management and Safety

The spacing of access points along roadways influences the capacity, safety, and overall performance of a given facility. Accordingly, access locations on roadway sections need to be properly located to ensure safe and efficient travel along roadway corridors. Access locations should be placed appropriately to limit potential conflicting turning movements, weaving maneuvers over short distances, and congestion along facilities.

In general, as the number and proximity of access points along a given road increases, there is an increase in the number of potential conflicting turning movements into and out of those access points. These turning maneuvers ultimately can adversely affect the operations of traffic on the roadway itself.

IMPROVEMENT ALTERNATIVES EVALUATION

The following discussion presents specific improvement alternatives that were considered for inclusion as part of the City of Irrigon Transportation System Plan. Each of the alternatives has been identified by number for reference purposes, with the relative location of each improvement identified in Figure 9.

It should be noted that the order in which the alternatives are presented is not intended to convey the relative rank or significance of the respective projects. Further, the identified improvement alternatives were evaluated based on construction costs and ability to meet identified transportation needs. Other factors, including potential environmental impacts, were not specifically considered. Some environmental impacts that could occur have the potential to increase costs or require project modifications. The required modifications or increased costs could be significant enough to make the project impractical. All cost estimates were based on industry unit costs and do not reflect utility relocation, environmental constraints, property acquisition or inflationary increases in cost over the planning horizon of this document.

Funding resources available to the City of Irrigon and ODOT are limited. It is expected that, for the near future, those funding sources that are available will predominantly be applied to maintenance and preservation of the existing transportation system. In light of the constrained funding situation, it should be recognized that implementation of some of the alternatives presented in this section may not be practical within the 20-year planning horizon.

Alternative #1 – Reduce Vehicular Reliance through Zoning and Development Code Revisions

In part, Oregon's Transportation Planning Rule seeks to reduce the reliance on personal vehicles as a mode of travel through the creation of environments that foster alternative modes of transportation. Local land uses can have a significant impact on the form of transportation necessary to travel from one location to another. Specifically, by carefully structuring local zoning and development codes, development activities can be focused such that a more self-contained community can be achieved. Construction of mixed-use developments, the location of commercial/service businesses near residential land uses, and the provision of employment opportunities near residential areas are all means by which the need for travel by personal automobile can be reduced.

In relatively rural areas such as Irrigon, the need to travel long distances to employment, commercial, and service opportunities fosters a travel environment dependent on personal automobiles. Implementation of the Mixed Use Commercial Downtown Zone with North-South Connections concept, as described in the Preferred Land Use Alternative, will help reduce the need for vehicular reliance. The proposed location of multi-family residential zones as well as allowing residential development above retail uses in the downtown and main street areas will offer, when the residential units are constructed, increased pedestrian and cycling alternatives to automobile-only oriented transportation.

Recommendation

Implementation of the preferred land use alternative, the Mixed Use Commercial Downtown Zone with North-South Connections concept, is recommended. Provision of appropriate zoning and development code revisions should be made by the city.

Alternative #2 – Improve Division Street/include pedestrian facilities

Improve Division Street to accommodate auto and pedestrian traffic. This is a main thoroughfare for transporting people to the local schools (Irrigon Elementary, Irrigon High School).

The cost of this improvement is estimated to be $130,000.

Recommendation

This improvement alternative is recommended for implementation in the mid- to long-term future.

Alternative #3 – Signalize 1st Street/Highway 730 Intersection

As previously discussed, there are several potential benefits to having a traffic signal along Highway 730. These potential benefits include enhanced north-south connectivity, enhanced emergency access to and across Highway 730, and improved operations at both the signalized intersection and adjacent un-signalized intersections. Highway 730 traffic will experience some increased delay resulting from a reduction in capacity associated with the traffic signal; however, highway movements will operate at an acceptable level of service.

While traffic signal warrants are not met at any of the un-signalized study intersections at this time, the long-term future forecast suggests that a traffic signal will ultimately be warranted along Highway 730 within the city. This location would focus north-south travel on to First Street and provide a signalized

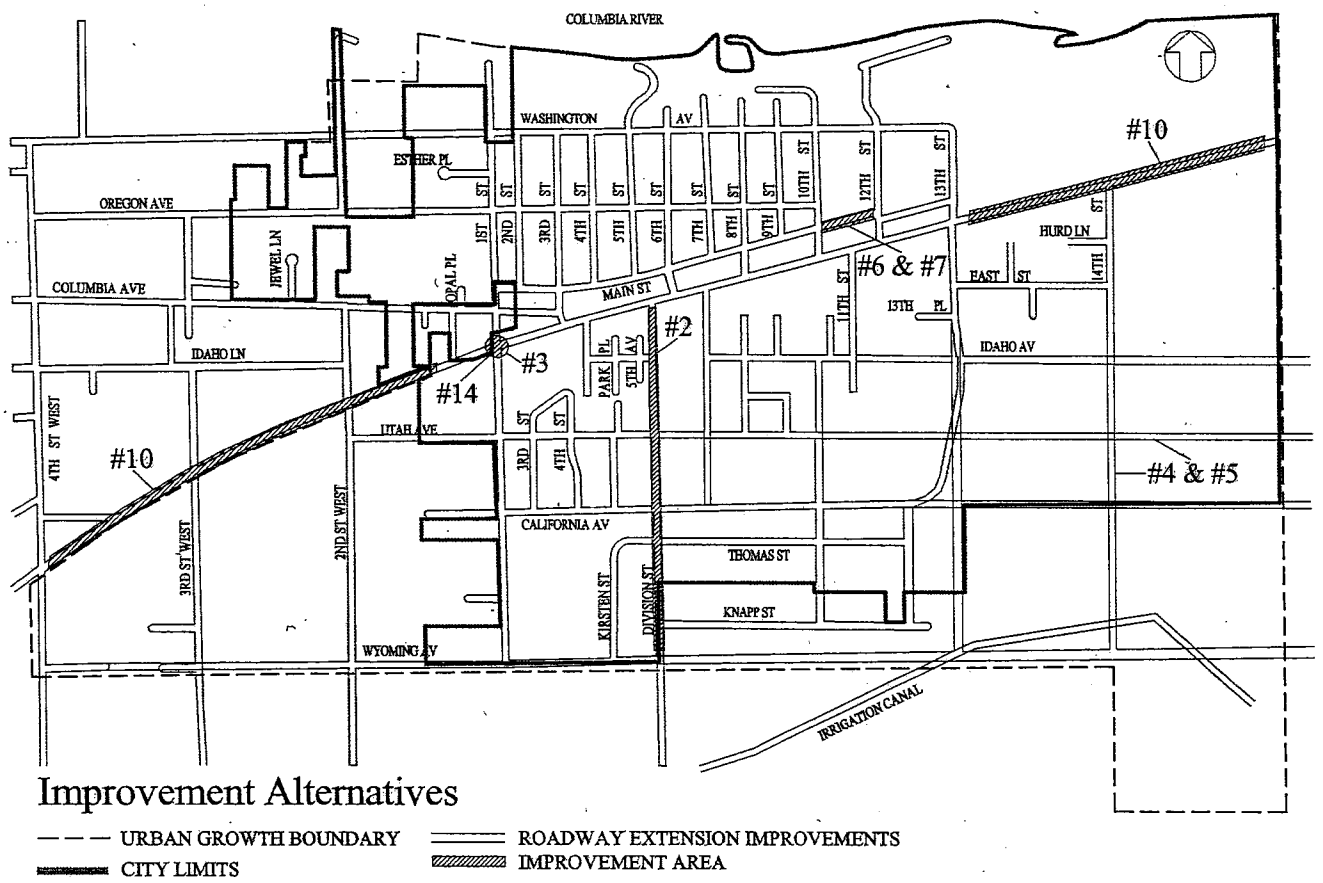
crossing point to serve the core commercial area of the community. The development of community focal point is central to the concept of a core commercial area that the community is trying to achieve through land use and zoning amendments. Further, the location is ideal for pedestrian and bicycle movements.

This improvement is viewed as being preferable to other locations because it addresses both capacity and safety issues, while also creating a safer environment for pedestrians and cyclists to cross Highway 730. Estimated cost for this improvement is $250,000.

Recommendation

This improvement alternative is recommended for implementation in the long-term future. (NOTE: The addition or modification of a traffic signal on any ODOT facility requires the approval of the State Traffic Engineer. Identification and documentation of the need in this TSP does not guarantee the provision or modification will occur.)

Figure 9 – Improvement Alternatives



Alternative #4 – Provide Strategic North/South Roadway Extensions

In reviewing the local roadway system, several gaps in north-south roadway network were identified. Recognizing the need to provide convenient roadway connections, the following north-south roadways could be extended and/or connected as shown in Figure 9:

- Extend 7th Street from Utah Avenue to California Avenue. (estimated cost $270,000)
- Extend 13th Street between Idaho Avenue and Wyoming Avenue (estimated cost $475,000)
- Extend 14th Street from Idaho Avenue to Wyoming Avenue (estimated cost $475,000)
- Extend 15th Street to Wyoming Avenue (estimated cost $475,000)

The need for the facilities identified in Figure 9 will be driven by how and where future development occurs. Although each of the identified facilities serves different needs, it is expected that all of the facilities could be required to support local transportation needs if the area were fully built-out. Provision of one or more of these new north-south roadway connections is likely to be completed in conjunction with development activities. The cost of the new roadway connections could be borne by adjacent development activities and/or by the city and ODOT. *It should be stressed that the locations of the potential new roadways as shown in Figure 9 are approximate and that the actual roadway alignments will need to be determined based on identified constraints and specific development plans for individual areas. Further, the identified cost estimates are also conceptual and do not include right-of-way acquisition.*

Recommendation

The identified north-south roadway extensions should be implemented as local development activities warrant.

Alternative #5 – Provide Strategic East/West Roadway Extensions

Similar to the need for north-south connectivity, there are several east-west connectivity needs. As shown in Figure 9, several gaps in east-west roadway network were also identified. Recognizing the need to provide convenient roadway connections alternative to Highway 730, the following roadways could be extended and/or connected:

- Extend Idaho Avenue from 13th Street to 15th Street. Some portions of Idaho Avenue already have either an existing gravel base or half-street improvements; the purpose of this project would be to link and improve the existing roadway segments such that a continuous improved roadway is ultimately provided (estimated cost $630,000).
- Extend Utah Avenue from 10th Street to 15th Street (estimated cost $475,000);
- Extend California Avenue from 3rd Street West to 15th Street. Some portions of California Avenue already have either an existing gravel base or half-street improvements; the purpose of this project would be to link and improve the existing roadway segments such that a continuous improved roadway is ultimately provided (estimated cost $795,000)
- Extend Wyoming Avenue from Fourth Street West to Second Street West and from Division Street to 15th Street (estimated cost $725,000).

The need for the facilities identified in Figure 9 will be driven by future development. Provision of one or more of these new east-west roadway facilities is likely to be completed in conjunction with local development activities and all the facilities are likely to be required to support full build-out of the area. The cost of the new roadway connections could be borne by adjacent development activities and/or by the city. *It should be stressed that the locations of the potential new roadways as shown in Figure 9 are approximate and that the actual roadway alignment will need to be determined based on identified constraints and specific development plans for individual areas. Further, the identified cost estimates are also conceptual and do not include right-of-way acquisition.*

Recommendation

The identified east-west roadway extensions should be implemented as local development activities warrant.

Alternative #6 – Vacate North East Main Avenue between Tenth Street and Twelfth Street

Recognizing the potential for an accident because the roadway separates the school facilities from the parking lot and forces school buses to load/unload buses on the street, the local school district has previously requested that North Main Avenue be vacated between 10th Street and 12th Street. Upon vacation, the school district intends to restrict access on the effected section of road to one-way movements of school vehicles.

Currently, the amount of traffic using North East Main Avenue between 10th Street and 12th Street is relatively small as the land uses to the east are limited in number and scope (to date, those land uses have primarily been developed for single-family residential purposes). The school district has posted signs restricting access to this segment of road during certain hours of the day. While these conditions may limit the near-term potential for conflicts, it should be recognized that traffic volumes on North East Main Avenue in this area might increase substantially in the future if North East Main Avenue is extended to the east to serve as a frontage road for future developments along Highway 730. For this reason, vacation of North Main Avenue in the near-term will jeopardize the long-term ability of the city to provide a parallel frontage road along the north side of Highway 730.

Recommendation

In recognition of the frontage road function of North East Main Avenue, the roadway should not be vacated between 10th Street and 12th Street. Instead, alternative improvement measures should be identified and implemented.

Alternative #7 – Improve Delineation on North East Main Avenue Adjacent to the A.C. Houghton Elementary School

The *City of Irrigon Street, Sidewalk, Bikeway, and Handicap Access Study* recommends improvements that could be implemented along North East Main Avenue between Tenth Street and Twelfth Street to improve channelization of the roadway and more clearly delineate the parking area (refer to Appendix E). Potential locations for a bus loading/unloading area are also identified.

Costs associated with this improvement alternative are estimated at $30,000.

Recommendation

The conceptual improvement plan developed in the *City of Irrigon Street, Sidewalk, Bikeway, and Handicap Access Study* for Main Avenue should be implemented in the near-term future.

Alternative #8 – Inventory and Review Posting of City Traffic Control Devices

As discussed in the **Existing Conditions** section, the current use of several posted traffic control devices within the city is questionable. Inappropriate placement of traffic control devices has the potential to create a liability issue for the city and encourages disrespect for those traffic control device, potentially contributing to safety problems.

Under this improvement alternative, the City of Irrigon would inventory all existing traffic control devices within the city's jurisdiction and evaluate whether those devices comply with the placement methodology identified in the Manual on Uniform Traffic Control Devices (Reference 4). Any traffic control devices that are not compliant should then be replaced with an appropriate alternative device or eliminated.

The cost for this project will depend on how it is administered. With proper guidance and instruction, the field inventory could be completed relatively inexpensively by a summer intern. Further, it is unlikely that many will need to be purchased given the number of inappropriately placed signs. Accordingly, the primary cost associated with this alternative would involve mobilizing local crews to remove and/or replace identified traffic control devices as appropriate.

Recommendation

This improvement alternative should be implemented immediately to promote public safety. Specifically, it is recommended that the city only install "Stop" or "Yield" signs to assign right of way, not to slow vehicle speeds. For example, "Stop" signs on roadways such as Washington Avenue would be removed while the traffic control devices on the minor street approaches to Washington Avenue would remain.

Alternative #9 – Promote Access Management along Highway 730

The *Oregon Highway Plan* has established access spacing standards for Highway 730. These standards, which are presented in detail in Section 5, are intended to ensure the long-term safety and efficiency of the Highway 730 corridor. Implementation of the standards as they relate to local development activities will be essential to ensure the long-term viability of the Highway 730 corridor.

The future conditions analysis, as presented in this document, assumes that current public roadway spacing along Highway 730 will be maintained into the long-term future. As long as access spacing standards along Highway 730 are maintained and new private access points are allowed in accordance with the access spacing standards presented in Section 5, it is expected that the forecast traffic conditions will be reflective of long-term operations along the Highway 730 corridor. Conversely, if multiple additional access points are granted along Highway 730, it can be expected that additional incremental delay will be added to the highway's operations.

Recommendation

Access Management should be implemented in the immediate future. No specific construction need is evident to implement this improvement as it simply promotes compliance with existing roadway policy. No immediate land use actions would be required either. Instead, as property along Highway 730 is developed or redeveloped, appropriate action should be taken by local and state agencies to ensure that the relevant access spacing standards are reasonably enforced. Section 5, **Transportation System Plan,** includes a full access management plan and corresponding implementation strategy complete with typical spacing standards, driveway widths, etc.

Alternative #10 – Provide Gateway Treatments along Highway 730

Through the public meeting process, it was noted that the City of Irrigon currently lacks a defined core area that is evident traveling along Highway 730. The lack of a defined downtown has an indirect impact on highway operations in that drivers perceive a wide-open environment and tend to speed on Highway 730 through the city limits. Streetscape treatments such as landscape strips, pedestrian refuges and bike lanes may be valuable to the city in the future as an instrument by which the character of roadways can be influenced. The graphical renditions contained in Appendix "E" identify potential locations for gateway treatments such as pedestrian refuges, landscaped medians, etc. These treatments provide an indication to drivers that the adjacent land uses necessitate slower speeds.

Recommendation

The city should develop gateway treatments along the highway in conjunction with implementation of the preferred land use alternative. Further, through new roadway and land-use standards, future development activities and roadway improvements along Highway 730 should be focused to influence the streetscape of the highway. By modifying the highway streetscape, driver's perceptions can be influenced and travel speeds may be reduced. Section 5, **Transportation System Plan**, presents recommended street standards that will assist in fostering a more constrained perception of the highway travel environment. Appendix "D" contains conceptual renderings of potential streetscapes that could be incorporated into the gateway concept.

No cost estimate is provided for these treatments, as their nature would be best addressed by a community master plan.

Alternative #11 – Enhance Pedestrian Crossings of Highway 730

The public input process and the existing conditions analysis of the TSP identified community concerns involving pedestrian crossings along Highway 730, especially near the elementary school. The combination of Highway 730's wide cross-section, growing traffic volumes, and the commercial orientation of Highway 730 confirm the need for additional pedestrian facilities. In addition to sidewalk and multi-use path facilities there are other enhancements that should be considered along Highway 730 including:

- provision of additional street lighting to enhance visibility of pedestrians at night
- construction of curb extensions that reduce the exposed crossing distance pedestrians must walk; and
- use of median treatments that provide pedestrians with a "safe-haven" at a mid-crossing

Recommendation

Implementation of specific improvement measures will be dependent on local development activities and the city's ability to create some form of gateway treatment that influences the character of Highway 730. The Recommended Pedestrian and Bicycle System Plan contained in Section 5 identifies specific pedestrian and bicycle improvement projects along the Highway 730 corridor along with appropriate roadway standards.

Alternative #12 – Implement Transportation Demand Management Measures

Transportation Demand Management (TDM) measures identify opportunities to reduce the impact of trips generated by various land uses. Specifically, TDM techniques typically seek to reduce reliance on single-occupant vehicle trips and promote the use of alternative travel modes by persons accessing a given area or facility. The Transportation Planning Rule encourages the evaluation of TDM measures as part of the TSP development process.

TDM strategies often focus on major employers or other sources of traffic that can be influenced through scheduling changes, alternative transit opportunities such as carpools and buses, and other means. Oftentimes, financial disincentives are included in programs as a revenue generator to support other elements of an overall program. The success of fee parking and other commonly used disincentives is dependent on the environment in which a given employer is located.

Given the rural nature of Eastern Oregon and the City of Irrigon, the TDM measures available to the city are limited in scope as compared to larger metropolitan areas. Given the limited employment opportunities in the community, one of the most promising options available to the city is the provision of a carpool or vanpool service for people who live in Irrigon and work in neighboring communities such as Umatilla and Hermiston. Coordination of a vanpool and/or carpool(s) to the major employers in the area such as the Two Rivers Correctional Facility in Umatilla, the Wal-Mart Distribution Center in Hermiston, Union Pacific's Hinkle Rail yards in Hermiston, and the U.S. Army Chemical Weapons Incinerator at the Umatilla Depot could help to reduce the number of single occupant vehicle commute trips from Irrigon. This type of transportation option would help the community achieve the objectives of transportation demand management.

Provision of a park-and-ride facility at a key location within the community is another means by which the use of non-auto dependent travel can be encouraged. Further, the city could also promote carpooling to out-of-town employers through education.

The cost of implementing a TDM program is dependent on the type and variety of measures selected. Facilitation of carpools, vanpools, or a park-and-ride facility could be completed through a volunteer network and/or coordination with major employers at minimal cost.

Recommendation

It is recommended that the City of Irrigon focus TDM efforts on supporting carpools and/or vanpools to major employers through education, coordination with employers, and provision of appropriate facilities such as park-and-ride areas.

Alternative #13 – Pave Key Collector Facilities

As a part of the development of the city's roadway infrastructure, the city should pave collector level roadways within the city. Roadway improvements can be made gradually and may be required as part of adjacent development activities. Section 5 of this report, **Transportation System Plan**, identifies key collector roadways within the city. For the city's planning purposes, a cost estimate for paving the roadways is approximately $350 per lineal foot. The $350 per lineal foot estimate includes curbs, drainage, and pavement.

Recommendation

Alternative #13 should be implemented in the near-term future using the roadway functional classification and cross-section standards identified in Section 5 of this report. It is recognized that the paving projects will extend into the long-term future as the respective roadways are gradually brought up to standard.

Alternative #14 – Reconstruct First Street Approach to Highway 730

The existing First Street/Highway 730 intersection has a vertical curve on the southbound approach to the intersection that limits intersection sight distance and results in issues relating to vehicles' ability to adequately accelerate as they enter the highway. The intersection should be reconstructed to limit the grade differential between Highway 730 and First Street and support the North/South connectivity concerns of the community. The intersection should be constructed such that it supports the appropriate function of the local road system (collector). Pedestrian facilities should also be provided in conjunction with the reconstruction of the intersection. The estimated cost to complete this project is $35,000.

Recommendation

Alternative #14 should be implemented in the near- to mid-term future, potentially in conjunction with roadway improvements made by the state along Highway 730.

Alternative #15 – Designate an Alternate Escape Route

Currently, Highway 730 serves as the only escape route for the residents of Irrigon should they face an emergency created at the Army Chemical Depot. Identification of an alternative route would provide the community safety and piece of mind in response to an emergency.

Recommendation

Alternative #15 should be implemented in the near to mid-term. This project will require working closely with US Fish and Wildlife, Oregon Department of Fish and Wildlife, the Port of Morrow, ODOT, and the public.

SUMMARY

This section has presented the alternatives that have been developed and evaluated to address the near-term and long-range transportation deficiencies within the City of Irrigon urban growth boundary. Table 7 summarizes the potential improvement alternatives.

TABLE 7 – SUMMARY OF IMPROVEMENT ALTERNATIVE RECOMMENDATIONS

Alternative Number	Improvement Description	Estimated Cost*	Implementation Timeline	Responsible Jurisdiction
#4	Provide Strategic North/South Roadway Extensions	$1,270,000	Concurrent with local development	Private
#5	Provide Strategic East/West Roadway Extensions	$3,905,000	Concurrent with local development	Private
#12	Implement Transportation Demand Management Measures	No estimate	As appropriate	City/Private
#13	Pave Key Collector Facilities	$350/lineal foot	Concurrent with local development and as funds are available	City/ County/ODOT/ Private
Near-Term				
#1	Reduce Vehicular Reliance Through Zoning and Development Code Revisions	No estimate	Near -term	City
#7	Improve Delineation on North Main Avenue Adjacent to the A.C. Houghton Elementary School	$30,000	Near-term	City/Private
#8	Inventory and Review Posting of City Traffic Control Devices	No estimate	Near-term	City
#9	Promote Access Management Along Highway 730	No estimate	Near-term	ODOT/City
#10	Provide Gateway Treatments Along Highway 730	No estimate	Near-term	City/ODOT
#11	Enhance Pedestrian Crossings of Highway 730	No estimate	Near-term	ODOT
#15	Designate an alternate escape route	No estimate	**Long-term**	ODOT/County/ City
Mid-Term				
#2	Improve Division Street and include pedestrian facilities	$130,000	Mid-term	City
#14	Reconstruct First Street Approach to Highway 730	$130,000	Mid-term	City/ODOT
Long-Term				
#3	Signalize the 1st Street/Highway 730 Intersection	$250,000	Long-term	City/ODOT
#6	Vacate North Main Avenue Between Tenth Street and Twelfth Street	No estimate	**Not recommended for implementation**	—

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

The privately funded projects identified in Table 7 will be funded and constructed as adjacent properties develop. Implementation of identified city transportation projects over the next 20 years is estimated to cost $395,000 plus administrative charges. Assuming a dedication of $20,000 per year towards the identified projects over the next 20 years, it is reasonable to conclude that the city can fund the recommended improvement alternatives.

Section 5, which follows, incorporates the recommended improvements for each transport mode into the city's transportation system.

Section 5

Transportation System Plan

Transportation System Plan

INTRODUCTION

This section describes the individual elements of the City of Irrigon Transportation System Plan. The preferred alternative presented in this TSP consists of those land use and transportation improvements necessary to support the City of Irrigon's Comprehensive Land Use Plan. The TSP addresses several components for development of the future transportation network including:

- Preferred Land Use Plan
- Roadway System Plan
- Access Management Plan
- Pedestrian System Plan
- Bicycle System Plan
- Public Transportation System Plan
- Marine System Plan
- Air/Water/Pipeline System Plan
- Evacuation Plan
- Implementation Plan

The individual plans and policies presented in this section were developed specifically to address the requirements of Oregon's Transportation Planning Rule. Projects associated with each plan element have been identified and costs have been estimated as described herein. The recommendations set forth by this plan reflect the findings of the existing and forecast future conditions analyses, the alternatives analysis, and the concerns expressed by both the citizens of Irrigon and the public agencies that serve them.

PREFERRED LAND USE PLAN

Desirable Elements of the Preferred Alternative

To gain the community benefits of a well-defined, mixed-use downtown area, the following are considered beneficial elements that should be explored in the planning and design, preferably through amendments to the comprehensive plan, implementing ordinances and local street network:

- Defining a mixed use commercial downtown and main street area by defining new multifamily and mixed use commercial zones and rezoning some excess commercial land to residential use
- Limiting residential uses in the commercial (C-1) zone, except above ground floor retail
- Creating an additional commercial zone (C-2) to enhance development of a downtown central business district in the C-1 zone
- Providing for the development of multifamily residential structures around the mixed use commercial zones as outright permitted uses in a new multifamily residential (MF) zone
- Creating 'gateways' to the downtown zone that definitively mark entry and exit to the city's downtown commercial area
- Taking full advantage of good connections to the Columbia River as a recreational amenity and tourist destination
- Creating an area for tourist-oriented commercial development to take advantage of the Columbia River as a recreational amenity and tourist destination

- Retaining commercial zoning between 5th Street and 6th Street and NE Main Street and Highway 730 to allow development of a formalized farmers market taking advantage of tourist travel on Highway 730 and reinforcing Irrigon's identity as an agricultural products community
- Careful arrangement of buildings, parking and access that will promote a compact, pedestrian-oriented design
- Defining priority routes for pedestrian and bicycle paths, including sidewalks
- A mix of off-street and on-street parking, including shared parking arrangements and rear-access alleys for additional off-street access and parking

Additionally, due to the amount of industrial land available regionally at the Port of Morrow in Boardman, the city might explore the potential for rezoning the 40 acres of currently undeveloped industrial land at the east end of the city to residential use compatible with neighboring properties.

Implementation

The creation of a focused, vibrant mixed-use downtown and main street area will be challenging and require a considerable commitment, perseverance and patience by members of the community. A partnership between the city and property owners to plan and implement the plan, including establishing appropriate zoning and development regulations, will be necessary to make such an effort successful. The city and property owners should seek technical and financial assistance from state and federal agencies to conduct the planning and help with implementation. Involvement by the citizens of the community in planning, design and financing of the downtown will also be beneficial to the city's ability to sustain a commitment over a long period.

Public/Private Partnerships

There are many examples in Oregon where private landowners and city governments have worked together to create developments that meet public objectives and make a profit for the property owner and developer. In some cases, a public agency has provided all of the funding, in others the property owner has provided all of the funding and in a number of others, contributions have been made from both the public and private sectors. The Transportation and Growth Management (TGM) program in Oregon has been a beneficial source of funding for this type of activity in recent years. The Department of Land Conservation and Development (DLCD) could assist the city to identify models of public/private partnerships that have worked in other communities.

Another possible source of assistance could be one of the state's universities. Students within urban planning, architecture and landscape architecture schools are often seeking challenging projects as part of work/study degree requirements. A group of students may find developing a downtown master plan for Irrigon a challenging and rewarding project.

Development Regulations

The establishment of a regulatory framework to accomplish the city's objectives will be extremely important. Regulations also assist the developer and property owner in at least three ways:

1. Eliminate potentially competitive sites that can diffuse the market for downtown commercial development.
2. Ensure a compatible mix of commercial and residential uses that will foster sustained investment.
3. Provide clear guidance to property owners and developers as to the location and requirements regarding commercial and residential development.

As part of the Transportation Growth Management program, two model ordinances have been developed to assist cities in establishing appropriate regulations – a model zoning ordinance for small communities and an infill and redevelopment ordinance. The model zoning ordinance and accompanying guidebook was developed specifically for small cities with populations under 10,000. Cities are encouraged to refer to the model ordinance and guidebook for strategies and model code provisions that can be readily adapted, adopted, and implemented locally to focus and stimulate urban residential and commercial development.

Rezoning

Irrigon has more vacant and redevelopable commercial land than will be needed for all commercial uses over a 20-year period. This excess of supply and lack of differentiated commercial zones risks diffusing the potential market and may make it difficult to focus future retail commercial uses to the downtown core area. A summary of recommended rezoning actions is presented in Section 7, **Policies and Land Use Modifications**. It is recommended that these properties be examined and rezoned before further strip development occurs outside of the recommended downtown and main street focus areas.

To guide and focus commercial development in downtown Irrigon and to correct the lack of outright permitted multifamily housing, the following general changes to the zoning code are recommended:

- Selected amendments to the Commercial (C) zone and renaming this zone C-1
- Create a new commercial zone (C2) for the area at the far east and west ends of town, outside of the downtown core for more auto-oriented uses
- Rezone the blocks north of North Main Street residential
- Create new multifamily (MF) residential development zones between 4th and 7th on the block west on NE Main Street and between 7th and 11th Streets north of Idaho street and south of the commercial zone
- Rezone the park along Highway 730 to permanent open space between 6th and 11th Streets; and
- Create a small commercial district near the Columbia River (between Washington Street between 8th and 10th Streets and the River) to allow for some limited, river-oriented retail use near the river, a major tourist amenity

Strict design controls should be created for these zones. The list of permitted and conditional uses, including specific development standards, should be revisited during preparation of the zoning ordinance revisions in consultation with DLCD's model ordinance and guidebook.

Development Standards

Appropriate development standards for the Main Street and downtown areas will also be important. Development standards should be developed in a master plan to address:

- Building massing, height and lot area coverage (floor area ratios)
- Parking, including on-street and shared parking (to keep the amount of land devoted to parking to a minimum and to minimize conflicts)
- Sidewalks and streetscape amenities
- Landscaping
- Building design, including architectural theme (optional)
- Public investment in the downtown commercial and Main Street areas

The most successful downtowns, including those that have been redeveloped and revitalized in recent years, have had a significant amount of public investment. Public investment attracts private investment and creates the type of interdependence and synergy that makes development successful, especially downtown development. The city and other public and non-profit agencies can contribute investment through:

1. Capital improvements such as utilities, street improvements, and parks
2. Purchase and development of land for public buildings and uses

Other Land Use Recommendations

- Develop 'gateway' markers for the commercial district at 10th Street on the east end of the city and at the western city limits along Highway 730 to define the entrance to the commercial district.
- Consider reducing the minimum lot size in the R-1 zone or create a different zone that allows smaller lots, e.g., 5,000 square foot, close in to the city's core downtown area.
- Refine definitions of 'retail trade' in the C-1 and C-2 zones according to size, bulk and other characteristics of uses. Specify which retail uses are desirable in each zone.

Appendix "D" contains graphical illustrations of the recommended zoning changes in Irrigon, depictions of street plans, and street cross-section renderings.

ROADWAY SYSTEM PLAN

Based on the identified existing and anticipated operational and circulation needs, the roadway system plan was developed. The city's roadway system plan provides guidance as to how to best facilitate travel within the city by addressing two key issues:

- a roadway functional classification system and corresponding roadway design standards, and
- roadway connectivity, including new and improved streets to meet future capacity, circulation, and safety needs

Functional Classification

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation. A given roadway's functional classification determines its intended purpose, the amount and character of traffic, commitment to serve and promote non-auto travel, and its design standards.

The classification of a given street is intended to convey the requirements, capabilities, and capacity of each respective roadway while recognizing that roadway's contribution to the overall transportation system. It is imperative that the classification of streets is considered in relation to adjacent properties, the land uses that they serve, and the modes of transportation that can be accommodated. Further, each roadway must be appropriately designed to accommodate vehicles local to the roadway (i.e., passenger cars, heavy trucks, pedestrians, and bicycles). The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

Based on a review of the city street classification map set forth in the *City of Irrigon Street, Sidewalk, Bikeway, and Handicap Access Study*, the functional classification plan for the City of Irrigon is revised to incorporate three functional categories: arterials, collectors, and local streets.

Arterials

Arterials are roadways that are primarily intended to serve traffic entering and leaving the urban area. Arterials tend to carry significant interurban travel between downtown areas and outlying residential areas. While arterials may provide access to adjacent land, that function is subordinate to the travel service provided to major traffic movements. Arterials are the longest distance, highest volume roadways within the urban growth boundary. Although focused on serving longer distance trips, pedestrian and/or bicycle activities often are associated with the arterial streetscape.

Collectors

Collector facilities link arterials with the local street system. As implied by their name, collectors are intended to collect traffic from local streets (and sometimes from direct land access) and channel it to arterial facilities. Collector facilities tend to carry lower traffic volumes at slower speeds than arterials. On-street parking is more prevalent and pedestrian facilities are typically provided. On collectors, bicycle facilities may be exclusive lanes or shared roadways.

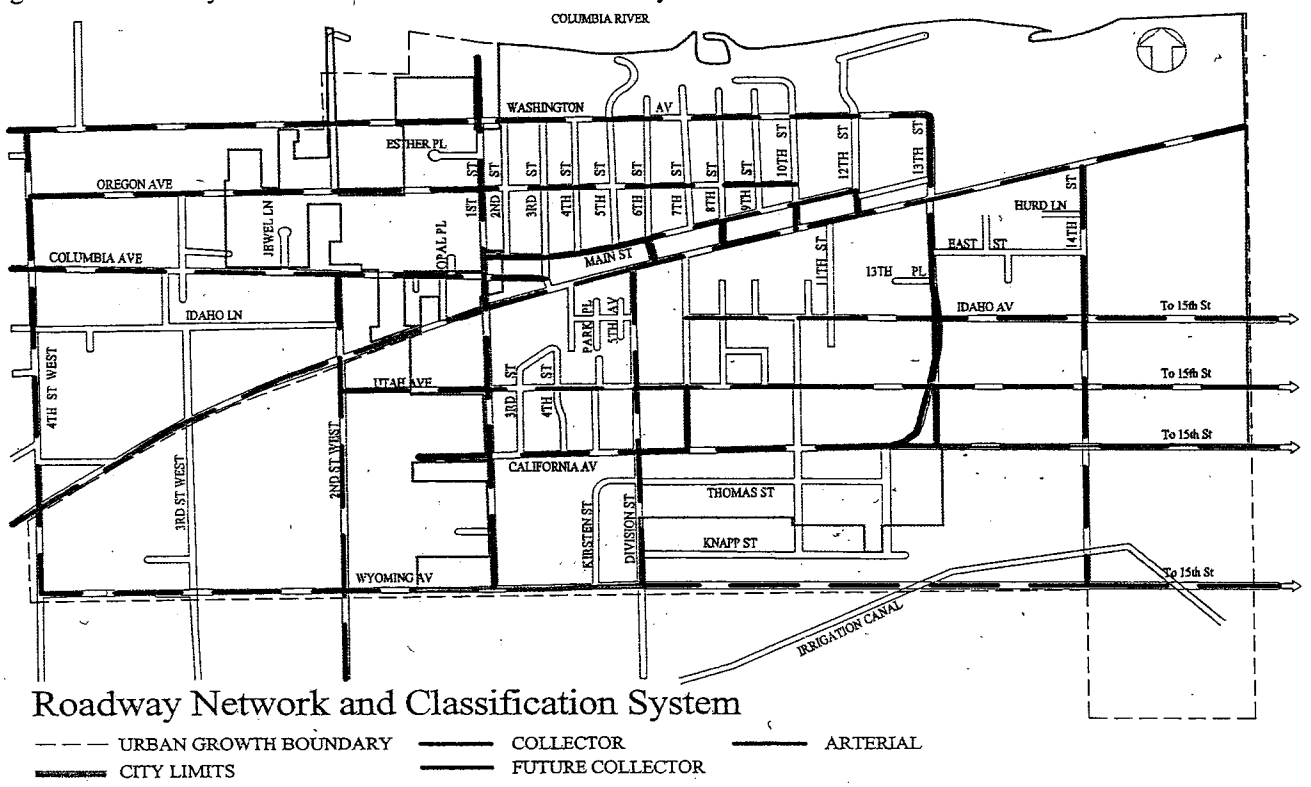
For the purposes of Transportation Planning Rule (TPR) compliance, all collector facilities in this TSP are considered Minor Collectors. (The TPR requires that sidewalks and bike lanes be provided on all Major Collectors within a given Urban Growth Boundary).

Local Streets

Local streets are primarily intended to provide access to abutting land uses. Local street facilities offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic should be discouraged. On-street parking is common and sidewalks are typically present.

Using the three roadway designations described, all current and future streets within the city have been designated in the Functional Classification Plan presented in Figure 10.

Figure 10 – Roadway Network and Functional Classification System



As identified in Figure 10, the major roadway designations are as follows:

Arterials:

- Highway 730

Minor Collectors:

- Washington Avenue
- North East Main Avenue
- Utah Avenue
- Second Street West
- First Street
- Division Street
- Thirteenth Street
- Columbia Avenue
- Wyoming Avenue (Future)
- Fourth Street West (Future)
- Fourteenth Street (Future)
- Oregon Avenue (Future)
- California Avenue (Future)
- Idaho Avenue (Future)

Local Streets:

The remaining roads in the city are designated as local streets.

New Roadways

As part of the TSP development process, conceptual alignments for future collector roadways were identified as shown in Figure 10. The purpose of identifying these potential future roadways was to:

- provide for appropriate future roadway infrastructure to serve areas with future development potential
- increase the connectivity of future development with respect to existing neighborhoods and infrastructure
- provide access to property through multiple locations
- provide the city with guidelines for roadway alignments as future development occurs

The need for the facilities identified in Figure 10 will be driven by future development within the city's urban growth boundary, constraints, and specific development plans in a particular area.

Street Design Standards

Street design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. The standards also are established to provide appropriate separation between travel lanes and pedestrian and bicycle facilities. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands. Figure 13 presents the typical cross sections for the various roadways identified in the functional classification system. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, drainage, and optional amenities such as landscape strips.

The design cross sections illustrated in Figures 11a, 11b, and 11c reflect the desire to develop multi-modal roadway facilities within the City of Irrigon in the future incorporating multi-use paths where appropriate. The identified cross sections are intended for planning and design purposes for new road construction as well as for those locations where it is physically and economically feasible to improve existing streets.

The typical cross sections present standards for roadways allow for flexibility in defining the actual roadway width through optional features such as landscape strips and on-street parking. The use of on-street parking and planter strips would be subject to the discretion of the City of Irrigon which would

determine whether such amenities are required on a given street (in the case of Highway 730, appropriate representatives from ODOT would have ultimate authority over the roadway design).

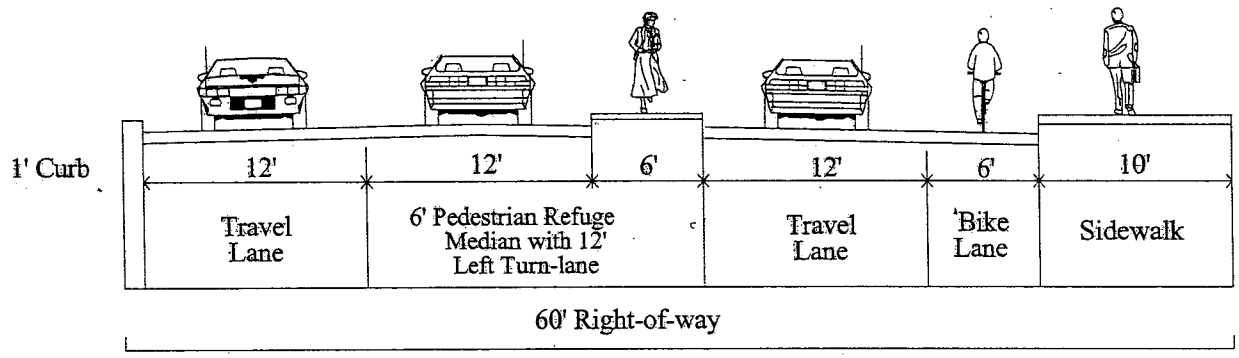
Arterials (Highway 730), as shown in Figure 11a, contain two 12-foot travel lanes, a center left-turn lane, 10 foot sidewalk on the South side of the Highway, and a 6 foot striped bike lane on the South side of Highway 730. The alternative incorporates a 6-foot pedestrian refuge median, allowing for the potential of wider sidewalks, and makes a provision for the future use of raised pedestrian medians as appropriate at intersections and as gateway treatments. Given the raised pedestrian median, access management along Highway 730 would be improved along with safety for motorists and pedestrians.

Table 8 summarizes the street design standards for the different roadway classifications.

TABLE 8 – STREET DESIGN STANDARDS

Classification	Right-of-Way	Turn Lanes	Travel Lanes	Bike Lanes	Sidewalks	On-Street Parking	Landscape Strip
Arterial	60 Feet	Yes with pedestrian refuges/median	12 Foot	6 Foot South Side	10 Foot on South Side	No	No
Minor Collector	56 feet	No	10 foot	Shared Roadway	5 Foot on both sides	7 Foot on both sides	5 Foot swale (drainage)
Local Street	45 feet	No	10 Foot	Shared Roadway	5 Foot on both sides with a 6" Curb	7 Foot swale (parking, drainage)	No

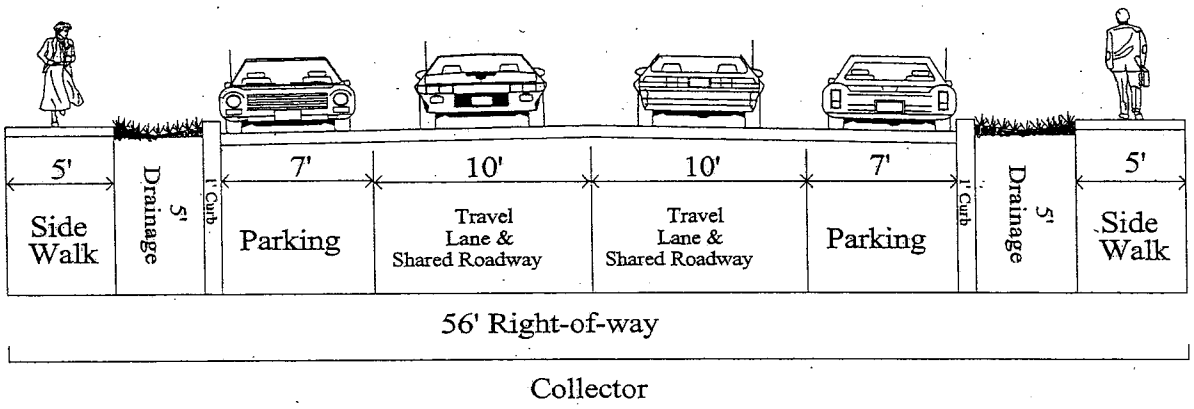
Figure 11a – Arterial Cross-Section



Arterial (Highway 730)

Minor collector streets will have a right-of-way requirement of 56 feet and a required cross-section consisting of two 10-foot wide travel lanes, 7-foot parking on both sides, and one-foot slotted curbs. The cross-section will also contain a 5-foot landscape strip that will serve as drainage, and a five-foot wide sidewalk.

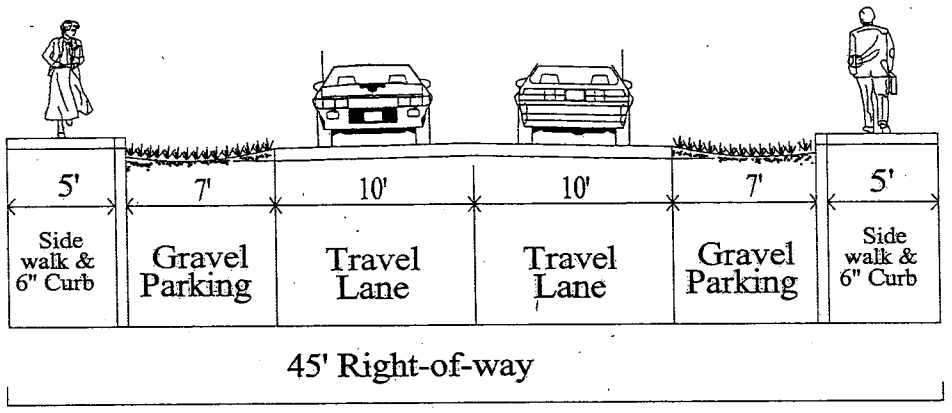
Figure 11b – Collector Cross-Section



Collector

Local streets will have a right-of-way requirement of 45 feet, consisting of two 10-foot wide travel lanes, 7-foot gravel parking/drainage, and 5-foot raised sidewalks with a 6" curb.

Figure 11c – Local Street Cross-Section



Local Street

Through the flexible requirements provided in Table 8, the City of Irrigon will have an ability to reduce impervious surface and provide site-specific standards for roadway improvement projects that reflect local conditions. The optional availability of streetscape treatments such as landscape strips, pedestrian refuges, and bike lanes will be valuable to the city in the future as an instrument by which the character of roadways can be influenced.

Relation to Development Activities

At the time development activities are proposed, the City of Irrigon, when appropriate, will require half-street improvements as part of a given project's conditions of approval. The conditions of approval are recommended to require that roadways adjacent to development activities be constructed to comply with the street standards presented in this TSP. Section 7, **Policies and Land Use Ordinance Modifications,** provides sample development review guidelines that are recommended for adoption by the city.

Relation to County Facilities

The Morrow County Transportation System Plan (Reference 5) identified roadway standards for county facilities. The county's right-of-way requirement for Rural Access Roadways is 60 feet; as opposed to the 50-foot requirement identified for local roads in this TSP. Although the county's Rural Access Roadways may be applicable to some roadways within the City of Irrigon Urban Growth Area, the roadway standards stated in the City of Irrigon TSP do not conflict with the county's standards. The county's Rural Access Roadway standards are intended for roads that do not exhibit substantial traffic volumes but are expected to increase in the future. It is likely that the county roads will become collectors when incorporated into city limits.

By comparison, the 45-foot right-of-way required on city streets designated as being local roads reflects the expectation that these roadways will not require additional widening in the long-term future. The city's collector designation would be an appropriate counterpart to the county's Rural Access Roadway designation.

Parking Restrictions

To ensure adequate intersection sight distance, curbside parking should be prohibited within 20 feet of the edge of a given intersection.

Access spacing standards for the respective roadway classifications are presented later within this section.

ROADWAY IMPROVEMENT PROGRAM

The required transportation improvements in the City of Irrigon over the next 20 years, to meet both short- and long-term needs, are listed below in Table 9. The projects have been divided into 3 periods; 0 to 5 years, 5 to 10 years, and 10 to 20 years.

TABLE 9 – ROADWAY IMPROVEMENTS

Improvement Description	Estimated Cost	Responsible Jurisdiction
Near-Term High Priority Projects (0-5 years)		
Inventory and Review Posting of City Traffic Control Devices	No estimate	City
Improve Delineation on North Main Avenue Adjacent to the A.C. Houghton Elementary School	$35,000	City/Private
Pave Key Collector Facilities	No estimate	City/County/ODOT/ Private
Provide Gateway Treatments Along Highway 730	No estimate	ODOT
Reduce Vehicular Reliance Through Zoning and Development Code Revisions	No estimate	City
Enhance Pedestrian Crossings of Highway 730	No estimate	ODOT
Mid-Term Projects (5-10 years)		
Reconstruct First Street Approach to Highway 730	$30,000	ODOT
Implement Transportation Demand Management Measures	No estimate	City/Private
Remove 3rd Street Access to Highway 730	No Estimate	ODOT/City
Long-Term Projects (10-20 years)		
Signalize the 1st Street/Highway 730 Intersection	$250,000	ODOT
Concurrent with Development		
Provide Strategic North/South Roadway Extensions	$1,270,000	Private
Provide Strategic East/West Roadway Extensions	$3,905,000	Private
Development of Downtown Core	No estimate	City
Promote Access Management Along Highway 730	No estimate	ODOT/City

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

ACCESS MANAGEMENT STRATEGIES

As the City of Irrigon continues to develop, the arterial/collector/local street system will become more heavily relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/collector street system as new development occurs. Access locations on roadway sections need to be properly located to ensure safe and efficient travel along a given transportation facility. Access locations should be placed appropriately to limit potential conflicting turning movements, weaving maneuvers over short distances, and congestion along facilities.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access management categories. One objective of the Irrigon TSP was to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the city's streets. The Oregon Department of Transportation has legal authority to regulate access points along Highway 730 within the city's urban growth boundary. The City of Irrigon will manage access on other collector and local streets within its jurisdiction to ensure the efficient movement of traffic and enhance safety.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways in the upper echelon of the functional classification system (i.e. arterials) tend to have stringent spacing standards, while facilities ranked lower in the functional classification system allow more closely spaced accesses. The following discussion presents the hierarchical access management system for roadways in Irrigon.

ODOT Access Management Standards

The *1999 Oregon Highway Plan* (Reference 1) specifies an access management classification system for state facilities and has classified Highway 730 as being a *Regional Highway*. Although Irrigon may designate state highways as arterial roadways within their transportation systems, the access management categories for these facilities should generally follow the guidelines of the Oregon Highway Plan.

Impact on Local Development Activities

Future developments along Highway 730 (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the *1999 Oregon Highway Plan* highway designations and Access Management policies and standards.

As shown in Table 10, within urban or urbanizing areas, a new development will need to maintain an ¼-mile spacing (centerline-to-centerline) between public access points and 500-feet between private access points on both sides of the roadway and to either side of the proposed access point. Additional property frontage along the state highway does not guarantee that additional approach roads will be allowed. The *1999 Oregon Highway Plan* further designates that traffic signal spacing shall maintain minimum ½-mile spacing and that partial or no median control is necessary.

TABLE 10 – HIGHWAY 730 ACCESS MANAGEMENT STANDARDS*

Classification	Intersection				Signal Spacing[3]	Median Control[4]
	Public Road		Private Drive[2]			
	Type[1]	Spacing	Type	Spacing		
Regional Highway	At-grade/ Interchange	¼ mile	Left/right turns	~600 feet	½ mile	Partial/None

*Source: 1999 Oregon Highway Plan,

[1] The basic intersection design options are as listed. Special treatments may also be considered including partial interchanges, jughandles, etc. The decision on design should be based on function of the highway, traffic engineering, cost effectiveness, and need to protect the highway. Interchanges must conform to the interchange policy.

[2] Generally, no signals will be allowed at private access points on regional highways. If signal warrants are met, alternatives to signals should be investigated, including median closing. Spacing between public and private access points is to be determined by acceleration needs to achieve 70 percent of facility operating speed. Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety.

[3] Generally, signals should be spaced to minimize delay and disruptions to through traffic. Signals may be spaced at intervals closer than those shown to optimize capacity and safety.

[4] Partial median control will allow some well-defined and channelized breaks in the physical median barrier. These can be allowed between intersections if no deterioration of highway operation will result.

In addition to the standards shown in Table 10, according to the *1999 Oregon Highway Plan*, the impact in traffic generation from proposed land uses must allow a major street a volume to capacity ratio of 0.60 – 0.69 for mainline traffic to be maintained for Regional Highways within the development's influence area along the highway. The influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 600 feet in each direction from the property-line of the development (whichever is greater).

The existing legal driveway connections, public street intersection spacing, and other accesses to the state highway system are not required to meet the spacing standards of the assigned category immediately upon adoption of this transportation system plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit

and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, ODOT is required to ensure that all safety and capacity issues are addressed. Proposed land use actions that do not comply with the designated access spacing policy will be required to request consideration for deviation from the City of Irrigon and/or ODOT based on deviation standards and policies outlined in the 1999 Oregon Highway Plan

City Standards

Table 11 identifies the minimum public street intersection and private access spacing standards for the City of Irrigon roadway network as they relate to new development and redevelopment. Table 12 identifies standards for private access driveway widths. In cases where physical constraints or unique site characteristics limit the ability for the access spacing standards listed in Tables 11 and 12 to be met, the City of Irrigon should retain the right to grant an access spacing variance. County facilities within the city's urban growth boundary should be planned and constructed in accordance with these street design standards.

TABLE 11 – MINIMUM INTERSECTION SPACING STANDARDS

Functional Classification	Public Street (feet)	Private Access Drive (feet)
Arterial	Current Block Length – 600	600
Collector	Current Block Length – 300	60
Local	Current Block Length – 300	15

TABLE 12 – PRIVATE ACCESS DRIVEWAY WIDTH STANDARDS

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	10	20
Multi-Family Residential	12	24
Commercial	20	40
Industrial	20	40

Management Techniques

From an operational perspective, the City of Irrigon should consider implementing access management measures to limit the number of redundant access points along roadways. This will enhance roadway capacity and benefit circulation. Improvements that should be considered include:

- planning for and developing intersection improvement programs in order to regularly monitor intersection operations and safety problems
- purchasing right-of-way and closing driveways
- installing positive channelization and driveway access controls as necessary

Enforcement of the access spacing standards should be complemented with the availability of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously affect the viability of the impacted properties. Thus, if an access management approach is taken, alternative access should be developed prior to "land-locking" a given property. Specifically, provision of key east-west collector facilities as identified in Figure 10 would provide alternative access to land adjacent to Highway 730; thereby reducing or eliminating the need to provide new direct highway access to multiple properties along Highway 730.

As part of every land use action, the City of Irrigon should evaluate the potential need for conditioning a given development proposal with the following items, in order to maintain and/or improve traffic operations and safety along the arterial and collector roadways:

- Crossover easements should be provided on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels and would facilitate compliance with access management objectives.
- Conditional access permits should be issued to developments having proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing driveways.
- Right-of-way dedications should be provided to facilitate the future planned roadway system near proposed developments.

Using these guidelines, all driveways, and roadways along the highway will eventually comply with the access spacing policy set for a particular segment of roadway as development and redevelopment occurs in the study area though not every parcel can or should be addressed through the process. The topography of the parcel, type of proposed or adjoining use, and/or highway frontage may preclude a development from using consolidated or crossover access points (e.g., consolidating access for a commercial business and an industrial or agricultural land use would be inappropriate).

Section 7, **Policies and Land Use Ordinance Modifications**, contains suggested code language that could be adopted to implement the access spacing standards. Development review guidelines are also included for the city's use.

PEDESTRIAN AND BICYCLE SYSTEM PLAN

The pedestrian and bicycle system plan is shown in Figure 12. The key objective in the development of the pedestrian and bicycle system plan was to provide connectivity between major activity centers. Within the City of Irrigon, these activity centers primarily include the post office, commercial businesses along Highway 730, the schools, recreation areas, and the developing Morrow County Heritage Trail.

The street design standards (refer to Figure 11a, 11b, 11c) would ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed collectors and arterials. It is essential that existing sidewalks be connected to new sidewalks as new developments are constructed or as road improvements are made.

Multi-Use Facilities

Recognizing the limited resources available to finance separate pedestrian and bicycle facilities, a system of multi-use paths should be developed that supports both pedestrian and bicycle needs. As illustrated in Figure 12, these shared pedestrian/bicycle facilities are provided at key locations connecting schools, parks, and neighborhoods in an environment free of vehicular traffic. The system also incorporates connections with the proposed Morrow County Columbia River Heritage Trail along the Columbia River. Multi-use facilities would be provided along key circulation routes including portions of 1st Street, Highway 730, 4th Street West, Wyoming Avenue, Division Street, 10th Street, NE Main Avenue, and Utah Avenue.

By extending the multi-use path system to encompass the areas designated in Figure 12, a strong base network of pedestrian/bicycle connections will be available to the community. This base network can then be tapped by local sidewalk facilities to provide a more complete pedestrian and bicycle system in an environment free of vehicular traffic. The cross sections of these multi-use pathways would consist of 10-

foot wide paved paths separated from the roadway by a minimum of 10-feet (accomplished through use of a 10-foot wide landscaping strip would provide the necessary separation).

It should be noted that multi-use paths are especially effective in undeveloped areas. As properties develop/redevelop at urban densities in Irrigon, the city should consider replacing the multi-use paths with sidewalks on all streets and bicycle lanes on arterial and collector streets.

Other Pedestrian Facilities

Alternate and/or additional multi-use paths may be desirable in conjunction with continuing school projects, specifically including the potential construction of a new school building. Further, provision of sidewalks along one or both sides of key collector and local roads not specifically identified in this plan is also encouraged.

In addition to providing the pedestrian system components, there are several other potential enhancements that should be considered along Highway 730 including:

- provision of pedestrian refuge islands at 2nd Street West, 1st Street, 10th Street, and 12th Street
- provision of additional street lighting to provide clear visibility of pedestrians at night;
- provision of curb extensions that reduce the exposed crossing distance pedestrians must walk; and
- use of median treatments that provide pedestrians with a "safe-haven" or refuge at a mid-crossing

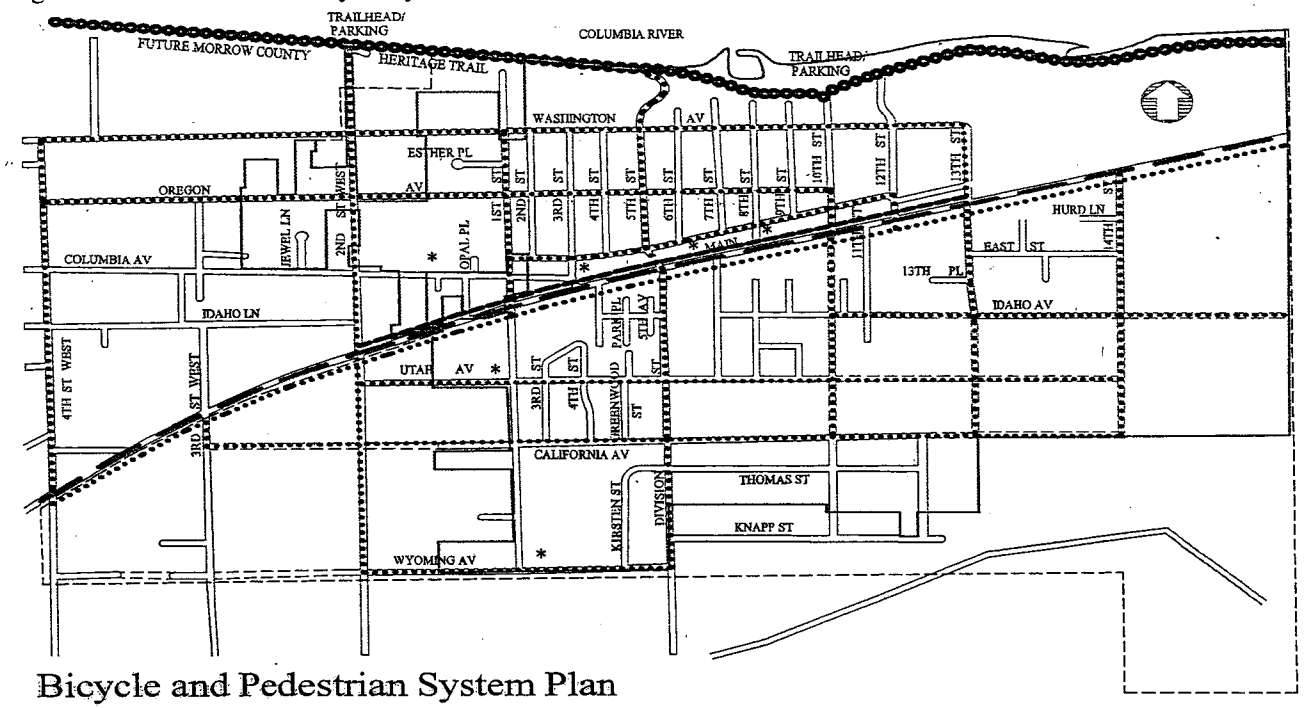
These pedestrian system enhancements are also potentially applicable to other roadways within the city.

Bicycle Facilities

In addition to the multi-use pathways, designated on-street bicycle facilities would be provided along Highway 730. The designated on-street bike lanes, in conjunction with the multi-use paths, provide for essential connections into and out of town. Additional bicycle routes within the city's collector and local-level street system are not considered to warrant roadway treatments and should remain as undesignated shared facilities.

Table 12 provides a summary of pedestrian and bicycle system projects. In reviewing the projects identified in Table 13, it should be recognized that there is limited funding for such facilities and that the identification of projects does not guarantee their completion within the 20-year planning horizon. Nevertheless, as development occurs or street improvements are made, corresponding pedestrian and bicycle improvements should be completed.

Figure 12 – Pedestrian and Bicycle System Plan



Bicycle and Pedestrian System Plan

- FUTURE SIDEWALK
- FUTURE COUNTY MULTI-USE PATH
- BIKE LANE
- FUTURE ROADWAY
- URBAN GROWTH BOUNDARY
- CITY LIMITS
- PEDESTRIAN/BICYCLE GENERATOR
- MULTI-USE PATH

NOTE: SIDEWALK & MULTI-USE PATH ALIGNMENTS ARE CONCEPTUAL. FUTHER ENGINEERING IS REQUIRED TO DETERMINE FEASIBLE ALIGNMENT ALTERNATIVES.

TABLE 13 – PEDESTRIAN AND BICYCLE SYSTEM IMPROVEMENTS

General Alignment	Project Start/End Point	Improvement Description	Estimated Cost	Responsible Jurisdiction
Near-Term High Priority Projects (0-5 years)				
North East Main Avenue	1st Street to 12th Street	Sidewalk	$171,000	City/ODOT
First Street	Wyoming Avenue to Washington Avenue	Sidewalk	$142,000	School District/City
Wyoming Avenue	1st Street to Division Street	Sidewalk	$67,500	City
Utah Avenue	2nd Street West to 10th Street	Sidewalk	$210,000	City
Tenth Street	Washington Avenue to North East Main Avenue	Sidewalk	$124,000	City
Tenth Street	North East Main Avenue to Morrow County Western Heritage Trail	Sidewalk	$94,500	City
Highway 730	Extend Multiuse Path to 15th Street (North side of Highway 730)	Multi-Use Path	$60,000	ODOT/City
Mid-Term Projects (5-10 years)				
Highway 730	2nd Street West to 15th Street (South side of Highway 730)	Sidewalk	$100,000	ODOT
California Avenue	1st Street to Division Street	Sidewalk	$15,000	City
Highway 730	Western UGB to eastern UGB	Bike lanes	$2,600	ODOT
Division Street	Wyoming Avenue to Highway 730	Sidewalk	$160,000	City
Long-Term Projects (10-20 years)				
2nd Street West	Wyoming Avenue to Washington Avenue	Sidewalk	$53,000	City

Washington Ave	4th Street West to 10th Street	Sidewalk	$22,000	City
California Avenue	3rd Street West to 13th Street	Sidewalk	$77,000	City
Thirteenth Street	California Avenue to Highway 730	Sidewalk	$31,500	City
North East Main Avenue	12th Street to eastern terminus	Sidewalk	$195,000	City
4th Street West	Wyoming Avenue to Highway 730	Sidewalk	$8,000	City
7th Street West	Highway 730 to Columbia Lane	Sidewalk	$105,000	City
9th Street West	Columbia Lane to Washington Avenue	Sidewalk	$14,000	City
Idaho Avenue	10th Street to 14th Street	Sidewalk	$61,000	City
11th Street	Idaho Avenue to Highway 730	Sidewalk	$16,500	City

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

Many of the sidewalk and multi-use facilities presented in Table 13 could be completed incrementally as part of local development projects. Creating "partnership programs" with landowners and businesses to construct such facilities would be one method by which individual projects could be brought to fruition in a timely manner. The pedestrian facilities could be constructed as adjacent properties develop, thereby ensuring alternative modes of access to various land uses. The city would however, need to develop a reasonably equitable methodology of assessing the extent of facilities that individual developers would be required to provide.

PUBLIC TRANSPORTATION SYSTEM PLAN

Transit service provides mobility to community residents who do not have access to automobiles and provides an alternative to driving for those who do. Transit service should meet the needs both of travelers within the city and those of travelers making trips outside of the community.

The *1997 Oregon Public Transportation Plan* identifies minimum level of service standards for rural and frontier communities such as the City of Irrigon (Reference 6). Under the *1997 Oregon Public Transportation Plan*, public transportation in small communities and rural areas in the year 2015 (under Level 3-Respond to State and Federal Mandates and Goals) should:

- Provide public transportation service to the general public based on locally established service and funding priorities
- Provide an accessible ride to anyone requesting service
- Provide a coordinated centralized scheduling system in each county and at the state level
- Provide phone access to the scheduling system at least 40 hours weekly between Monday and Friday
- Respond to service requests within 24 hours (not necessarily provide a ride within 24 hours)

Service Enhancements

Overall, the City of Irrigon should continue to monitor the adequacy of the transit service provided to the community and work with the county to extend service as necessary. The local transit program should also seek to meet the 2015 minimum level of service standards identified in the *1997 Oregon Public Transportation Plan*. Three improvement strategies are identified below for further consideration.

Increase Public Awareness

Both the city and the county should promote a greater public awareness of the available public transit services and the need for additional volunteer dispatchers and drivers. Greater awareness of the service and its needs will likely result in increased usage and availability. Provision of better recognition for drivers and/or driver meetings would be an additional avenue by which to encourage more volunteer participation in the program.

Coordinate Trips

Consideration should be given to coordinating trip requests to other neighboring communities and areas outside the county such as Hermiston and Pendleton. For example, a given day of the week could be designated for trips to Pendleton. This would then allow the city's residents to visit specialized medical service providers or satisfy other needs on a scheduled basis. Similarly, weekly shopping trips to Boardman, Hermiston, or other communities could be established to allow community members to purchase commodities not available through local commercial and service providers.

A recent survey conducted by transportation provider staff suggests that coordination of medical visits could be difficult due to the unpredictable nature of office visits, though the need for such a service should be more closely examined. Assuming that the demand for such a service exists, a scheduled weekly service would lend itself to greater coordination with service providers in the neighboring communities of Boardman and Umatilla.

Close coordination between the City of Irrigon and adjacent communities is also encouraged and should increase ridership and efficiency through better use of the resources available. Such coordination could prove to be especially fruitful if the weekly trips previously discussed are established as a joint community service. Coordinated trips to local community events would likely generate significant interest. Ultimately, if an increased demand for service can be established and documented, additional resources (i.e. funding, equipment) may be successfully pursued through grant applications or other alternative financing sources.

Provide Commuter Service

It is recommended that a carpool or vanpool service be provided for people who live in Irrigon and work in neighboring communities. Provision of a vanpool and/or carpools to major employers in the area could help to reduce the number of single occupant vehicle commute trips from Irrigon and help the community to achieve transportation demand management (TDM) objectives.

MARINE SYSTEM PLAN

As previously noted in the **Existing Conditions** section, the Columbia River borders the City of Irrigon to the north and serves as a means of recreational transportation. The city's public marine facility is capable of accommodating future expansion and can be expected to continue to grow with the surrounding community, though no formal expansion plans have been identified to date. The City of Irrigon should actively support the continued presence and operation of the boat launch as an effective means of recreational transportation. The creation of multi-use paths and other facilities that promote the multi-modal use of the recreational areas along the shore of the Columbia River should be encouraged. Further, the city should support the continued use of port facilities in neighboring communities such as the City of Umatilla and the City of Boardman.

AIR TRANSPORTATION SYSTEM PLAN

Existing regional air service for passengers and freight is provided via a full service commercial airport in neighboring Pendleton and at the Tri-Cities Airport located in Pasco, Washington. Air transport charter-

service is also available through the Hermiston Municipal Airport. The City of Irrigon should work with the county to achieve an intermodal connection to one or both airports, via demand-responsive transit service, subsidized taxi service, or other mutually agreeable means. The continued use of these facilities is recommended.

PIPELINE SYSTEM PLAN

Existing pipeline facilities should be maintained and enhanced as necessary.

EVACUATION PLAN

The Morrow County Planning Department, in conjunction with several local and state agencies, has developed response plans in the unlikely event of an incident at the Umatilla Ordinance Depot. According to county officials, in the event of an incident at the ordinance depot, area residents will be notified of the event and will have two response options.

The first response option will be to shelter in place. Planning officials indicate that sheltering in place, by sealing up a room, may be safer than trying to evacuate in some instances. If, however, a decision is made by emergency coordinators to initiate an evacuation, the second response option is to conduct an orderly exodus from affected areas. County planning staff noted that it is important for persons in an evacuation area not to enter into a "mindset" with only one course of action because specific evacuation routes are subject to change based on the nature of the emergency and climatic conditions such as temperature and wind speed.

If an evacuation were to be necessary, appropriate directions would be provided by local alarms, changeable message signs, and tone-alert radio. The directions would then instruct persons to a safe destination, potentially involving reception areas that have been designated in the Dalles, Heppner, and Pendleton.

IMPLEMENTATION PLAN

This section has outlined specific transportation system improvements as well as a corresponding timeline for implementation of the identified improvements. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather ranks projects to be developed over 0 to 5 year, 5 to 10 year, and 10 to 20 year horizon periods. In this manner, the implementation of identified system improvements has been staged to spread investment in this infrastructure over the 20-year life of the plan.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the City of Irrigon is to develop in an orderly and efficient way. Consequently, the plans identified in the TSP should be considered in light of developing infrastructure-sequencing plans, and may need to be modified accordingly.

SUMMARY

The adoption and implementation of this Transportation System Plan will enable the City of Irrigon to rectify existing transportation system deficiencies while also accommodating growth in the study area.

Section 6

Transportation Funding Plan

Transportation Funding Plan

INTRODUCTION

The Transportation Planning Rule (OAR 660-12-040) requires that the City of Irrigon Transportation System Plan (TSP) include a transportation financing program. These programs are to include:

- a list of planned transportation facilities and major improvements;
- a general estimate of the timing for planned transportation facilities and major improvements;
- determination of rough cost estimates for the transportation facilities and major investments identified in the TSP (intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan(s) and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms); and,
- a discussion of existing and potential financing sources to fund the development of each transportation facility and major improvement (which can be described in terms of general guidelines or local policies).

Section 5 of this TSP identified the recommended improvement projects, an implementation timeline, and estimated improvement costs. This section provides an overview of the City of Irrigon's historic funding levels and available funding sources at a federal, state, county, and local level.

The timing and financing provisions in the transportation financing program are not considered a land use decision as defined by the TPR and ORS 197.712(2) (e) and, therefore, cannot be the basis of appeal under State law. In addition, the transportation financing program is intended to implement the comprehensive plan policies, which provide for phasing of major improvements to encourage infill and redevelopment of urban lands, prior to facilities that would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

CITY OF IRRIGON FUNDING HISTORY

The current City of Irrigon Street Fund annual budget allocated approximately $142,550 to transportation projects. The current street fund allocation included $80,500 for capital outlay, a $25,000 grant to improve Division Street, $10,000 for contractor (no definition provided), and $12,500 for road repair. Maintenance and preservation are the major work activities performed on the local street system. Virtually the entire annual Street Fund budget is derived from the city's share of the state-wide gasoline tax and motor vehicle fees. This revenue sharing is based on population and distributed on a proportional share basis to all cities and counties.

Rarely have capital improvement projects been accomplished in the city and, when realized, they have often been funded by a developer. The opportunity to make incremental improvements to the existing system is only facilitated by development/redevelopment. When a building permit is requested, the city examines the needs of the transportation facilities along the site frontage and identifies what should be improved/provided in association with the issuance of the permit.

It is expected that, for the foreseeable future, whatever funding is made available to the city through state and county resources will be applied to the maintenance and preservation of the existing street system. Should the city obtain funds in excess of the budget necessary to maintain the existing system, the TPR will seek to balance the application of these funds across all modes of travel. Therefore, the list of identified in this TSP should be the primary source for future projects to be implemented.

The City of Irrigon currently does not have a transportation system development charge, which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Irrigon TSP study, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements.

OREGON TRANSPORTATION FUNDING HISTORY

Road-Related Funding

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the State. Through the fiscal year 1996, the matching ratio in Oregon for Interstate Funds was: Federal 92.22 percent and State 7.78 percent (Reference 7).

During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last three Oregon Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption. Nevertheless, fuel taxes are the largest single source of highway revenues at approximately $390 million annually (Reference 7). Weight-miles taxes are the second largest source of revenue to the Highway Fund, at approximately $215 million annually (Reference 7).

Oregon Highway Trust Fund revenues are distributed among State (60.05 percent), County (24.38 percent) and City (15.57 percent) governments to fund their priority road needs. Under the 1997-1999 legislatively adopted Department of Transportation budget, a total of $2,284 million revenue dollars was identified. Of the total available revenue, approximately $317 million dollars was allocated to counties and $185 million to cities (Reference 8).

Oregon law allows local government, in addition to receiving state highway trust fund revenues, to levy local fuel taxes for street related improvements. Multnomah and Washington Counties, and some small cities (Tillamook, The Dalles, and Woodburn) have used this authorization. Several attempts have been made by other jurisdictions, but have not been supported by the local electorate. As few local governments have implemented this option, non-user road revenues tend to be relied upon to supplement the funds received from state and federal user revenues. Other local funding sources have included property tax levies, local improvement district assessments, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other miscellaneous sources.

Oregon's current fee for cars and other light vehicles weighing 8,000 pounds or less is $30 biennially (Reference 7). Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities in Oregon have relied more on transfers from their general funds to support roadway improvements, than have counties. Ballot Measure 5, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the property tax rate for

purposes other than for payment of certain general obligation indebtedness to $15 per $1,000 of assessed value. The measure further divided the $15 per $1,000 property tax authority into two components: $5 per $1,000 dedicated to the public schools; the remaining $10 dedicated to other local government units, including cities, counties, special service districts, and other non-school entities. The tax rate limitation for cities and counties went into effect in July 1991. The school portion of the measure was phased in over a five-year period beginning in July 1991.

In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which further affected the ability of cities and counties to pay for needed infrastructure through historic or traditional means. Ballot Measure 50 was then approved by Oregon voters in May of 1997 and, through implementing legislation, became law in July 1997. Ballot Measure 50 repealed Measure 47 and made efficiency changes to Measure 5. Measure 50 limits taxes on each property by rolling back the 1997-1998 assessed value of each property to 90 percent of its 1995-1996 value. Measure 50 also limits future growth on taxable value to three percent per year, with exceptions for new items such as new construction, remodeling, subdivisions, and rezoning. Permanent tax rates for Oregon's local taxing districts are also established in Measure 50 that replace the former tax base amounts of the district. Measure 50 allows voters to approve new short-term levies outside the permanent rate limit if approved by a double majority.

At the same time that increased growth and increased transportation demands are occurring, cities and counties have lost another traditional source of revenue for infrastructure construction and modernization - timber harvest receipts. Under a 1993 negotiated mitigation plan, federal forest receipts to support county roads are decreasing 3 percent per year. In 1996, counties received 74 percent of their 1986-90 average receipts, and by 2003 they will receive 55 percent of the late 1980s average receipts.

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, counties, or cities, for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the State, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996.

A result of these recommendations was the appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal included a process for identifying a "base" transportation system, with a priority of maintenance, preservation, and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. Other components included provisions for realizing efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. The State Legislature was unable to reach consensus on the means to collect and distribute the funds and the package failed.

A part of future transportation funding will include identification of relationships and responsibilities relative to delivery of projects and services. In Oregon, the primary state role has been to construct and maintain the state highway system and to assist local government with funding of other modes. The State also has a role in intercity passenger services and airports. This has historically been minor but would grow significantly if serious efforts were put into intercity transportation improvements. Local governments provide local transit and airport support, in addition to providing maintenance, preservation, and construction for local roads, streets, and bridges. The Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) began moving decision-making for federal programs to states and this program and other state policies incorporated in the Oregon Transportation Plan (OTP) encourage

reassessment of responsibilities and obligations for funding. The Transportation Equity Act for the 21st Century (TEA21), passed in 1998, has continued the efforts first initiated by ISTEA.

These changing relationships have resulted in two significant issues for State and local governments. First, there is no clear definition of State responsibility. At one time, the State operated on an informal consensus that it should provide one-half the match on federally funded, local, and other projects that served statewide needs. No similar consensus seems to exist today. The State's responsibility for transit, airports, and other local transportation infrastructure and services is not clear. The question of regional equity is raised in considering especially high-cost project needs, such as the Bend Parkway or the Portland area light rail program. Regional equity will probably require consideration of all modes together, because different regions may have different modal needs and financial arrangements.

Given this dynamic transportation funding environment, it is clear that local governments need to reassess traditional methods of funding projects and look creatively at ways to meet public expectations of high quality transportation services.

Transit Funding

Transit service in Oregon has evolved from private development and reliance on user fees for operating revenue, to public ownership with public subsidy for operations. No clear philosophy of the State role in providing transit services is evident and the State is discussing how it should raise revenue in support of transit. The State has used general funds, lottery funds, cigarette tax revenue, and other funds at various times to support transit service. These efforts have largely been targeted towards supplying half the required match to federal capital improvement grants. To date, the State has provided no operating funds for transit, other than the elderly and disabled program. The State role has been one of granting authority to local governments to raise locally generated operating revenue.

While the state's role in transit funding is limited, the ODOT Public Transit Section does currently administer three public transit-funding sources. These include Small City and Rural Transit Assistance (Section 18), the Special Transportation Fund (STF), and Section 16.

The Small City and Rural Transit Assistance program is a federally funded initiative that provides capital to operate and acquire vehicles for public transportation systems in cities with populations of less than 50,000 and rural areas. This assistance program is funded annually through an appropriation from the Federal Transit Administration (FTA) to each state with funds allocated to eligible providers based on a three-part formula. Fifty percent of the funds are distributed based on population, 25 percent are based on ridership, and 25 percent are based on service hours. There is a 50 percent local match requirement for operating costs and a 20 percent match for capital costs. The program stipulates that service must be marketed as "public transit": exclusive transportation services such as those limited strictly to senior citizens or employers are not eligible for funding under this program. Additional funding details, application information, and general assistance with the Small City and Rural Transit Assistance is available through ODOT's Public transit Division.

The Special Transportation Fund is intended for elderly and disabled citizens and is funded through the State cigarette tax. Funding for the purchase of vehicles and equipment for special transportation providers (i.e., servicing the elderly and disabled) is provided through a federal funding program known as Section 16.

POTENTIAL TRANSPORTATION FUNDING SOURCES

There is a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state, and local governments. Appendix F (Table F-1) provides a summary of federal, state, and local highway, bridge, sidewalk, and bicycle funding

programs respectively, which have typically been used in the past. Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 47 severely limit the opportunities for this funding source.

Appendix F (Table F-2) presents details of the revenue sources for streets, bridges, sidewalks, and bicycle facilities currently used by cities. The information is summarized by type of facility, and indicates the percent of revenue each funding source represents for all cities in Oregon, likely trends for the source, known constitutional or other limitations, and their respective rates. The general status of each funding source is summarized in Table F-3.

Funding Program

Based on the identified improvement needs, major expenditures for transportation improvements are anticipated throughout the 20-year planning horizon. These transportation needs exist at a time when funding options available to make improvements are constrained. The city can expect to make significant investments to improve transportation facilities for existing development and to improve collectors and arterials that serve the entire area. However, the burden for future expansion of the transportation network should be borne by the development community creating the additional demand and this is reflected in the project costs/responsibilities previously summarized in Table 8.

Based on the recommended roadway improvement projects identified in Table 8, at least $65,000 of roadway improvements have been identified for completion within the next five years. Additional projects for which cost estimates could not be prepared are also anticipated. With the possible exception of the First Street/Highway 730 intersection improvement project, the City of Irrigon would bear most of the financial burden for near-term improvements.

In the five- to ten-year planning horizon, it is anticipated that the Fifth Avenue/Division Street realignment project could come to fruition. This project would primarily be the responsibility of the city and is estimated to cost approximately $130,000. Additional pedestrian crossings of Highway 730 would also be desirable and could be implemented during this time horizon. The pedestrian enhancements would most likely be provided by ODOT, though with ODOT's current funding limitations the provision of such enhancements may not be possible.

In the long-term, it is expected that a traffic signal will be required along Highway 730. The estimated $200,000 cost of this signal would likely be funded by ODOT, with potential financial assistance from the city. ODOT's funding limitations may also constrain funding for such a project.

As documented in this TSP, the construction of several north/south and east/west roadways is also anticipated within the 20-year planning horizon. Financing of these facilities, which is collectively estimated to cost $5,175,000, would likely be the responsibility of private developers. It is assumed that these projects will be completed incrementally as development occurs, which may or may not fall within the 20-year planning horizon.

Pedestrian and bicycle improvement projects are expected to be implemented on a gradual basis as roadways are reconstructed, development activities occur, or alternative funding becomes available through grant projects or some other financing mechanism. Sidewalk improvement projects that would likely be completed in conjunction with reconstruction of ODOT facilities total $133,600. The remaining $1,885,000 in identified pedestrian and bicycle improvement projects are expected to be financed either by the city or developers as appropriate. Funding programs such as the Transportation Enhancement Program provide funds for enhancing pedestrian and bicycle facilities, landscaping, and other scenic beautification that may be a source of funding for adding sidewalks, multi-use paths, and bicycle facilities. Additional funding may be available through the creation of Local Improvement Districts or through grant projects.

State Funding

ODOT operates and maintains Highway 730 in the City of Irrigon. State and federal funds administered through ODOT will be the primary sources of funding for improvements to this facility. Further, most Federal funding is passed through ODOT to local jurisdictions. While improvement projects affecting ODOT facilities are documented in this TSP, the inclusion of such projects in the TSP does not obligate ODOT to finance them.

A good working relationship with ODOT Region 5 planning staff and the Region Manager will be important to ensure that major roadway improvement projects on state facilities within the city are included in ODOT's State Transportation Improvement Plan (STIP) when it is updated. The city and Morrow County should take an active role in jointly representing the transportation priorities of Irrigon to ODOT during its process of formally incorporating priorities into the STIP. For its part, the City of Irrigon Transportation System Plan will provide ODOT with highway-related transportation projects of importance to the city and should be used as a basis for discussion with ODOT.

Local funding participation in projects on state facilities may enable ODOT to accelerate the priority of an improvement identified in the STIP. While not normally a requirement of project funding, local participation does demonstrate a strong commitment to ODOT and the local funds may be used to leverage state funds.

Local Funding

The City of Irrigon should continue to pursue federal, state, and county transportation funds for transportation projects. Given the high level of annual expenditures needed for construction of the transportation projects identified, existing sources of transportation revenue are not expected to be adequate to meet the demand for new projects. To meet the additional funding needs, the city may wish to consider additional revenue-generating options such as systems development charges, local improvement districts, and street maintenance fees as discussed below. It should be noted that, even with increased funding, it may prove difficult to fund all of the projects identified in this TSP within the 20-year planning horizon. Accordingly, the city should review the identified improvement projects on a periodic basis to prioritize local transportation system funding such that it most appropriately reflects current and projected needs.

Transportation System Development Charge

The City of Irrigon does not currently have a transportation system development charge, which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Irrigon TSP, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements. The study should determine the feasibility of implementing SDC fees, particularly with respect to evaluating equitability with neighboring cities both in economic and political terms.

Local Improvement Districts

Local improvement districts could be formed to improve currently substandard and unimproved roads. These projects may or may not be fully completed within the 20-year planning horizon.

Street Maintenance Fee

The City of Irrigon could investigate local adoption of a street maintenance fee to raise revenues to be dedicated toward street rehabilitation projects. These revenues could also be used to supplement the current State Highway Fund (State gas tax and vehicle registration fees) revenues already used for on-going maintenance.

Additional Considerations

There are important limitations that should be considered with respect to additional funding options. For example, the dollar amount of SDCs that can be assessed must meet legal requirements for establishing SDCs. The success of any funding plan will be reliant on the approval of the community. Accordingly, the involvement of citizens of the community in developing and implementing a funding package is essential.

SUMMARY

Transportation funding resources available to the City of Irrigon and ODOT are limited. It is expected that, for the near future, those funding sources that are available will predominantly be applied to maintenance and preservation of the existing transportation system. As additional funding becomes available, the list of transportation improvement projects identified in this TSP should used to select projects for implementation. In the interim, the City of Irrigon should consider developing alternative transportation funding sources such as System Development Charges, Local Improvement Districts, or Street Maintenance Fees as a mechanism by which to finance improvements to the city's transportation system.

Section 7

Policies and Land Use Ordinance Modifications

Policies and Land Use Ordinance Modifications

This section is provided under separate cover in the document "City of Irrigon Implementing Ordinances for the Transportation System Plan."

Section 8

Transportation Planning Rule Compliance

Transportation Planning Rule Compliance

In April 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the Transportation Planning Rule (TPR), OAR 660 Division 12. The TPR requires local jurisdictions to prepare and adopt a Transportation System Plan (TSP) by 1997. Outlined below is a list of recommendations (designated by *italics*) and requirements for a TSP for an urban area with a population between 2,500 and 25,000, and how each of those were addressed in the City of Irrigon TSP. The comparison demonstrates that the City of Irrigon TSP is in compliance with the provisions of the TPR.

DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

TPR Recommendations/Requirements	City of Irrigon TSP Compliance
Public and Interagency Involvement	
Establish Advisory Committees.	A Management Team and Technical Advisory Committee were established at the outset of the project. Membership on the Management Team included members of the City, County, and ODOT staff. Membership on the Technical Advisory Committee included representatives from all facets of the community.
• Develop informational material.	Technical memoranda and status reports of work undertaken and completed by the advisory committee were published and made available to the public throughout the project. Informational posters were also prepared concerning the project and opportunities for participation at public workshops for use at community information centers.
• Schedule informational meetings, review meetings and public hearings throughout the planning process. Involve the community.	Three Management Team/TAC meetings were held through the planning process. The meetings were advertised by distribution of meeting notices. All TAC meetings were advertised and open to the public as part of joint City Council/Planning Commission meetings.
• Coordinate Plan with other agencies.	Coordination with the City, ODOT, and Morrow County was accomplished by including agency representatives on the project mailing list, individual project briefings/meetings, and participation on the Management Team and the TAC.
Review Existing Plans, Policies, Standards, and Laws	
• *Review and evaluate existing comprehensive plan.*	The following plans were reviewed as part of the development of the TSP: *1991 Oregon Highway Plan,* (June, 1991); 1996 *Oregon Bicycle Plan*; *City of Irrigon Comprehensive Plan,* (1991); Draft *Statewide Transportation Improvement Program* (2000-2003).
• *Land use analysis - existing land use/vacant lands inventory.*	In developing the forecast of transportation needs, an analysis was conducted of current land use designations and land status within the project area to determine the capacity for growth, which would increase demand for transportation services. Population and employment forecasts were prepared for the year 2020 that reflect

	regional growth prospects and the City's economic role in the region. Estimates of needed housing, commercial, and employment lands were derived from these forecasts. An inventory of vacant buildable lands within the city was also conducted.
• *Review existing ordinances - zoning, subdivision, engineering standards.*	Existing City Subdivision Ordinances, Zoning Ordinances, and Comprehensive Plan engineering standards were reviewed for adequacy in the development of the City of Irrigon TSP.
• *Review existing significant transportation studies.*	Significant transportation studies reviewed as part of the City of Irrigon TSP include the above mentioned comprehensive plans and their associated transportation elements, the Morrow County TSP, and the City's Street, Sidewalk, Bikeway, and Handicap Access Study.
• *Review existing capital improvements programs/public facilities plans.*	The City of Irrigon CIP, Morrow County CIP, and the State TIP were reviewed as part of City of Irrigon TSP development.
• Americans with Disabilities Act requirements.	The ADA requirements were reviewed and acknowledged as part of the City of Irrigon TSP development.
• Review current Transportation System Plan and evaluate compliance with the 1999 Oregon Highway Plan	Reviewed existing Transportation System Plan and updated document to reflect requirements, standards, and policies of the 1999 Oregon Highway Plan.
Inventory Existing Transportation System	
• Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, *truck routes, number and location of accesses, safety, substandard geometry*).	An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and levels of service is provided in Section 2: Existing Conditions.
• Bicycle ways (type, location, width, condition, *ownership/jurisdiction*).	As noted in Section 2: Existing Conditions, there are no existing bicycle ways within the City of Irrigon.
• Pedestrian ways (location, width, condition, ownership/jurisdiction).	As noted in Section 2: Existing Conditions, there are no existing pedestrian ways within the City of Irrigon.
• Public Transportation Services (transit ridership, volumes, route, frequency, stops, fleet, intercity bus, passenger rail, special transit services).	A summary of the existing public transportation services is presented in Section 2: Existing Conditions. Only Special Transit and Intercity Bus services exist within the City of Irrigon.
• Intermodal and private connections.	A summary of the existing intermodal and private carrier transportation services is presented in Section 2: Existing Conditions.
• Air transportation.	A summary of existing air transportation facilities is provided in Section 2: Existing Conditions. No air transportation facilities are provided in the City of Irrigon.

• Freight rail transportation.	As noted in Section 2: Existing Conditions, there are no freight rail transportation services within the City of Irrigon.
• Water transportation.	A summary of water transportation services is provided in Section 2: Existing Conditions.
• Pipeline transportation.	A summary of pipeline transportation services is provided in Section 2: Existing Conditions.
• *Environmental constraints.*	Development of the TSP did not include the identification of environmental constraints beyond those specifically documented in the TSP.
• Existing population and employment.	As outlined Section 1: Introduction, the 1997 City of Irrigon population is approximately 1,200 persons in the city, 1,444 within the Urban Growth Area. This information and employment data cited in Section 3: Future Conditions Analysis, is included in Future Conditions as the basis for the forecasts that were performed for this TSP.
Determine Transportation Needs	
• Forecast population and employment	Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and City of Irrigon's economic role. This information is summarized in Section 3: Future Conditions.
• Determination of transportation capacity needs (cumulative analysis, *transportation gravity model*).	Travel demand forecasts were undertaken as part of this project. The methodology for travel forecasting and assumptions used in the transportation model are contained in Section 3: Future Conditions, which presents an analysis of future transportation conditions and identifies capacity needs.
• Other roadway needs (safety, bridges, reconstruction, operation/maintenance).	Non-capacity related transportation needs are identified and recommended for implementation in Section 5: Transportation System Plan.
• Freight transportation needs.	Freight transportation needs are adequately met via motor carrier freight services.
• Public transportation needs (special transportation needs, general public transit needs).	Public transportation needs are presented in Section 5: Transportation System Plan.
• Bikeway needs. • Pedestrian needs.	Future bicycle and pedestrian improvements are to be made in conjunction with roadway improvements to provide cyclists and pedestrians with full accessibility to City of Irrigon's street system. Plans for these facilities are shown in Figure 15 of Section 5: Transportation System Plan.
Develop and Evaluate Alternatives	
• Update community goals and objectives.	Goals were established as part of the TSP development (see Section 1: Introduction).
• Establish evaluation criteria.	Evaluation criteria was established from the study goals and objectives and used to develop the Preferred Alternative presented in Section 5: Transportation System Plan.
• Develop and evaluate alternatives (no-build system, all build alternatives, transportation system management, transit	Section 4: Alternatives Analysis includes a summary of the land use and transportation alternatives considered and analyzed for City of

alternative/feasibility, improvements/additions to roadway system, land use alternatives, combination alternatives).	Irrigon's TSP. Land uses, roadway alternatives, transportation system management options, bike and pedestrian options were analyzed.
• Select recommended alternative.	A recommended alternative for roadways, bikeways, and pedestrian facilities is contained in Section 5: Transportation System Plan.
Produce a Transportation System Plan	
• Transportation goals, objectives and policies.	Specific recommendations regarding transportation goals and policies are outlined in Section 7: Policies and Land Use Ordinance Modifications.
• Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).	The streets plan element is outlined in Section 5: Transportation System Plan.
• Public transportation element (transit route service, transit facilities, special transit services, intercity bus and passenger rail).	The public transportation element is outlined in Section 5: Transportation System Plan.
• Bikeway system element.	The bikeway plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Pedestrian system element.	The pedestrian plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Airport element (land use compatibility, future improvements, accessibility/ connections/conflicts with other modes).	The airport element is outlined in Section 5: Transportation System Plan.
• Freight rail element (terminals, safety).	There is no rail service available or anticipated to serve the City of Irrigon.
• Water transportation element (terminals).	The water transportation element is outlined in Section 5: Transportation System Plan
Produce a Transportation System Plan (Continued)	
• *Transportation System Management element (TSM).*	TSM element not applicable per OAR 660-12-020(2)(f) and (g).
• *Transportation Demand Management element (TDM).*	TDM element not applicable per OAR 660-12-020(2)(f) and (g).
Implementation of a Transportation System Plan	
Plan Review and Coordination	
• Consistent with ODOT and other applicable plans.	See Section 7: Policies and Land Use Ordinance Modifications
Adoption	
• Is it adopted?	*To follow.*
Implementation	
• Ordinances (facilities, services and improvements; land use or subdivision regulations).	Included in Section 7: Policies and Land Use Ordinance Modifications.
• Transportation financing/capital improvements program.	The transportation finance plan is summarized in Section 6: Transportation Funding Plan.

Section 9

References

References

1. Oregon Department of Transportation. *Oregon Highway Plan.* 1991 & 1999.
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4. U.S. Department of Transportation, Federal Highway Administration. *Manual on Uniform Traffic Control Devices.* 1988.
5. KCM, Inc. *Morrow County Transportation System Plan Final Report.* March 1998.
6. Oregon Department of Transportation. *1997 Oregon Public Transportation Plan.* April 1997.
7. Oregon Department of Transportation. *State Transportation Fiscal and Statistical Data for 1997.* September 1998.
8. Oregon Department of Transportation. *Financial Services Website, http://www.odot.state.or.us/fspublic.* May 1999.

Appendix A

Plan and Policy Review

Appendix A – Plans and Policies Review

Existing plan policies and other actions will influence the analysis of land use and transportation issues and the alternatives to address these issues as well as other community objectives. This appendix provides a summary of the plans and policies reviewed as part of the development of the Transportation System Plan.

CITY OF IRRIGON COMPREHENSIVE PLAN

The Comprehensive Plan is part of a Technical Report first completed in 1978. The 1991 update was partially financed with a maintenance grant from the Department of Land Conservation and Development. The Technical Report provides background information, facts, and considerations that serve as a basis for the city's comprehensive plan map, policies, and objectives.

The Technical Report consists of eight chapters as follows:

Chapter I:	Summary and Conclusions
Chapter II:	Summary of Findings
Chapter III:	Citizen Involvement
Chapter IV:	Goals and Objectives
Chapter V:	Natural Environment (including: Climate, Geology, Topography, Soils, Natural Hazards, Fish and Wildlife, Air, Water and Land Quality, Energy Resources, and Unique Scientific and Cultural Resources)
Chapter VI:	Socio-Economic Environment (including: Resource Base and Economic History, Community Survey Description, Population, Income, Employment and Economic Development, City and County Financial Base, Housing, Community Services, Community Facilities, and Existing Land Use, Zoning & Growth Management)
Chapter VII:	Bibliography
Chapter VIII:	Appendices (including: Community Survey, Population Projection Description, Coordination Letter, County Review Process, City & County Plan Ordinances, and Urban Growth Area Management Agreement)

CHAPTER II

The key findings and goals included in Chapter II are summarized below.

- *Goal 11, Public Facilities and Services*: "plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."
- *Goal 12, Transportation:* "provide and encourage a safe, convenient and economic transportation system."

CHAPTER IV

The key policies and goals included in Chapter IV are summarized below.

- *Land Use Planning Goal*: Establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

- *Land Use Planning Policies:* Identify lands suitable for development and areas where development should be restricted; and, determine the public facilities and services required to accommodate existing unmet public needs and expected economic and population growth.
- *Open Spaces, Scenic and Historical Areas, and Natural Resources Goal*: Conserve open space and protect natural and scenic resources.
- *Open Spaces, Scenic and Historical Areas, and Natural Resources Policies:* Examine any publicly owned lands including street rights-of-way for their potential open space use before their disposition.
- *Recreational Needs Goal:* Satisfy the recreational needs of the citizens of Irrigon and visitors.
- *Recreational Needs Policies:* Encourage tourist commercial uses such as motels, restaurants, gas stations, gift shops, and other noise and traffic generators to cluster in or adjacent to other commercial areas.
- *Economic Development Goal*: Diversify and improve the economy of Irrigon.
- *Economic Development Policies:* Minimize noise levels, heavy traffic volumes, and other undesirable effects of heavy commercial and industrial developments; and, cluster commercial uses intended to meet the business needs of area residents and highway travelers only in designated areas to prevent the undesirable effects of a strip commercial area.
- *Public Facilities and Services Goal*: To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban development.
- *Public Facilities and Services Policies: D*evelop, maintain, update, and expand police and fire services, streets, and sidewalks, water and sewer systems, and storm drains as necessary to provide adequate facilities and services to the community; require underground installation of utilities in all new developments and as major improvements are made to areas with above ground utilities.
- *Transportation Goal*: To provide and encourage a safe, convenient and economic transportation system.
- *Transportation Policies*: Minimize conflicts between through and local traffic on Highway 730 to reduce traffic hazards and expedite the flow of traffic; develop good transportation linkage (pedestrian, vehicular, bicycle, etc.) between residential areas and major activity centers.
- *Energy Conservation Goal*: Conserve energy and develop and use renewable energy resources.
- *Energy Conservation Policies*: Revise subdivision regulations to require that the orientation of street and buildings allow for utilization of solar energy and require landscaping to reduce summer cooling needs.
- *Urbanization Goal*: Provide for an orderly and efficient transition from rural to urban land use.
- *Urbanization Policies*: Encourage development to occur within a relatively compact urban area with controlled outward growth.

CHAPTER VI

Chapter VI, Socioeconomic Environment, contains a section on transportation and future needs. This section lists the following objectives:

- To provide an integrated transportation system that will link the city with regional production, distribution and marketing centers.

- To incorporate safety and efficiency factors in (the) transportation system design to allow people and goods to travel conveniently.
- To create a transportation system which is current, flexible, and coordinated with the comprehensive plan.
- Permit orderly and timely expansion of the transportation system in an economically feasible manner.
- To maintain and improve the transportation system to allow it to carry out its intended function.

IMPLEMENTING REGULATIONS

Zoning Ordinance

The Zoning Ordinance (Ordinance #64 as amended) implements the Comprehensive Plan by establishing specific standards for use of the land by zoning districts and other development standards. The ordinance contains regulation for off-street parking and loading (Article 9) and parking lot access, but does not contain development standards related to streets, use of streets or additional access standards.

Article 3, Use Zones, includes dimensional standards in R-1 (General Residential), R-2 (Limited Residential), and R-3 (Farm Residential) zones, requiring that the street frontage shall be a minimum of 50 feet except on a cul-de-sac where the minimum shall be 30 feet. Street frontages shall be a minimum of 25 feet in C (Central Commercial) zones and 100 feet in M (Light Industrial) zones.

Additional "Clear Vision Areas" (triangular areas) are required on corners of all properties at the intersection of two streets or a street and a railroad. In a residential zone, the minimum distance must be 30 feet except when including an alley, only 10 feet. In all other zones where yards are required, the minimum distance shall be 15 feet, or at intersections including an alley, 10 feet, except when the angle of intersection is less than 30 degrees, the distance shall be 25 feet.

Subdivision Ordinance

Ordinance #60 Section 2(b) requires a sketch plan prior to subdividing land. This sketch must include detail regarding the arrangement, location and width of streets, their relation to the topography of the land, and provision of other urban services to the site. Section 4(a) describes the necessary content of the final subdivision plat, including "formal irrevocable offers of dedication to the public of all streets, local government uses, utilities, parks and easements..."

Section 4.2 includes the following general requirements for streets: frontage on improved streets, grading and improvement plan, topography and arrangement, road names, road regulatory signs, and streetlights.

Design Standards

a. *General:* In order to provide for streets of suitable location, width and improvement, design standards are required per Table A-1 below.

b. *Road Surfacing and Improvement*: Surfacing shall be suitable for expected traffic and in harmony with similar improvements in the surrounding areas. Types of pavement shall be as determined by the City Engineer. All road pavement, shoulders, drainage improvements and structures, curbs, turnarounds, and sidewalks shall conform to all construction standards and specifications adopted by the City Council upon recommendation of the City Engineers, and shall be incorporated into the construction plans submitted by the developer for plat approval.

c. *Excess Right-of-Way:* May be required when necessary to provide adequate earth slopes. Such slopes shall not be in excess of three to one.

d. *Intersections*

1. Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two new streets at an angle of less than 75 degrees shall not be acceptable. An oblique street should be curved approaching an intersection and should be approximately at right angles for at least one hundred (100) feet there from. Not more than two streets shall intersect at any one point.
2. Proposed new intersections along one side of an existing street shall, wherever practicable, coincide with any existing intersections on the opposite side of such street. Street jogs with centerline offsets of less than 150 feet shall not be permitted, except where the intersected street has separated dual drives without median breaks at either intersection. Where streets intersect major streets, their alignment shall be at least 800 feet apart.
3. Minimum curb radius at the intersection of two local streets shall be at least 20 feet; and minimum curb radius at an intersection involving a collector street shall be at least 25 feet. Alley intersections and abrupt changes in alignment within a block shall have the corners cut off in accordance with standard engineering practice to permit safe vehicular movement.
4. Intersections shall be designed with a flat grade wherever practical. In hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than a 2% rate at a distance of 60 feet, measured from the nearest right-of-way line of the intersecting street.
5. Where any street intersection will involve earth banks or existing vegetation inside any lot corner that could create a traffic hazard by limiting visibility, the developer shall cut such ground and/or vegetation (including trees) in connection with the grading of the public right-of-way to the extent necessary to provide an adequate sight distance.

TABLE A-1
DESIGN STANDARDS FOR ROADS

Classification	Right-of-Way	Turn Lanes	Travel Lanes	Bike Lanes	Sidewalks	On-Street Parking	Landscape Strip
Arterial	66 Feet	Yes with pedestrian refuges/median	12 Foot	6 Foot Both sides	10 Foot on South Side	No	No
Minor Collector	60 feet	No	10 foot	Shared Roadway	5 Foot on both sides	7 Foot on both sides	4 Foot swale (drainage)
Local Street	50 feet	No	10 Foot	Shared Roadway	5 Foot on both sides	7 Foot swale (parking, drainage)	No

Section 4.6 includes required improvements for sidewalks:

1. Sidewalks shall be included within the dedicated non-pavement right-of-way of all roads as given in Table A-1.
2. Concrete curbs are required for all roads where sidewalks are required by these regulations or where required in the discretion of the City Council.
3. Sidewalks shall be improved as required in Section 4.2.2b (road surfacing and improvements) of these regulations. A median strip of grassed or landscaped areas at least 4 feet wide shall separate all sidewalks from adjacent curbs.

4. Pedestrian accesses. The City Council may require, in order to facilitate pedestrian access from the roads to schools, parks, playgrounds, or other nearby roads, perpetual unobstructed easements at least 20 feet in width. Easements shall be indicated on the plan, plat or map.

Section 4.9, Preservation of Natural Features and Amenities, states that existing features that add value to the development or to the city as a whole, such as trees, watercourses, etc., shall be preserved in the design of the subdivision or partition.

Subsection 4.9.2 describes trees required to be planted by the subdivision developers. These shall be planted on the property within 5 feet of the right-of-way for the road or roads within and abutting the subdivision, or, at the discretion of the City Council, within the right-of-way for such roads. One tree shall be planted for every 40 feet of frontage along each road unless the City Council grants a waiver. This section also describes tree and trunk size and time that shall be used. Deciduous trees should be planted on east-west streets and evergreen trees on north-south streets. According to the City Manager of Irrigon, the street tree preservation ordinance still stands, but has not been consistently enforced. The tree easement and dedication part of the ordinance has never been enforced as far as he knows.

Subsection 4.9.3 states that the final plat or map shall reserve an easement authorizing the city to plant shade trees within five feet of the required right-of-way for the city.

Section 4.10, bicycle routes, includes a provision for requiring bicycle routes as follows: if appropriate to the extension of a system of bicycle routes, existing or planned, the City Council may require installation of separate bicycle lanes within streets and separate vehicle paths.

Section 4.11 pertains to nonresidential subdivisions for commercial or industrial use subdivisions, street rights-of-way and pavement shall be adequate to accommodate the type and volume of traffic anticipated. Special requirements may be imposed with respect to the street, curb, gutter, and sidewalk design and construction. Streets carrying nonresidential traffic, especially truck traffic, shall not normally be extended to the boundaries of adjacent existing or potential residential areas. Every effort should be made to protect residential areas from potential nuisances; e.g., extra depth in parcels, or placement of landscaped strips.

JOINT MANAGEMENT AGREEMENT BETWEEN CITY OF IRRIGON AND MORROW COUNTY

The 1998 Joint Management Agreement (JMA) addresses road jurisdiction and standards in Section 9, Road Jurisdiction and Standards, as follows:

9.1 The City and County agree to adopt a joint standard for non-arterial roads equivalent to the County's Rural Collector II standard developed for the County's Transportation System Plan (TSP). All future non-arterial roads within the UGB will be constructed and maintained to this standard unless housing densities warrant a higher standard. In such cases, roads will be constructed and maintained to the County's Rural Collector I standard, also adopted by both the City and the County. Estimates of average daily traffic, based on number of proposed housing units served by a given road, will be used to determine whether the Rural Collector I or II standard will be required. Road standards subject to this agreement are shown in Exhibit C and the County Road Classification Map as shown in Exhibit D.

9.2 If any future arterials are constructed within the urban growth area, the County and City will develop and adopt a joint arterial road standard for construction and maintenance.

9.3 Upon annexation, the City will assume jurisdiction of all county roads regardless of condition.

9.4 These provisions do not prevent the City or County from improving any road within the UGB to a higher standard, as needed or appropriate, subsequent or prior to annexation.

STRATEGIC PLAN

The 1998 Irrigon Community Assessment of strengths, weaknesses, opportunities and threats (SWOT) cites the lack of a Transportation Master Plan as an infrastructure weakness, as was "inadequate roads". The opportunity for "community involvement to draft the City Transportation Plan" was listed.

Under Community Goals and Attendant Strategies, the following goals, strategies and projects apply to the transportation and land use system:

Goal: Promote community improvement and business activity through improved infrastructure.

Strategy: Enhance and expand infrastructure and facilities that will promote safety, health and economic growth.

Project:

- Highway 730 pedestrian and bike crosswalks
- Lewis and Clark Trail Program

Goal: Promote and support improved public safety

Strategy: Financial support of local law enforcement

Project:

- Bike/walk path system

In the Strategic Plan Implementation Schedule, The Lewis and Clark Trail Program project is being led by the County Planning Department. An initial grant application has been submitted.

The Highway 730 Pedestrian and Bike Crosswalks is being led by the City of Irrigon, is underway and dependent upon results of the Community Development Program, (Phase II of which is the TSP), said to be completed by December 1998.

The bike/walk path system is being led by the City of Irrigon, initiated in March 1998 and is, again, dependent on the results of the Community Development Program.

The Community Development Program reference in the plan is described to include a Transportation System Plan (TSP) for the city and urban growth area including an inventory and assessment of existing transportation facilities as well as a plan for future transportation needs, an in-fill and redevelopment strategy and identification of a central downtown area.

Regarding the Highway 730 pedestrian and bike crosswalk project, the plan lists pedestrian efforts in the past as including an engineering study of traffic patterns by Anderson-Perry and Associates in 1992-93; siting of three dedicated crosswalks; rebuilding of the A.C. Houghton Grade School student bus loading zone; continually upgrading street signs in heavy traffic areas; and student busing across Highway 730.

Suggestions for improvements include:

- Construction of a crossing at Division Street and Highway 730,
- Improving Division Street by widening the traffic lanes,
- Building shoulders and developing a bike path on the west side, and
- Building curbs to define traffic lane width and build sidewalks along the north side of South Main Avenue (Highway 730) to connect to pedestrian paths parallel to the highway.

According to the strategic plan, these pedestrian paths are to be built in stages and eventually reach from NE 13th Street to NE 3rd Street with possible extension beyond N 1st Street. The first stage would be the

crossing at Division and South Main with a second possibility to install a safety island at selected crossings to provide pedestrians a refuge when crossing. This would entail a 7" high concrete island supplemented by a concrete median strip identifying turn lanes and including concrete sidewalks. These crossings would be connected with pedestrian and bike paths from the new Post Office to the Grade School. Caution lights or control lights are discouraged, as they have not proven to be effective in similar situations. The summary notes that Irrigon does not have the required traffic counts for either pedestrian or vehicular traffic to justify installation of traffic lights at this time.

Regarding the project summary for the bike/walking path system, the project is described to begin with a path running through the Irrigon Greenway, fronting A.C. Houghton Grade School and continuing to the new Irrigon Post Office. The path is described as being enhanced with tree plantings and other landscape projects. Anticipated results include relief for pedestrian and bike traffic on Highway 730 and North Main Street. The summary notes that pedestrian safety is a great concern, especially with the Irrigon schools located on both sides of Highway 730. Project cost is estimated to be $10.54 per linear foot.

Appendix B

Description of Level-of-Service Methods and Criteria

Appendix B – Description of Level-of-Service Methods and Criteria

LEVEL OF SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various LOS from A to F.[1]

SIGNALIZED INTERSECTIONS

The six LOS grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average stopped delay per vehicle. Using this definition, LOS D is generally considered to represent the minimum acceptable design standard.

Table B1 – Level of Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stop delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stop delay is in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

1 Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual*, Special Report 209 (1994).

Table B2 – Level of Service Criteria for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (Seconds)
A	# 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The *1994 Highway Capacity Manual* provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of LOS for unsignalized intersections is presented in Table B4. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard.

Table B3 – Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in queue.
B	• Some drivers begin to consider the delay an inconvenience. • Occasionally there is more than one vehicle in queue.
C	• Many times there is more than one vehicle in queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in queue. • Drivers feel quite restricted.
E	• Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B4 – Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Total Delay per Vehicle (Seconds)
A	< 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. **While overall intersection LOS is calculated for AWSC intersections, LOS is only**

calculated for the minor approaches and the major street left turn movements at TWSC intersections. No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

Appendix C

Employment and Population Forecast Methodology

Appendix C – Employment and Population Forecast Methodology

COGAN
OWENS
COGAN

320 WOODLARK BUILDING
813 SW ALDER STREET
PORTLAND, OREGON 97205-3111
503/225-0192 • FAX 503/225-0224

PLANNING,
COMMUNICATIONS,
GOVERNMENTAL AND
COMMUNITY RELATIONS,
ENVIRONMENTAL STUDIES

MEMORANDUM

DATE: February 3, 1999

TO: Julie Kuhn

FROM: Matt Hastie MH

RE: Morrow County Population and Employment Projections

We have completed projections to be incorporated in Technical Memorandum #3 for the Morrow County TSP project. This memo outlines the methodology and assumptions used to develop projections for the cities of Boardman, Heppner, Ione, Irrigon and Lexington. For Boardman and Irrigon, we have estimated future population for the City and urban growth area (area between the existing city limits and urban growth boundary (UGB)). For the other cities, we have provided projections for the city limits only. All employment projections are for the cities only.

METHODOLOGY

Population

The Oregon Office of Economic Analysis (OEA) has developed population and employment forecasts through the year 2040for each county in Oregon. These are recognized as the official projections to be used by state agencies and local jurisdictions for planning purposes. Counties are responsible for allocating population to their cities and unincorporated areas. For the purposes of buildable lands and other planning studies, local jurisdictions may modify the OEA projections if agreed to by the appropriate coordinating state agency. In 1997, Morrow County, in coordination with the Oregon Department of Land Conservation and Development (DLCD) and the cities of Boardman and Irrigon, agreed to a modified set of 1997 population estimates and future projections. These projections assumed a higher rate of growth than forecast by the OEA through the year 2002 and incorporate the OEA growth rates from 2002 through 2020. The higher growth rates are based on substantial recent/ ongoing population and employment growth in the region. In addition, growth rates for specific cities are assumed to fluctuate from the county average in the near term.

We used these 1997 estimates and modified growth rates in our projections. In addition, we estimated the number of people within the urban growth areas of Boardman and Irrigon (based on the number of dwelling units and the average number

of people per dwelling unit in Morrow County) to estimate and project the population within the UGB for these two cities.

Employment

Current estimates of employment for individual cities are not available through the County, state or any of the individual jurisdictions involved in this project. As noted above, the state has developed county-wide employment projections for non-agricultural employment which can be used to estimate future growth rates for the county. In estimating current and future employment, we assumed the following:

- Between 1990 and 1997, employment growth rates mirrored those for population growth with these exceptions:
  - The rate of employment growth was slightly lower than population growth in Boardman, where employment growth was high but population growth was likely higher, due to significant employment growth in Umatilla County (i.e., some new Boardman residents in the workforce work in Umatilla County).
  - The rate in Irrigon was significantly lower than the rate of population growth, given Irrigon's "bedroom community" characteristics and the high rate of population growth there.
- Between 1997 and 2002, we also estimate a somewhat higher rate of employment growth than the original OEA projections, following the same logic used to develop population estimates, as well as the assumptions stated above.
- For 2002 – 2020, as with the population estimates, we assumed the employment growth rates projected by the OEA.

The attached tables show the projections.

POPULATION PROJECTIONS

County/City		1997	2000	2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow		9,895	9,828	11,179	2.5%	10,723	1.8%	11,594	1.6%	12,463	1.5%	13,322	1.3%
Adjusted Morrow		9,895	11,131	12,039	4.0%	12,701	1.8%	13,750	1.6%	14,812	1.5%	15,801	1.3%
Boardman	City and	2700	3,126	3,446	5.0%	3,635	1.8%	3,936	1.6%	4,240	1.5%	4,523	1.3%
	City and UGA	3062	3,545	3,908	5.0%	4,123	1.8%	4,463	1.6%	4,808	1.5%	5,129	1.3%
Heppner	City and	1480	1,502	1,517	0.5%	1,601	1.8%	1,733	1.6%	1,867	1.5%	1,992	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Ione	City and	310	319	328	1.0%	344	1.8%	372	1.6%	401	1.5%	428	1.3%
	City and UGA		-	-	1.0%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Irrigon	City and	1200	1,470	1,683	7.0%	1,776	1.8%	1,922	1.6%	2,071	1.5%	2,209	1.3%
	City and UGA	1444	1,769	2,025	7.0%	2,137	1.8%	2,313	1.6%	2,492	1.5%	2,658	1.3%
Lexington	City and	290	294	297	0.5%	325	1.8%	352	1.6%	379	1.5%	404	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%

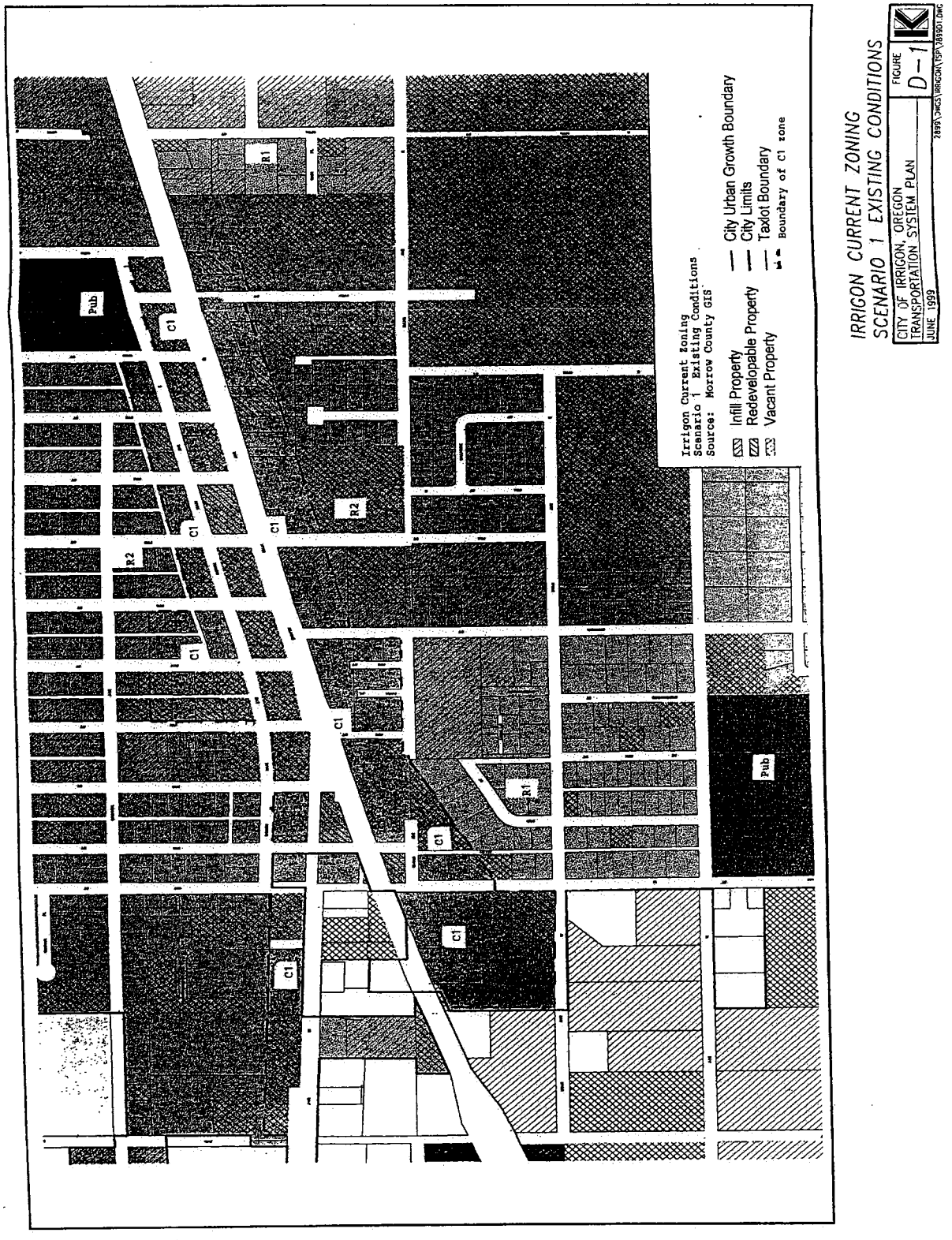
EMPLOYMENT PROJECTIONS

County/City	1990	1997	2000 % change		2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow Co. Proj.	2232	2,924	3,263	3.9%	3,449	2.5%	3,613	1.9%	3,890	1.5%	4,097	1.0%	4,290	0.9%
Boardman	641	1,029	1,261	7.0%	1,444	7.0%	1,528	1.9%	1,646	1.5%	1,730	1.0%	1,809	0.9%
Heppner	580	601	610	0.7%	616	0.5%	652	1.9%	702	1.5%	738	1.0%	772	0.9%
Ione	121	125	127	0.8%	128	0.5%	136	1.9%	146	1.5%	154	1.0%	161	0.9%
Irrigon	236	290	317	3.0%	336	3.0%	356	1.9%	384	1.5%	403	1.0%	422	0.9%
Lexington	108	110	110	0.2%	111	0.2%	117	1.9%	126	1.5%	133	1.0%	139	0.9%

Appendix D

Preferred Land Use Alternative Graphical Renderings

Appendix D – Preferred Land Use Alternative Graphical Renderings

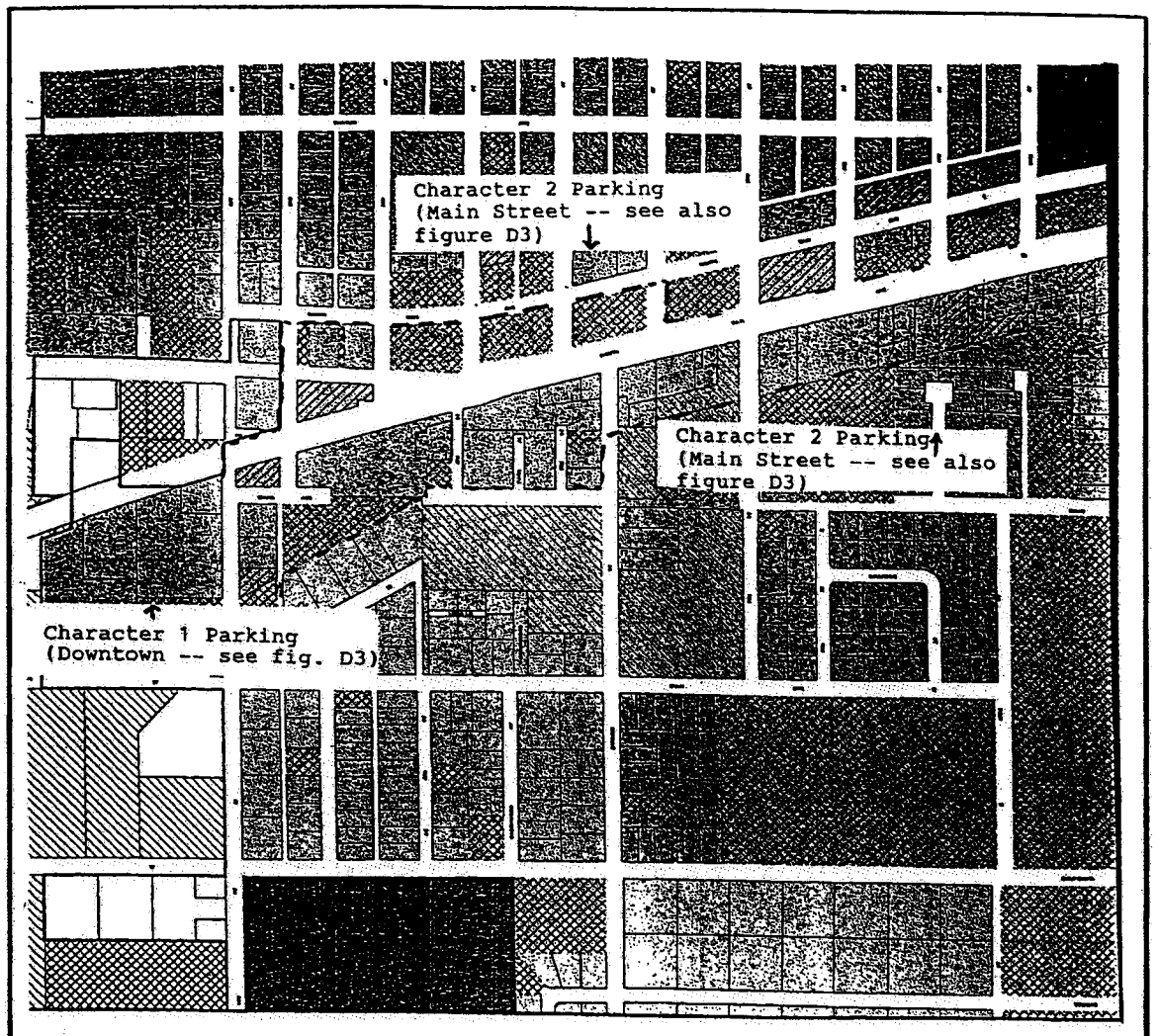


IRRIGON CURRENT ZONING
SCENARIO 1 EXISTING CONDITIONS

CITY OF IRRIGON, OREGON
TRANSPORTATION SYSTEM PLAN
JUNE 1999

FIGURE D-1

7899\CMGS\IRRIGON\TSP\7899D1.DWG



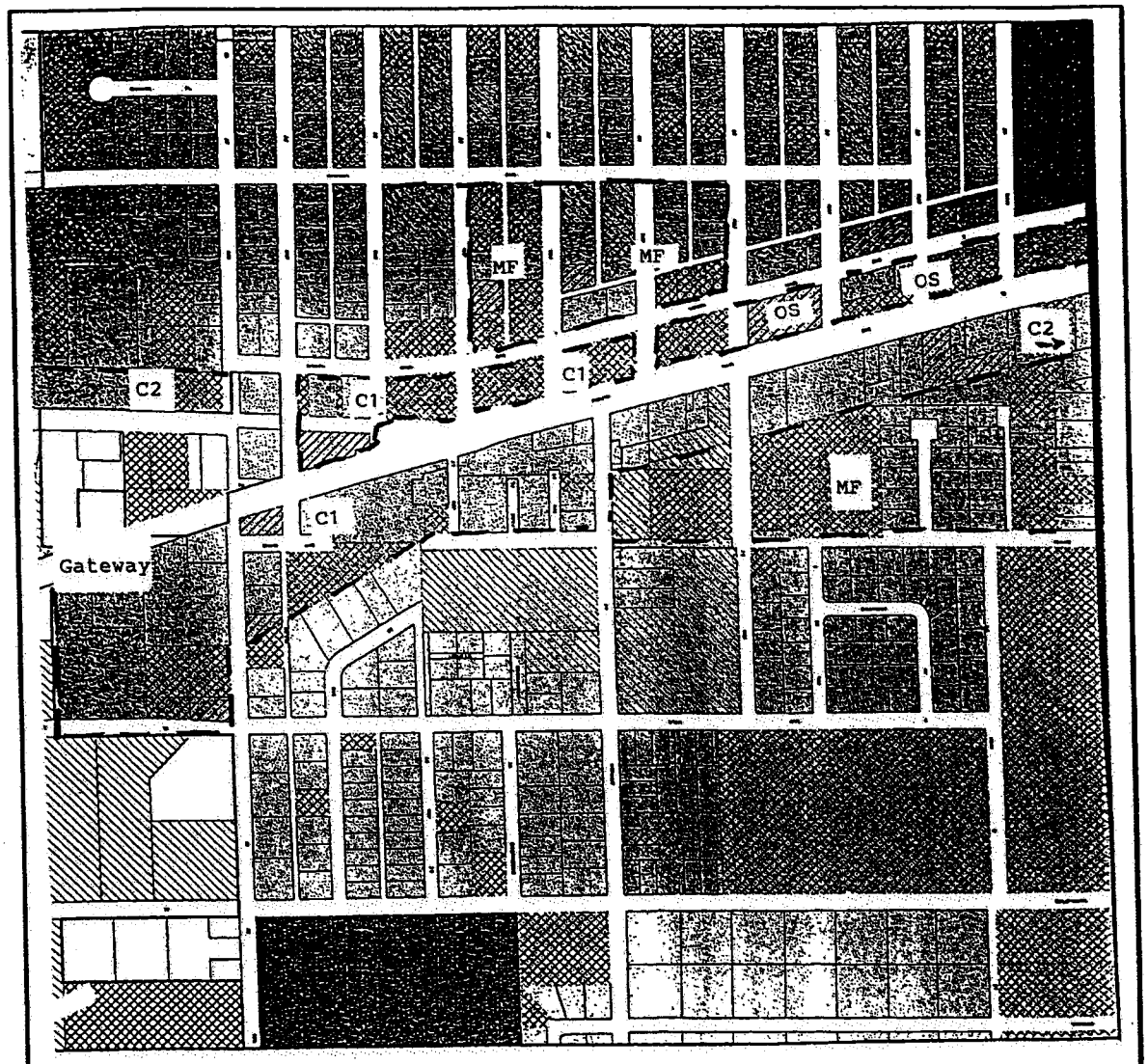
Irrigon
Scenario 2 Defined Commercial Downtown Area/ Refined Parking Strategy
Source: Base map/ Morrow County GIS

- Infill Property
- Redevelopable Property
- Vacant Property
- City Urban Growth Boundary
- City Limits
- Taxlot Boundary
- Proposed boundary of limited C1 zone

IRRIGON SCENARIO 2
DEFINED DOWNTOWN/REFINED
PARKING STRATEGY

CITY OF IRRIGON, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE D-2

2899\DWGS\IRRIGON\TSP\2899D2.DWG



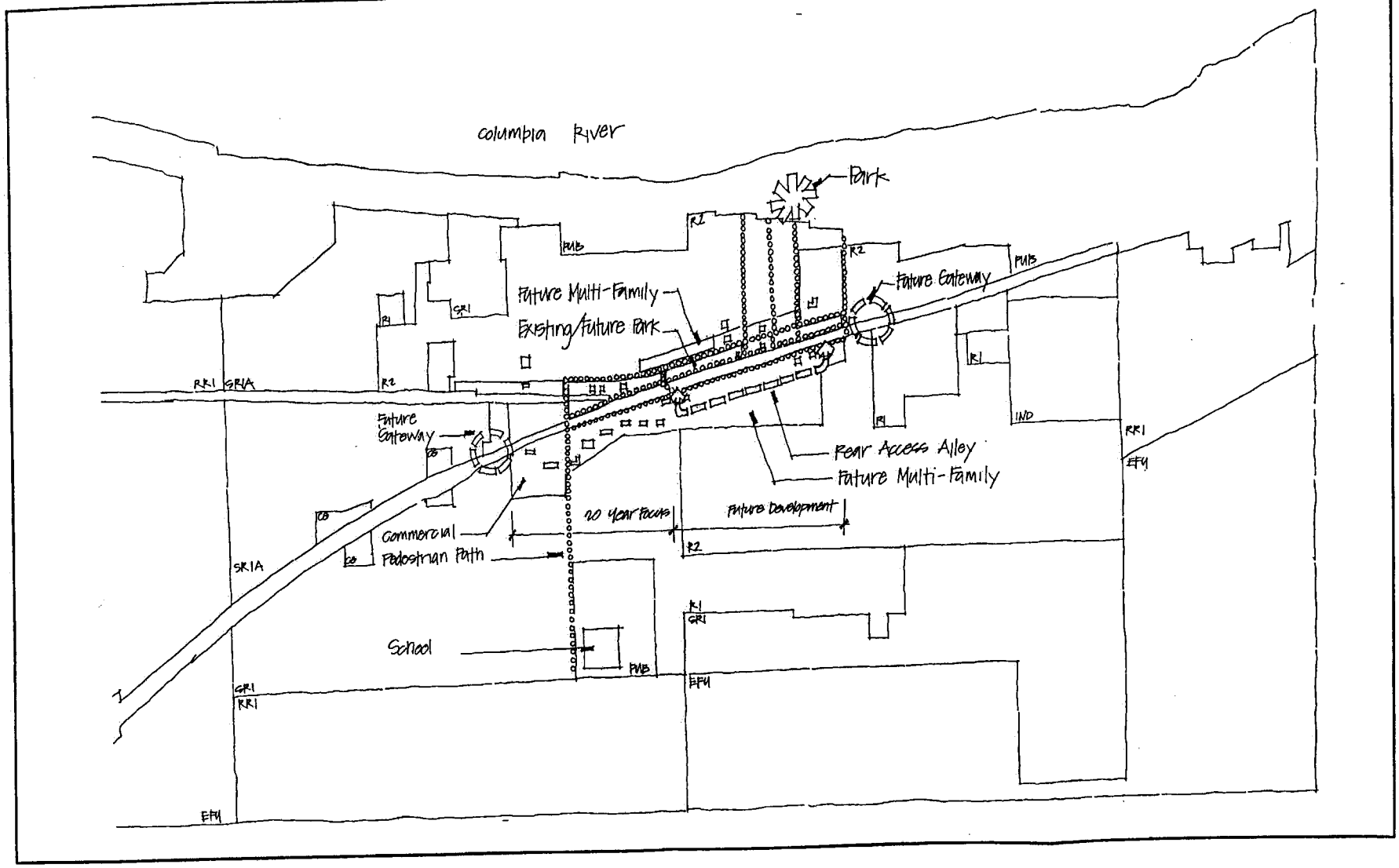
Irrigon
Scenario 3 Mixed Use Commercial Downtown Zone and Main Street with North South Connections
Source: Base map/ Morrow County GIS (See also figure D-4)

Infill Property
Redevelopable Property
Vacant Property
City Urban Growth Boundary
City Limits
Taxlot Boundary

IRRIGON SCENARIO 3
MIXED USE COMMERCIAL DOWNTOWN ZONE AND MAIN STREET

CITY OF IRRIGON, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE D-3

2899\DWGS\IRRIGON\TSP\289903.DWG

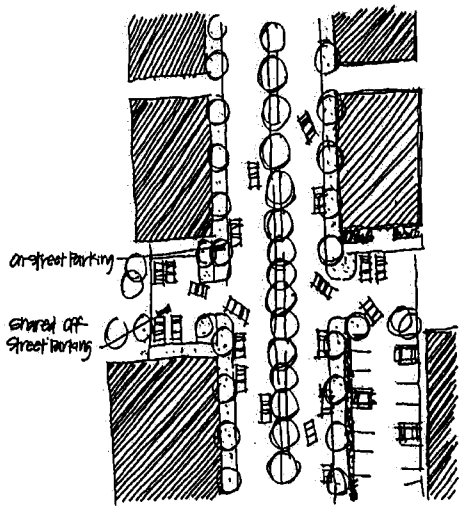


IRRIGON PROPOSED ZONING

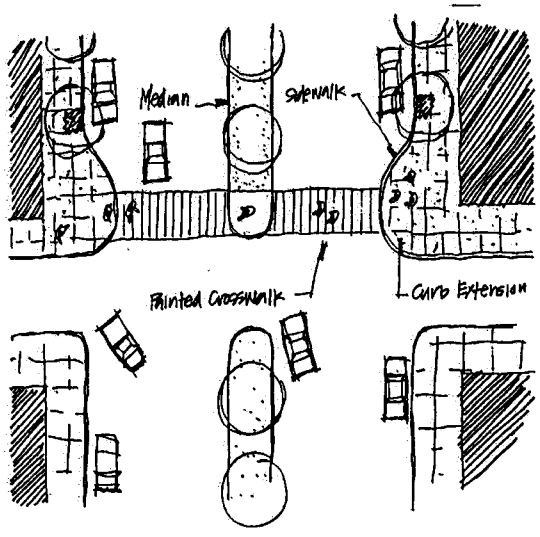
CITY OF IRRIGON, OREGON
TRANSPORTATION SYSTEM PLAN
JUNE 1999

FIGURE D-4

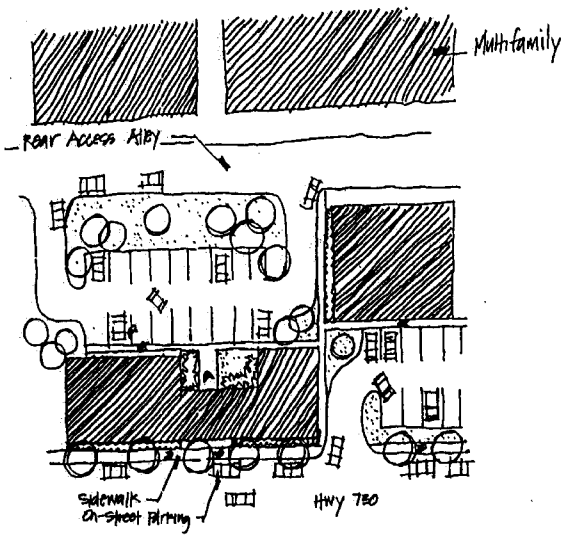
2899\DWGS\IRRIGON\TSP\28997ONE.DWG



Hwy 780 Parking Possibilities



Typical Pedestrian Crossing

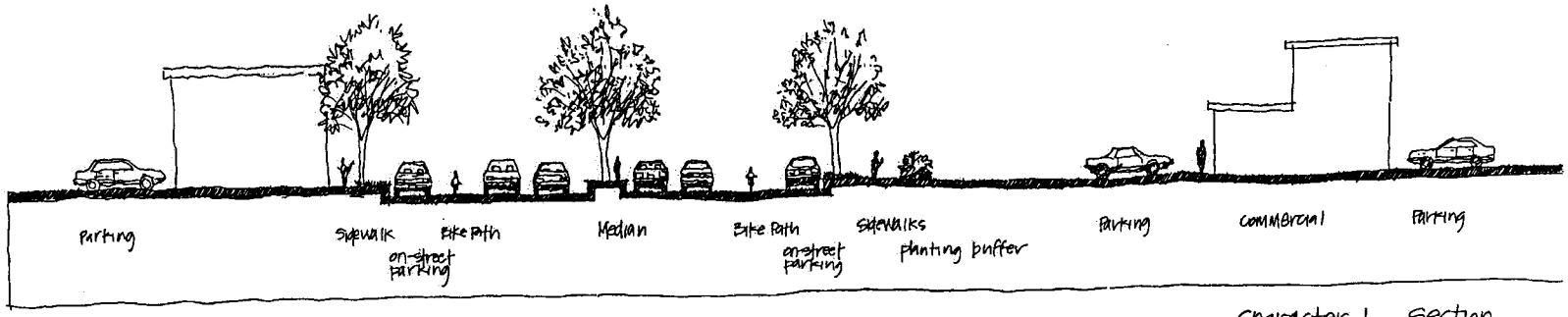


Typical Rear Access Layout

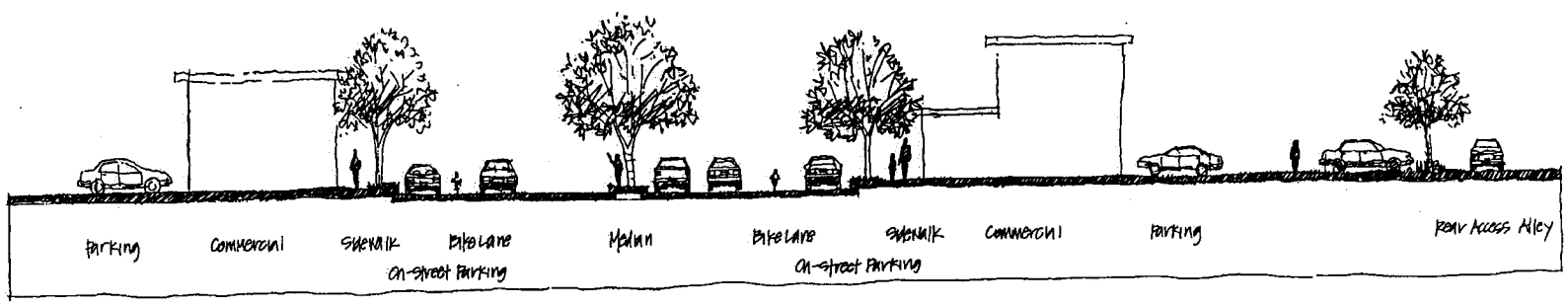
IRRIGON PLAN DETAILS RENDERING

CITY OF IRRIGON, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE D-5

7899\DWGS\IRRIGON\TSP\7899PLAN.DWG



Character 1 Section
1" = 10'-0"



Character 2 Section
1" = 10'-0"

CONCEPTUAL RENDERING OF IRRIGON STREET CROSS SECTIONS

CITY OF IRRIGON, OREGON TRANSPORTATION SYSTEM PLAN JUNE 1999	FIGURE D-6

2899\DWGS\IRRIGON\TSP\2899CONC.DWG

Appendix E

Main Street Mitigation Design

Appendix E – Main Street Mitigation Design

CITY OF

IRRIGON, OREGON

STREET, SIDEWALK, BIKEWAY, AND
HANDICAP ACCESS STUDY

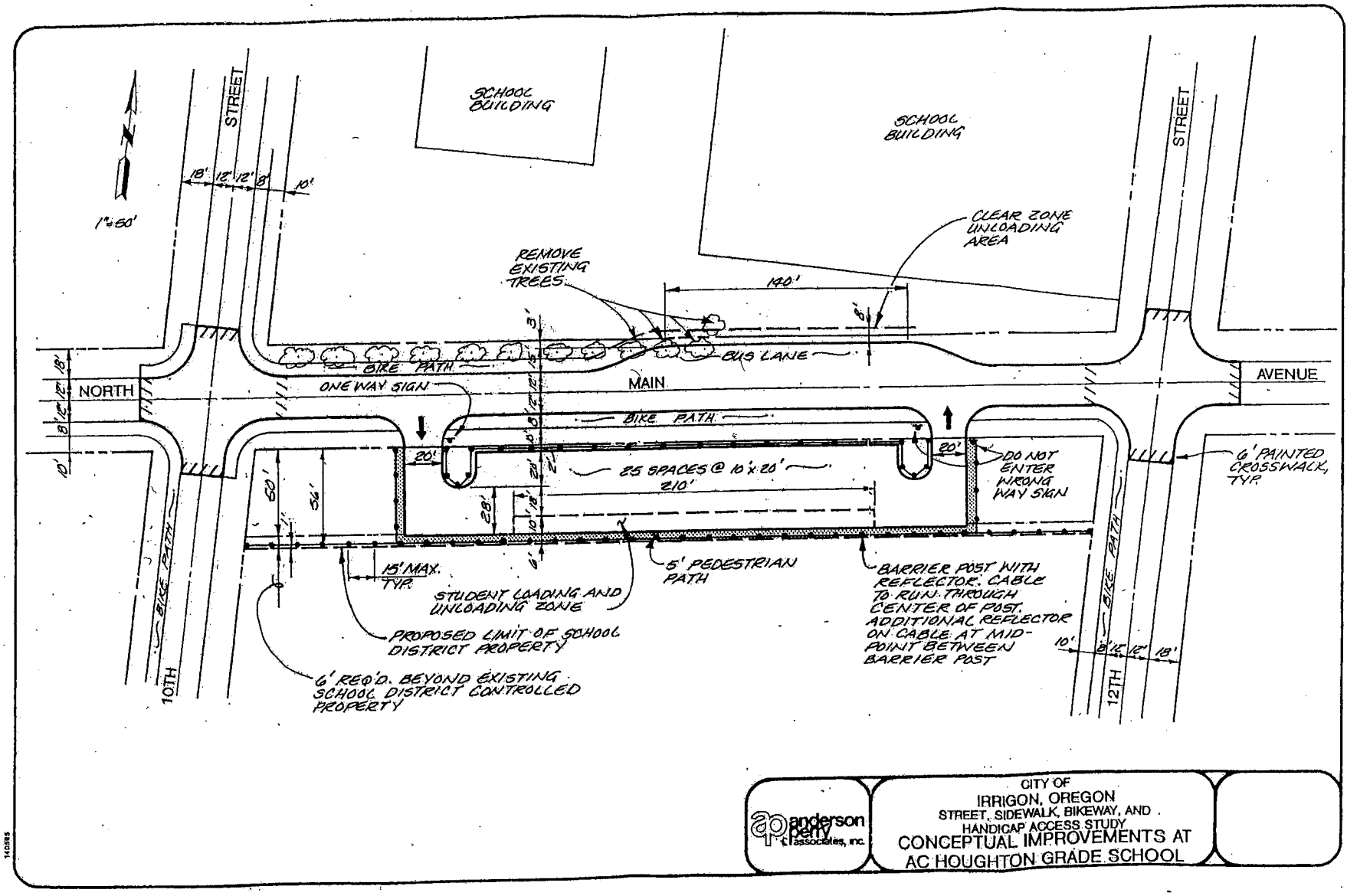
1993

EXPIRES: 12-31-94

ANDERSON PERRY & ASSOCIATES, INC.

Consulting Engineers

La Grande, Oregon
Walla Walla, Washington
Lewiston, Idaho


SCHOOL BUILDING
SCHOOL BUILDING
STREET
STREET
1"=50'
18' 12' 12' 8' 10'
REMOVE EXISTING TREES
CLEAR ZONE UNLOADING AREA
140'
8'
3'
BUS LANE
BIKE PATH
ONE WAY SIGN
NORTH
MAIN
AVENUE
BIKE PATH
20'
25 SPACES @ 10'x 20'
210'
20'
DO NOT ENTER WRONG WAY SIGN
6' PAINTED CROSSWALK, TYP.
60'
36'
28'
15' MAX. TYP.
STUDENT LOADING AND UNLOADING ZONE
5' PEDESTRIAN PATH
BARRIER POST WITH REFLECTOR. CABLE TO RUN THROUGH CENTER OF POST. ADDITIONAL REFLECTOR ON CABLE AT MID-POINT BETWEEN BARRIER POST
PROPOSED LIMIT OF SCHOOL DISTRICT PROPERTY
6' REQ'D. BEYOND EXISTING SCHOOL DISTRICT CONTROLLED PROPERTY
10TH
12TH
BIKE PATH
BIKE PATH
10' 8' 12' 12' 18'
140585
anderson perry & associates, inc.
CITY OF
IRRIGON, OREGON
STREET, SIDEWALK, BIKEWAY, AND HANDICAP ACCESS STUDY
CONCEPTUAL IMPROVEMENTS AT
AC HOUGHTON GRADE SCHOOL

Appendix F

Supplemental Funding Information

Appendix F – Supplemental Funding Information

TABLE F-1 – SUMMARY OF ROAD RELATED TRANSPORTATION FUNDING PROGRAMS: FEDERAL SOURCES

Program Name	Description
Community Development Block Grants (CDBG)	Community Development Block Grants are administered by the Department of Housing and Urban Development and potentially be used for transportation improvements in eligible areas.

TABLE F-2 – SUMMARY OF ROAD RELATED TRANSPORTATION FUNDING PROGRAMS: STATE SOURCES

Program Name	Description
State Highway Fund	The State Highway Fund composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carrier. In 1994, the state gas tax was $0.24 per gallons. Vehicle registration fees were $15 annually. Revenues are divided as follows: 15.57 percent to cities, 24.38 percent to counties, and 60.05 percent to ODOT. The city share of the State Highway Fund is allocated based on population. ORS 366.514 requires at least on percent of the State Highway Fund received by ODOT, counties, and cities be expended for the development of footpaths and bikeways. ODOT administers the bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.
Special Public Works Fund (SPWF)	The State of Oregon allocates a portion of revenues from the state lottery for economic development. The Oregon Economic Development Department provides grants and loans through the SPWF program to construct, improve, and repair infrastructure to support local economic development and create new jobs. The SPWF provides a maximum grant of $500,000 for projects that will help create a minimum of 50 jobs.
Transportation Access Charges	The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed, limited access corridors; service in high-demand corridors; and bypass facilities to avoid congested areas. Congestion pricing, where drivers are charged electronically for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements; but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods. ORS allow DODOT to construct toll bridges to connect state highways and improve safety and capacity. ORS also allow private development of toll bridges. Recent actions by the Oregon Legislature provide authority for developing toll roads. State authority for congestion pricing does not exist; new legislation would be required.
Immediate Opportunity Fund (IOF)	Financed at a level of $5 million per year to a maximum of $40 million through FY96. The fund is to support specific economic developments in Oregon through the construction and improvement of roads and is restricted for use in situations that require a quick response and commitment of funds. It is anticipated that the maximum amount available for single project is $500,000 or 10 percent of annual program level. This fund may be used only when other sources of financial support are unavailable or insufficient and are not a replacement or substitute for other funding sources.
Oregon Transportation Infrastructure Bank (OTIB)	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highway, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaries units at intersections between State highway and city and county streets, which are included on the statewide priority; and are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the Statewide signal priority list with local road requirements.

TABLE F-3 – SUMMARY OF ROAD RELATED TRANSPORTATION PROGRAMS: LOCAL SOURCES

Program Name	Description
Special Assessments – Local Improvement	Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works

Districts	projects as street paving, drainage, parking facilities, and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct and/or financial benefit to its owners. Local Improvement Districts (LIDS) are legal entities established by the City to levy special assessments designed to fund improvements that have local benefits. Through a local improvement district, streets or other transportation improvements are constructed and a fee is assessed to adjacent property owners.
Systems Development Charges (SDC)	Systems Development Charges are fees paid by land developers intended to reflect the increased capital costs incurred by a municipality or utility because of a development. Development charges are calculated to include the costs of impacts on adjacent areas or services, such as increased school enrollment, parks and recreation use, or traffic congestion. Numerous Oregon cities and counties presently use SDCs to fund transportation capacity improvements. SDCs are authorized and limited by ORS 223.297 – 223.314.
Local Gas Tax	A local gas tax is assessed at the pump and added to existing state and federal taxes. Tillamook, The Dalles, and Woodburn are examples of Oregon cities that have a local gas tax. Multnomah and Washington counties also have gas taxes.
Local Parking Fees	Parking fees are a common means of generating revenue for public parking maintenance and development. Most cities have some public parking and many charge nominal fees for use of public parking. Cities also generate revenues from parking citations. These fees are generally used for parking related maintenance and improvements.
Street Utility Fee	Most city residents pay water and sewer utility fees. Street user fees apply the same concept to city streets. A fee would be assessed to all businesses and households in the city for use of streets based on the amount of use typically generated by a particular use. For example, a single-family residence might, generate 10 vehicle trips per day on average compared to 130 trips per 1,000 square feet of floor area for retail uses. Therefore, the retail use would be assessed a higher fee based on higher use. Street services fees differ from water and sewer fees because usage cannot be easily monitored. Street user fees are typically used to pay for maintenance more than for capital projects.
Vehicle Registration Fees	Counties may implement local vehicle registration fee, operating similar to the state vehicle registration fee, a portion of which would be allocated to the Town.
Property Taxes	Local property taxes could be used to fund transportation, although this is limited by Ballot Measures 5 and 47.
Revenue Bonds	Revenue Bonds are bonds whose debt service is financed by user charges, such as services charges, tolls, admissions fees, and rents. If revenues from user charges are not sufficient to meet the debt service payments, the issuer generally is not legally obligated to levy taxes to avoid default, unless they are also based by the full faith and credit of the insuring governmental unit. In that case, they are called indirect general obligation bonds. Revenue bonds could be secured by a local gas tax, street utility fee, or other stable transportation revenue stream.

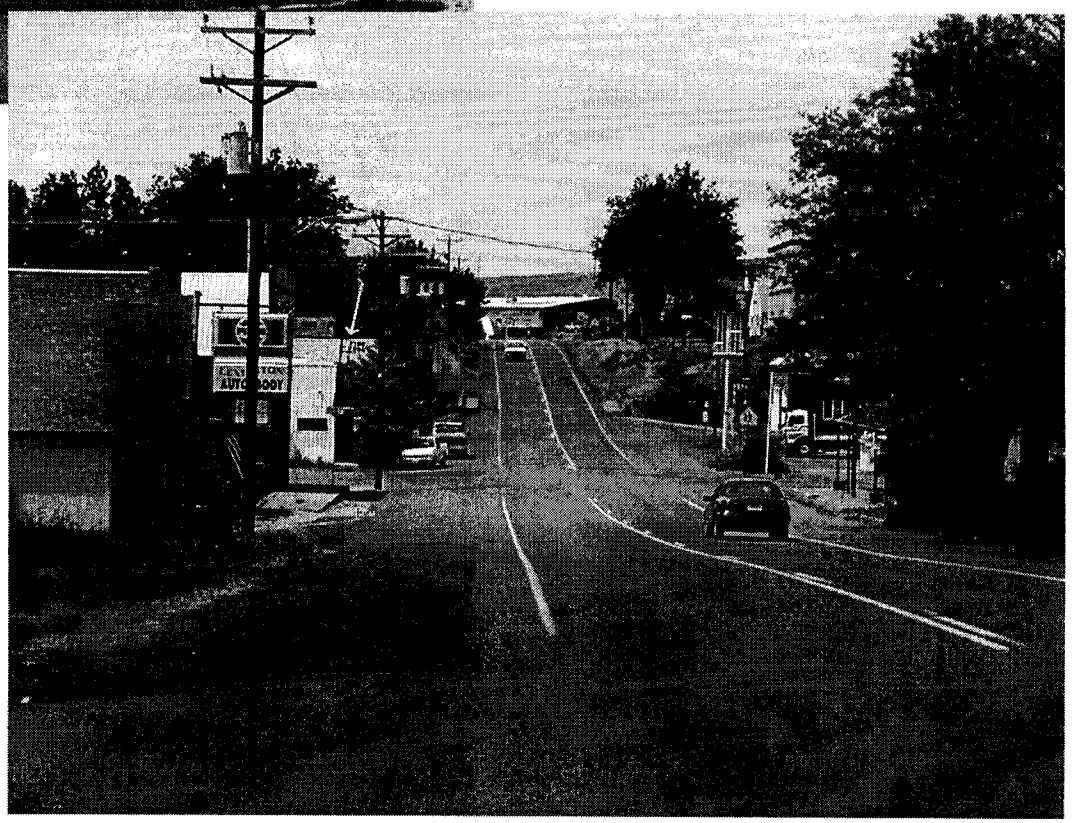
TABLE F-4 – CURRENT REVENUE SOURCES FOR CITIES

Facility	Revenue Source	Importance (not in %) (Millions of 1995 Dollars)	5 Year Trend	Dedication	Rate
Streets, Bridges, Sidewalks, Bike Lanes	Oregon Highway Trust Fund	51% of total road or $89	Growing at approximately 1.75% per year	Constitutionally limited to funding activities that benefit autos and trucks	24¢/gal. For gas; $30biennium registration fee.
	General Fund Transfers	9% or $15	Varies but assume growth @ 3%/year, but not used by all cities	May be used for any purpose	Varies widely
	Special Property Tax Levies	5% or $7	Increasing and only used by 18 cities	May be used for purpose described in election	Varies widely
	Improvement District Assessments	7% or $12.5	Varies but increases when local development increases	May be used for construction of adjacent streets and sidewalks	Varies with construction cost and local ordinances
	Systems Development Charges and Traffic Impact Fees	4% or $7	Varies but increases when local development increases, only used by about 2 dozen cities	May be used for construction of new streets	Varies with construction cost and local ordinances. Rates are generally higher in the Metro area

	Utility Franchise Fee	3% or $4	Flows roughly with population and inflation	Is a general revenue used by some cities for streets	Statutory limit of 5%of utility gross receipts
	Interest Earning	4% or $6	Varies with current interest rates	Have same Constitutional limits as Highway Fund	Used as general street revenue
	Local Gas Tax	0.44% or $0.7	Unchanged	Have same Constitutional limits as Highway Fund	Used by Tillamook, The Dalles, and Woodburn
	Private Contributions	3% or $4.3	Varies widely	Usually contributions are related to specific development street impacts	Negotiated individually
	Miscellaneous – Permit fees, finds, fines, parking, Motel Tax, others	8% or $14.5	Gradual Growth	General revenues use for streets	Varies widely by City
	Federal – FHWA and HUD	3% or $5.6	Relatively Stable	Used mainly for new construction with some rehabilitation	Based on federal allocation to Oregon
	Miscellaneous State Revenues – Mainly Lottery funds	2% or $3	Varies, no trend	Used mainly for economic development capital improvements	Specific grants to individual cities each year
Off Street Bike Paths	Miscellaneous general funds and ISTEA	Unknown	Varies from year to year	ISTEA and General funds used for construction, General Funds used for maintenance and repair	Varies from year to year

TABLE F-5 – CURRENT REVENUE SOURCES IN OREGON

Transit Service Type/Function	Funding Source	Status
Urban Public Transportation – Portland and Eugene – Operating and Capital	1. Local Payroll Tax – operating 2. Federal Grants – Capital 3. Federal Grants – Operating 4. Fares and Advertising	1. Major Source — $100 million/year and growing – Sensitive to economic conditions 2. Major Source – $10 million/year – stable 3. Minor Source – $5 Million/year – declining 4. Minor Source – Growing with ridership
Urban Public Transportation – Salem, Corvallis, Medford, Klamath Falls	1. Property Tax – Typically a taxbase or stand alone levy within $10 cap for local government services 2. Federal Grants – Capital 3. Federal Grants – Operating 4. Fares and Advertising	1. Major Source – Growing slowly 2. Major Source – $2 Million/year – Stable 3. Minor Source – $2 Million/year – Declining 4. Minor Source – Growing with ridership
Small City and Rural – Astoria, Union County, etc. – Operating and Capital	1. Local Payroll Tax – Typically within city or county operating levy 2. Federal Grants – Capital 3. Federal Grants – Operating 4. Fares and Advertising	1. Major Source – Stable 2. Major Source – Declining 3. Minor Source – Declining 4. Minor Source – Stable
Mobility for Seniors and People with Disabilities – Operating and Capital	1. Special Transportation Fund - 2¢ State cigarette tax for operating and capital 2. Social Service Agency grants and contracts for operating 3. Local Property Tax – typically within city or county operating levy 4. Federal Grants – Capital and Operating 5. Fares, donations, and advertising	1. Major Source – $5 million/year – Declining 2. Major Source – Declining 3. Minor Source – Stable 4. Major Source – Declining 5. Minor Source – Stable
Inter-city Bus – Operating and Capital	1. Major Interstate Routes: Fares 2. Branch and Feeder Routes: Private capital and fares	1. Sole Source – Declining 2. Private



Town of Lexington
Transportation System Plan

February 2003

Town of Lexington Transportation System Plan

Prepared By:

Kittelson & Associates, Inc. in association with:
Cogan Owens Cogan, Inc. and **Murase Associates**

Project No. 2899
June 1999

2002/2003 Document Update, Revisions, and Implementation by:

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In coordination with the Oregon Department of Transportation
Patrick Knight – Region 5 Planner

February 2003

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Preface

Preface

This project is partially funded by a grant from the Transportation Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds. The contents of this document do not necessarily reflect the views or policies of the state of Oregon.

The progress of this plan was guided by the Management Team, Transportation Advisory Committee, and Consultant Team identified below.

Management Team

Tamra Mabbott
Morrow County Planning Department

Bill Sheirbon
Mayor, Town of Lexington

Cheryl Jarvis-Smith
Oregon Department of Transportation

George Ruby
Oregon Department of Transportation

Transportation Advisory Committee

Advisory Committee members devoted a substantial amount of voluntary time and effort to the development of the Transportation System Plan, and their participation was instrumental in the development of the recommendations that are presented in this report. The Consultant Team and Management Team believe that the Town of Lexington's future transportation system will be better because of their commitment.

Susan Baker

Patrick Baker

Laroy Cline

Duane Disque

Marcia Kemp

John Renfro

John Ripple

Charlie Sumner

Consultant Team

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Cogan Owens Cogan, Inc.

Linda Davis, AICP

Kirstin Greene

Matt Hastie

Murase Associates

Steve Shapiro

Revisions and Implementation Team

Revisions of this document were conducted during 2002. With the help of a consultant, the Town of Lexington was able to accomplish revisions of this document, implement accompanying ordinances, and adopt this Transportation System Plan in December 2002.

Leslie Ann Hauer – Consultant
Planning and Land Use Services

Joe Hitz
Sisul Engineering

Patrick Knight
Oregon Department of Transportation

Section 1

Introduction

Introduction

The Town of Lexington, in conjunction with Morrow County and the Oregon Department of Transportation (ODOT) initiated a study of the town's transportation system during the summer of 1998. The purpose of this study was two-fold: to guide the management and development of appropriate transportation facilities; and to incorporate the vision of the community into a land use and transportation system that addresses both the potential for infill and redevelopment strategies and the multimodal needs of the community.

Since 1990, Lexington has experienced a modest growth rate as well as an economic restructuring as it has become less resource dependent. This economic restructuring will likely continue to produce new growth pressures and community needs. To address these changing needs, Lexington needs to develop land use and transportation strategies that continue to plan for the economic development associated with the existing agriculture and timber industries. Care should also be taken to continue to foster economic development associated with recreation and tourism.

This study was prepared as part of a Transportation Growth Management Grant and is formatted to provide the necessary elements for the Town of Lexington to assemble its Comprehensive Plan. In addition, this document provides Morrow County and ODOT with recommendations for incorporation with their respective planning efforts.

State of Oregon guidelines stipulate that the TSP must be based on the current comprehensive plan land use map and must provide a transportation system that accommodates the expected 20-year growth in population and employment that will result from implementation of the land use plan. Oregon Revised Statute 197.712 and the Land Conservation and Development Commission (LCDC) administrative rule known as the Transportation Planning Rule (TPR) require that all jurisdictions develop the following:

- a road plan for a network of arterial and collector streets;
- a public transit plan;
- a bicycle and pedestrian plan;
- an air, rail, water, and pipeline plan;
- a transportation finance plan; and,
- policies and ordinances for implementing the transportation system plan.

The TPR requires that alternative travel modes be given equal consideration and that reasonable effort be applied to the development and enhancement of the alternative modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions adopt land use and subdivision ordinance amendments to protect transportation facilities and to provide bicycle and pedestrian facilities between residential, commercial, and employment/institutional areas. It is further stipulated that local communities coordinate their respective plans with county and state transportation plans.

STUDY AREA

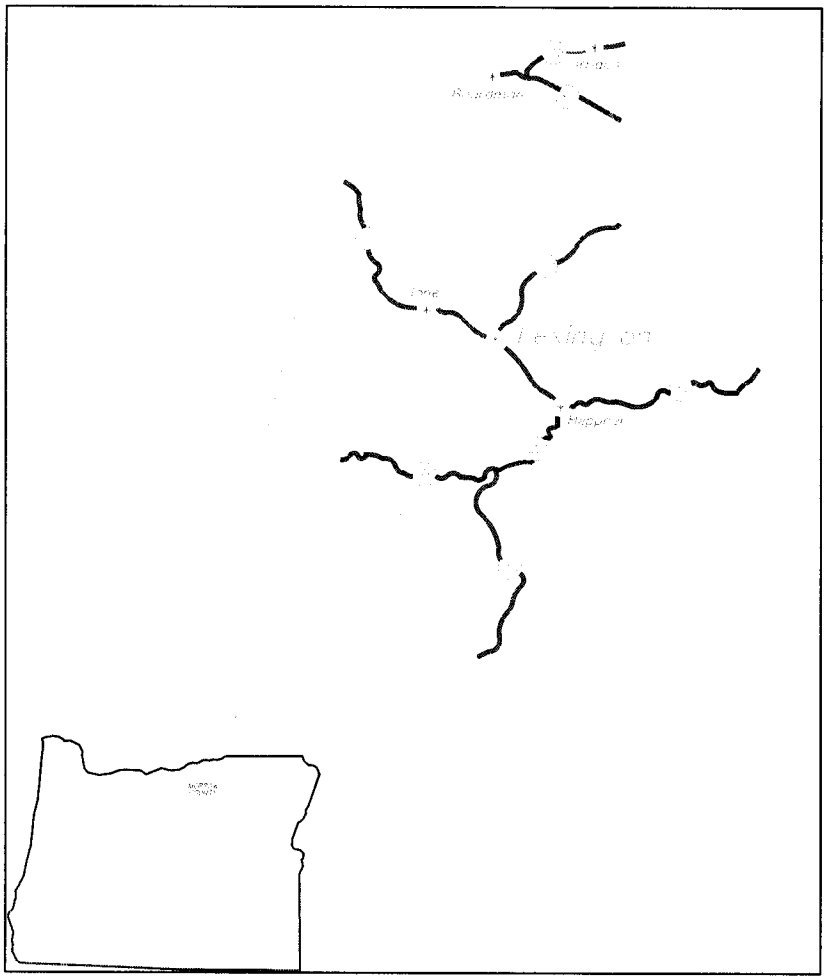
The Town of Lexington is located along Highway 74 in Morrow County, Oregon, as shown in Figure 1. Home to an estimated population of 290 persons (1997 census estimate), Lexington's development pattern reflects its agricultural heritage and remote location in eastern Oregon. The 2000 Census indicates that there is a population of 260 people. All traffic forecast was based on the 1997 population estimate.

While the Morrow County Grain Growers is the town's primary employer, the Main Street downtown area contains a mix of commercial, public, and residential uses.

Most of the commercial uses along Main Street are auto-oriented and of relatively low intensity. Reflecting the rural nature of the area, Lexington's residential development is all of low-density design. Single family homes on modest lots are located throughout the town. In general, future growth and development of the town is somewhat limited by topographical constraints and the availability of developable residential land within the town.

The Town of Lexington has a small airport located to the north of the town. Interest has been expressed by the Port of Morrow to develop an industrial park near the airport, though no plans for such a development have been formally proposed.

Figure 1 – Study Area Map



PUBLIC INVOLVEMENT AND STUDY GOALS

The TSP planning process provided the citizens of Lexington with the opportunity to identify their priorities for future growth and development. Expressing their vision for the future in terms of goals and objectives for the TSP was a central element of the public involvement process. The goals and objectives identified by the community were used as guidelines for developing and evaluating alternatives, selecting a preferred transportation plan, and prioritizing improvements.

Two committees were formed to guide the planning process: the Management Team and the Transportation Advisory Group (TAC). The Management Team was composed of representatives of the Town of Lexington, Morrow County, ODOT, and the consultant team. The Transportation Advisory Committee included several community members with a specific interest in transportation and land use planning in the community.

The two committees convened at several key junctures of the project including: project inception, completion of the existing conditions analysis, presentation of the future conditions and alternatives analysis findings, and presentation of the draft TSP. Given the town's Comprehensive Plan, and through the direction provided by both the two TSP committees and the public hearing process, a series of transportation system goals and objectives evolved that provided the planning process with direction as well as evaluation criteria. Those goals and objectives are listed below.

Goal 1

Promote a balanced, safe, and efficient transportation system.

Objectives

1. Develop a multi-modal transportation system that avoids reliance upon one form of transportation as well as minimizes energy consumption and air quality impacts.
2. Protect the qualities of neighborhoods and the community.
3. Provide for adequate street capacity and optimum efficiency.
4. Promote adequate transportation linkages between residential, commercial, public, and industrial land uses.

Goal 2

Ensure the adequacy of the roadway network in terms of function, capacity, level of service, and safety.

Objectives

1. Develop a functional classification system that addresses all roadways within the study area.

2. In conjunction with the functional classification system, identify corresponding street standards that recognize the unique attributes of the local area.
3. Identify existing and potential future capacity constraints and develop strategies to address those constraints, including potential intersection improvements, future roadway needs, and future street connections.
4. Evaluate the need for modifications to and/or the addition of traffic control devices.
5. Identify access spacing standards on Highway 74 and Highway 207 that conform to the Oregon Highway Plan.
6. Provide an acceptable level of service at all intersections in the town, recognizing the rural character of the area. Intersection operations on Highway 74 and Highway 207 should conform to the level of service and volume/capacity ratio requirements identified in the Oregon Highway Plan.
7. Identify existing and potential future safety concerns as well as strategies to address those concerns.

Goal 3

Promote alternative modes of transportation.

Objectives

1. Develop a comprehensive system of pedestrian and bicycle routes that link major activity centers within the study area.
2. Encourage the continued use of public transportation services.

Goal 4

Identify and prioritize transportation improvement needs in the Town of Lexington, and identify a set of reliable funding sources that can be applied to these improvements.

Objectives

1. Develop a prioritized list of transportation improvement needs in the study area.
2. Develop construction cost estimates for the identified projects.
3. Evaluate the adequacy of existing funding sources to serve projected improvement needs.
4. Evaluate new innovative funding sources for transportation improvements.

TRANSPORTATION SYSTEM PLAN STUDY METHODOLOGY AND ORGANIZATION

The development of the Town of Lexington's Transportation System Plan began with an inventory of the existing transportation system and a review of the local, regional, and statewide plans and policies that guide land use and transportation planning in the town (Appendix "A" contains the plans and policies review). The inventory included documentation of all transportation-related facilities within the study area and allowed for an objective assessment of the current system's physical characteristics, operational performance, safety, deficiencies, and general function. A description of the inventory process, as well as documentation of the existing conditions analyses and their implications, is presented in **Section 2** of this report. The findings of the existing conditions analysis were presented to and verified by the two TSP committees.

Upon completion of the existing conditions analysis, the focus of the project shifted to forecasting future travel demand and the corresponding long-term future transportation system needs. Development of long-term (year 2020) transportation system forecasts relied heavily on population and employment growth projections for the study area and review of historical growth in the area. Through the Town's Comprehensive Plan and land use projections provided by the consultant team, reasonable assumptions could be drawn as to the potential for and location of future development activities. **Section 3** of this report, *Future Conditions Analysis*, details the development of anticipated long-term future transportation needs within the study area.

Section 4 of this report, *Alternatives Analysis*, documents the development and prioritization of alternative measures to mitigate identified safety and capacity deficiencies, as well as projects that would enhance the multi-modal features of the local transportation system. The process by which future transportation system projects were identified and prioritized included extensive cooperation with both TSP committees. The impact of each of the identified alternatives was considered on the basis of individual merits, conformance with the existing transportation and land use system, as well as potential conflicts to implementation and integration with the surrounding transportation and land use system components. Ultimately, a preferred

plan was developed that reflected a consensus as to which elements should be incorporated into the town's long-term transportation system.

Having identified a preferred set of alternatives, the next phase of the TSP planning process involved presenting and refining the individual elements of the transportation system plan through a series of decisions and recommendations. The recommendations identified in **Section 5**, *Transportation System Plan*, include a Roadway Network and Functional Classification Plan, a Pedestrian Plan, a Bikeway Plan, a Public Transportation Plan, and other multi-modal plans.

Section 6, *Transportation Funding Plan*, provides an analysis and summary of the alternative funding sources available to finance the identified transportation system improvements.

The town's existing comprehensive plan and zoning ordinances were limited and did not allow the town to develop the type of transportation system desired. In an effort to rectify this situation and ensure compliance with the TPR, several comprehensive plan and zoning ordinance modifications have been developed. Development review guidelines were also drafted. The recommended modifications presented in **Section 7**, *Policies and Land Use Ordinance Modifications*, address major land use and transportation issues identified through development of the TSP and reflect the desire to enhance all modes of the transportation system.

Finally, **Section 8**, *Transportation Planning Rule Compliance*, lists the requirements and recommendations of the Oregon Transportation Planning Rule (OAR 660 Division 12) and identifies how the Town of Lexington TSP satisfies that criterion.

The town did not adopt the TSP draft prepared in 1999, due to unresolved concerns about the future of the Town. The Town initiated additional review of the draft TSP document in 2002, revised portions of the document and the accompanying ordinances, and adopted the TSP with the ordinances in November 2002.

Section 2

Existing Conditions

INTRODUCTION

The development of this transportation system plan began with an assessment of the existing transportation system and land use conditions within the community. This section describes the existing conditions for all transportation modes that the transportation system plan will address, including trucks, cars, bicycles, pedestrians, transit, air, marine, and pipeline facilities. The purpose of this section is to provide an inventory description of existing facilities while setting the stage for a basis of comparison to future conditions.

LAND USE HISTORY

The Lexington community began in the 1860's as a sheep camp associated with sheep and wool enterprises located at the mouth of the Black Horse Canyon. The early years of the community reflected the local economy's dependence on livestock production until a transition was made to grain growing in the 1880's. Since that time, the local economy has primarily been dependent on wheat production that steadily increased after the introduction of center-pivot irrigation techniques. The Lexington Airport was built in the town after World War II.

Lexington's relatively remote location in eastern Oregon and dependence on the local agricultural industry has shaped the community's land use patterns and transportation system. Most of the commercial uses along Main Street are auto-oriented and of relatively low intensity. Reflecting the rural nature of the area, Lexington's residential development is all of low-density design. Single family homes on modest lots are located throughout the town. In general, future growth and development of the town is somewhat limited by topographical constraints and the availability of developable residential land within the town. Figure 2 illustrates the current zoning within the town.

The town's airport is operational and interest has been expressed by the Port of Morrow to develop an industrial park near the airport, though no plans for such a development have been formally proposed.

TRANSPORTATION FACILITIES

The Town of Lexington's transportation system includes facilities that serve several different travel modes. All of these facilities are identified and discussed in detail in the remainder of this section.

Roadway Facilities

All public roadways within the Town of Lexington are operated and maintained under the auspices of one of three jurisdictions – the Oregon Department of Transportation (ODOT), Morrow County, and/or the town. The following paragraphs highlight the existing roadway network, which is illustrated in Figure 3. Figure 3 also identifies the jurisdiction responsible for the various roadways.

State Facilities

The Town of Lexington is served by two state highways, Highway 74 and Highway 207.

Highway 74

Highway 74 (Heppner Highway) comprises Main Street in the Town of Lexington and is maintained by the Oregon Department of Transportation (ODOT). ODOT classifies Highway 74 as being a *District Highway* north of Highway 207 and a *Regional Highway* south of Highway 207 as described in ODOT's *1999 Oregon Highway Plan.*

The primary function of a *Regional Highway* is to provide connections and links to areas within regions of the state, between small urbanized and larger population centers, and to other facilities. By comparison, the primary function of a *District Highway* is to serve local traffic and land access.

Highway 74 connects Lexington with Interstate 84 and the City of Ione to the northwest and the City of Heppner to the southeast. Highway 74 has a two-lane cross section and posted speed limit of 30 miles per hour (mph) throughout the town. The speed limit increases to 55 mph outside the town limits. Sidewalks are provided intermittently within the town limits along the north side of the highway. No bike lanes are provided along the highway within the town's urban growth boundary.

Highway 207

Highway 207, the Lexington-Echo Highway, is classified as a *Regional Highway*. Highway 207 provides a continuous link between the Town of Lexington and Interstate 84 to the northeast. Highway 207 continues to the southeast of Lexington in

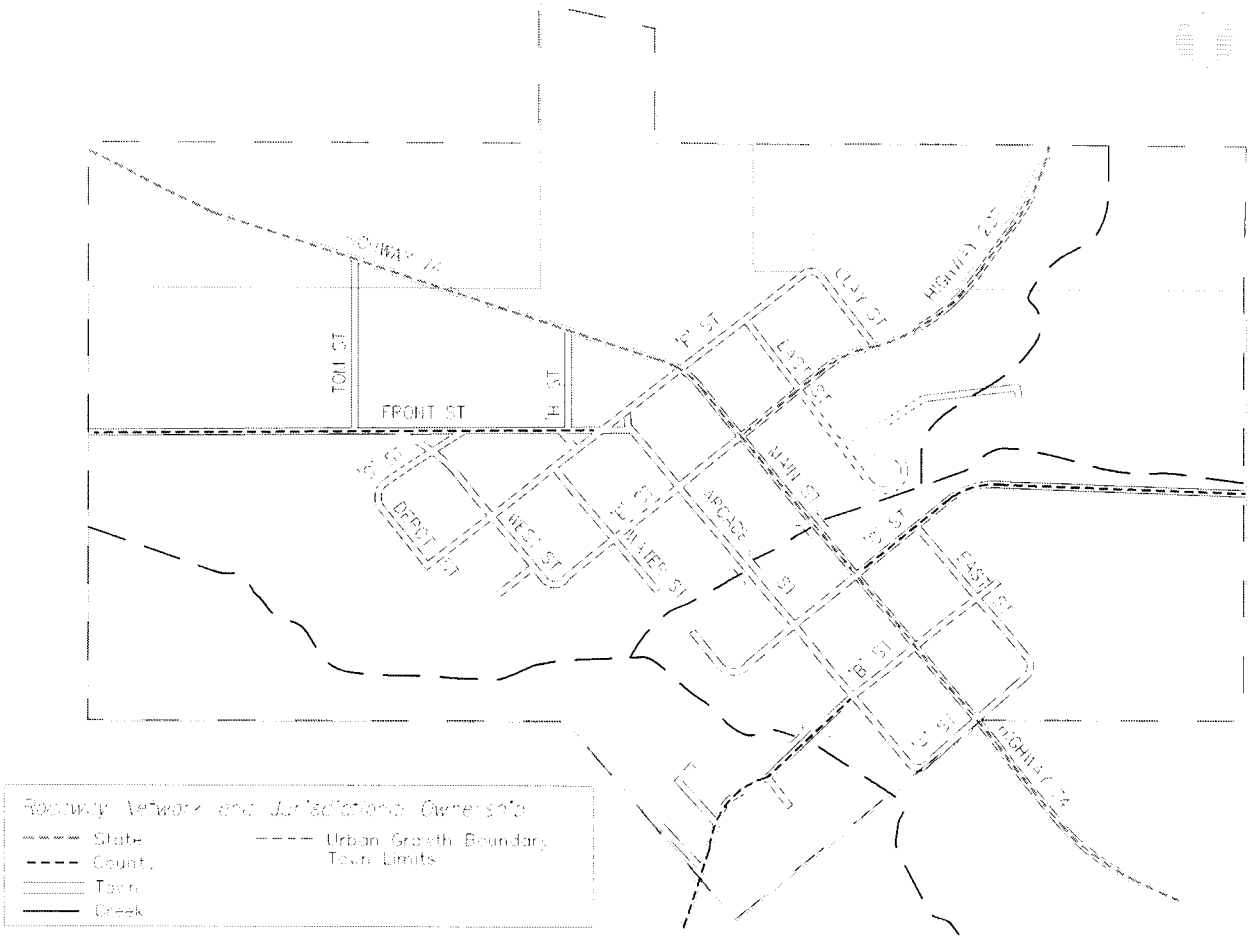
conjunction with Highway 74 and serves as a city-to-city link between such neighboring communities as Heppner and Hermiston. (Note: The section of Highway 207 that traverses the Town of Lexington is also designated as Highway 74).

Town of Lexington Facilities

The Town of Lexington's roadway system has a loosely defined grid network of streets that are oriented parallel to Highway 74 and 207. From that gird, several streets then branch out to serve the town. The local roadway system is confined by topographical constraints and seasonal flooding associated with the Blackhorse Canyon. "C" Street is subject to occasional flooding.

Figure 2 identifies the location of paved and unpaved roads within the town limits. As indicated in Figure 4, portions of Clay Street, East Street, "D" Street, "H" Street, "G" Street, and Depot Street are currently unpaved. No striped on-street parking was identified within the community and the Town of Lexington does not currently maintain a defined street classification system.

Figure 2 – Roadway Network and Jurisdictional Ownership



PEDESTRIAN SYSTEM

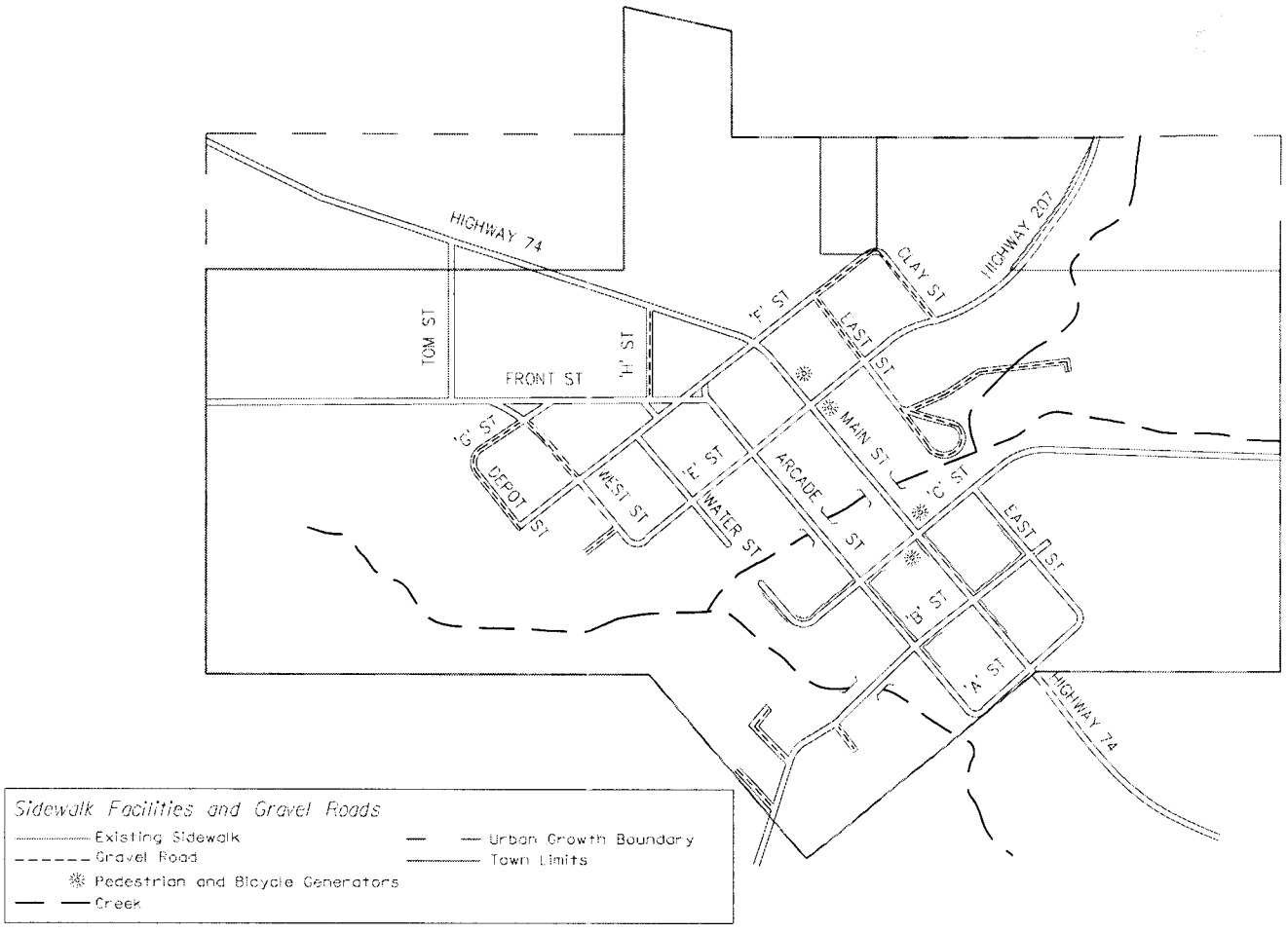
As shown in Figure 3, the sidewalk facilities provided within the town are relatively limited. Sidewalks are currently present on the west side of "B" Street, "C" south of Highway 74, along a portion of East Street, and along the north side of Main Street. Some of the existing sidewalks are poorly maintained and do not satisfy current ODOT or Americans with Disability Act (ADA) design standards. Beyond these facilities, Lexington's pedestrian network relies almost exclusively on shared roadways along both arterial and local streets. The bridge and the cut bank next to the Morrow County School District office offer major constraints for the pedestrian system.

Ideally, pedestrian facilities should provide connectivity between major activity centers, such as housing, commercial areas, schools, the post office, and recreation areas. Students within the town of Lexington attend classes in neighboring communities such as Ione or Heppner, thereby negating the need to provide school access. However, commercial land uses located along Main Street have the potential to attract pedestrian traffic.

BICYCLE SYSTEM

The Town of Lexington does not currently offer designated bicycle facilities and very little bicycle activity was noted. Topographical constraints and the remote location of the town in relation to trip generators limit the attractiveness of this mode of transportation for commuter purposes. There may however, be children or recreational bicyclists in the area that would benefit from provision of such facilities. In addition, there is a bike road race held annually in May along Highway 74. The bridge and the cut bank next to the Morrow County School District office offer major constraints for the bicycle system.

Figure 3 – Location of Existing Sidewalk Facilities and Gravel Roads



PUBLIC TRANSPORTATION SYSTEM

Morrow County Special Transportation Program

Morrow County currently provides two public transportation programs that serve the Town of Lexington. A senior bus service is available to groups by appointment and provides service for seniors, disabled persons, and low-income persons. Other users are welcome as long as they do not displace the primary users (i.e., seniors, the disabled, and the disadvantaged). A dial-a-ride service is also available by appointment to serve the same audience. Both programs are funded through the tobacco tax and rely on a volunteer pool of drivers.

Volunteer dispatchers handle appointment requests on weekdays and the actual transportation service is available as needed except on holidays (pending the availability of volunteer drivers. The transportation service is free to users, although anonymous donations are accepted by sealed envelope. Trip requests outside the county to areas such as Pendleton or the Tri-cities are honored as long as the purpose of the trip is appropriate (for example, trips to specialized medical service providers located in Pendleton). While increased usage of these services is desirable, there are no current or pending plans to expand public transportation services to the area.

General Comments

The county's transit program does not typically operate on weekends due to the nature of the volunteer staff pool and the limited demand for trips. Instead, if there is a need for handicapped accessible service on weekends, family members of the person to be transported can be van-trained and (once qualified) are then allowed to operate the vehicles.

Discussions with local agency staff indicate that the two public transportation services are not as well used as they could be. A commonly repeated theme was the notion that there is a need to create greater awareness of the programs among community members. The need for additional volunteer staff was also noted. Aside from the identified services, for most of the town's residents, private transportation is the only available option to get to the local medical, social, and retail services and the educational and employment opportunities located in adjacent communities. Although enhanced service is desired, no segment of the town's population was specifically identified as being without transportation service.

AIR TRANSPORTATION SYSTEM

The Lexington Airport is located on the north side of the town and provides local air service. The airport is estimated to support approximately 2,500 flight operations per year, with fourteen aircraft based at the airport. In addition to typical charter and transport services, the airport also serves recreational interests such as hunting and fishing activities as well as medivac needs. The airport's single runway, Runway 08-26, has an asphalt surface that measures 4,150 feet in length and 75 feet in width. Efforts have begun to have the Federal Aviation Administration develop a Global Positioning Satellite instrument approach to the Lexington Airport.

Regional freight cargo and air passenger services are provided at the Eastern Oregon Regional Airport at Pendleton, located approximately 80 miles to the northeast. In addition, the City of Hermiston owns and operates a general aviation airport located approximately 55 miles to the northeast that offers charter service.

Due to the elevation and location of the airport relative to the Town, there is not a need for regulation at this time.

RAILROAD TRANSPORTATION SYSTEM

Railroad service is no longer provided to the Town of Lexington. The former railroad right-of-way within the town has been purchased by a private concern; plans for the use of the right-of-way are unknown at this time.

Freight rail service would potentially be available through the Port of Morrow, though intermediate non-rail transport to the Port of Morrow would be necessary. Shippers in the area have the use of two inter-modal facilities, located in Spokane, Washington and Nampa, Idaho.

Passenger rail service to Hermiston was discontinued in May 1997. The nearest service is provided by Empire Builder line (Portland – Spokane) in Pasco, Washington, approximately 40 miles to the north.

MARINE TRANSPORTATION SYSTEM

Marine transportation is not available within the Town of Lexington, though the Port of Morrow maintains a barge area along the Columbia River in Boardman, Oregon. Similarly, The Port of Umatilla maintains two marine facilities along the Columbia River. These facilities are available for use by persons in the Town of Lexington through intermediate truck transfer.

PIPELINE TRANSPORTATION SYSTEM

No major pipelines within the Town of Lexington were identified at the time this TSP was prepared.

TRAFFIC OPERATIONS ANALYSIS

Four intersections within the town were selected for operational analysis under 1998 existing conditions. Traveling west to east, those intersections include Heppner Highway (Main Street) and:

- Tom Street
- E Street (Lexington-Echo Highway)
- C Street
- B Street

Traffic Control

Figure 4 illustrates the existing lane configurations and traffic control devices at each of the study intersections, all of which are currently unsignalized. Traffic operations at each of the intersections were examined during the weekday p.m. peak hour. The p.m. peak period represents the worst-case condition for traffic operations on the transportation system. Travel patterns during this weekday period typically combine commuting, shopping, and recreational trips, thus generating higher traffic volumes on the transportation system than during any other period or day of the week.

Traffic Volumes

Weekday p.m. peak hour manual traffic volume counts at the intersections were conducted in late October 1998. Manual turning movement traffic counts were conducted between 4:00 p.m. and 5:30 p.m. on a mid-week day. The highest one-hour flows during these periods were used in this study.

Based on the turning movement counts conducted at study area intersections, the system wide p.m. peak hour of traffic on a typical weekday afternoon was estimated to occur between 4:00 and 5:00 p.m. Existing weekday p.m. peak hour traffic volumes are shown in Figure 5. Traffic volumes have been rounded to the nearest five vehicles per hour. For comparative purposes, local average daily traffic (ADT) volume data obtained from ODOT are summarized in Figure 6.

It should be noted that the October 1998 traffic volume data shown in Figure 5 were not adjusted. Comparison to the ODOT 1997 Transportation Volume Tables shown in Figure 5 suggests that the traffic volume data collected in October 1998 were lower than would be expected based on ODOT's historical data. There were no significant anomalies noted during the October data collection process and the traffic volume data were believed to be representative of travel conditions, as they existed during the data collection period. It is conceivable that fluctuations in harvest activities may partially explain the inconsistency in the volume data as the harvest process was essentially complete at the time the volume data was collected. Further, the local hunting season had not started, potentially contributing to the lower traffic volumes. Based on a review of the volume data collected in October 1998 and ODOT's 1997 traffic volume data, in conjunction with a review of the operational analysis of the study intersections, it was concluded that the existing conditions analysis findings are representative of average conditions in the Town of Lexington. As is documented below, there were no apparent capacity deficiencies at the study intersections and further refinement of the existing traffic volumes was determined to be unwarranted.

Figure 4 – Existing Lane Configurations and Traffic Control Devices

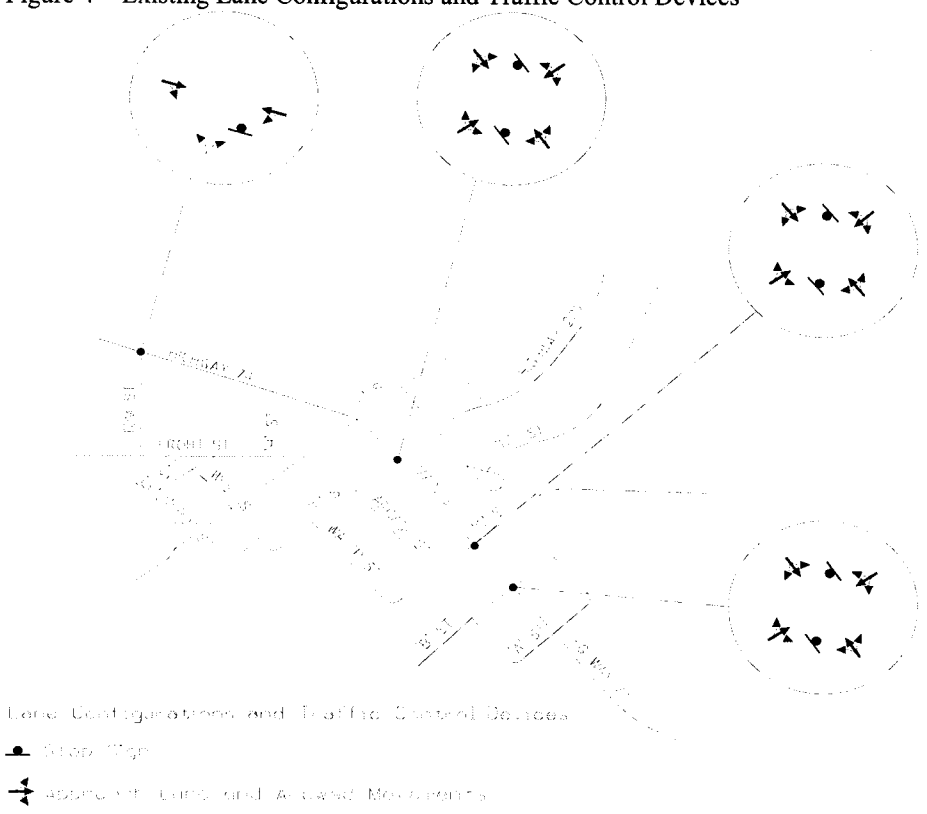


Figure 5 – 1998 Traffic Volumes, Weekday PM Peak Hour

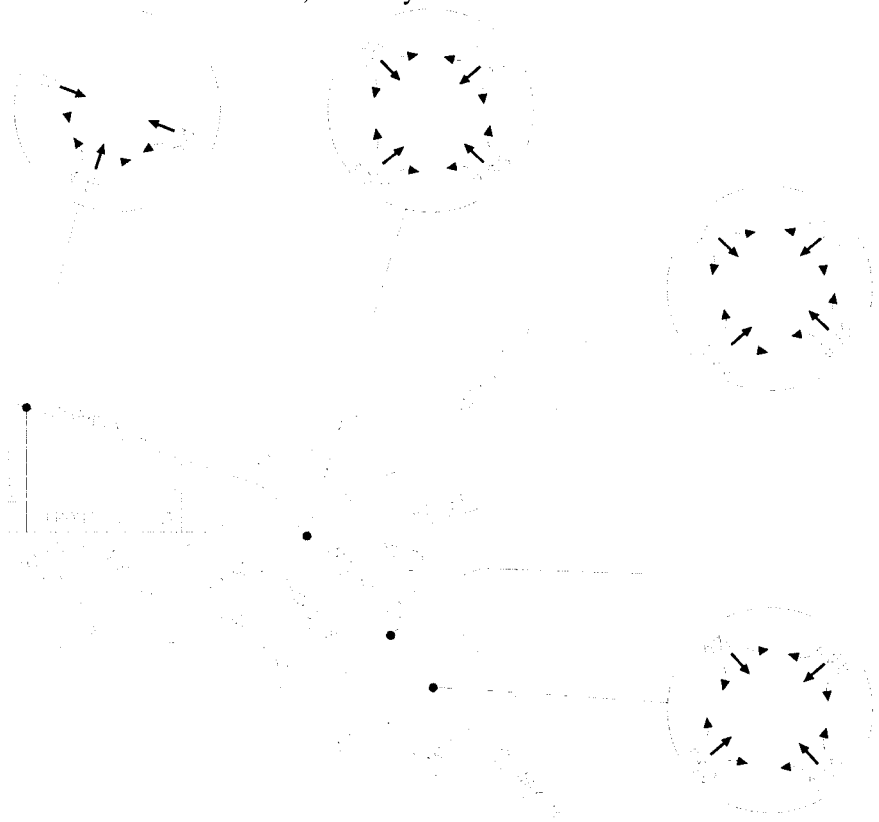
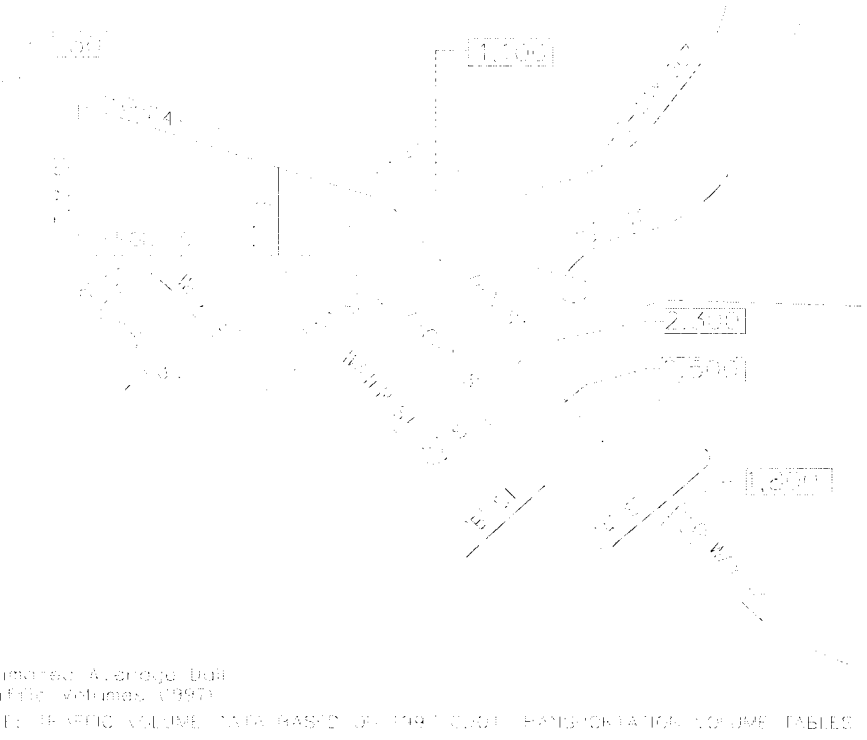


Figure 6 – 1997 Estimated Average Daily Traffic Volumes



Level of Service and Volume to Capacity Ratio Analysis

Transportation engineers have established various standards for measuring traffic capacity of roadways or intersections. Each standard is associated with a particular level of service (LOS). The LOS concept summarized in Appendix B, requires consideration of factors that include travel speed, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort and convenience, and operating cost. In the 1991 Oregon Highway Plan, levels of service were defined by a letter grade from A-F, with each grade representing a range of volume to capacity (v/c) ratios. A volume to capacity ratio (v/c) is the peak hour traffic volume on a highway divided by the maximum volume that the highway can handle. If traffic volume entering a highway section exceeds the section's capacity, then disruptions in traffic flow will occur, reducing the level of service. LOS A represents relatively free-flowing traffic and LOS F represents conditions where the street system is totally saturated with traffic and movement is very difficult. The 1999 Oregon Highway Plan maintains a similar concept for measuring highway performance, but represents LOS by specific v/c ratios to improve clarity and ease of implementation. Table 1 presents the level of service criteria and the corresponding volume to capacity ratio for arterial and collector streets.

Table 1 – Level of Service and Volume to Capacity Ratio Criteria for Arterial and Collector Streets

Service Level – Volume to Capacity Ratio	Typical Traffic Flow Conditions
A (0.00 – 0.48)	Relatively free flow of traffic with some stops at signalized or stop sign controlled intersections. Average speeds would be at least 30 miles per hour.
B (0.49 – 0.59)	Stable traffic flow with slight delays at signalized or stop sign controlled intersections. Average speed would vary between 25 and 30 miles per hour
C (0.60 – 0.69) C-D (0.70 – 0.73)	Stable traffic flow with delays at signalized or stop sign controlled intersections. Delays are greater than at level B but still acceptable to the motorist. The average speeds would vary between 20 and 25 miles per hour
D (0.74 – 0.83) D-E (0.84 – 0.87)	Traffic flow would approach unstable operating conditions. Delays at signalized or stop sign controlled intersections would be tolerable and could include waiting though several signal cycles for some motorists. The average speed would vary between 15 and 20 miles per hour.
E (0.88 – 0.97) E-F (0.98 – 0.99)	Traffic flow would be unstable with congestion and intolerable delays to motorists. The average speed would be approximately 10 to 15 miles per hour.
F (> 1.00)	Traffic flow would be forced and jammed with stop and go operating conditions and intolerable delays. The average speed would be less than 10 miles per hour

Source(s): Transportation Research Board, *Highway Capacity Manual*, Special Report 209; ODOT, *SIGCAP Users Manual*, ODOT, 1984

Using the weekday p.m. peak hour turning movement volumes shown in Figure 5, an operational analysis was conducted at each of the study area intersections to determine existing levels of service. All level of service analyses described in this study was conducted in accordance with the *1994 Highway Capacity Manual*, published by the Transportation Research Board.

To ensure that this analysis was based on a reasonable worst-case scenario, the peak 15 minute flow rate during the weekday p.m. peak hour was used in the evaluation of all intersection level of service and volume to capacity ratio analyses. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average weekday p.m. peak hour. Traffic conditions during all other weekday periods will likely operate under better conditions than those described in this report. (It should be noted that peak seasonal traffic conditions typically occur during the summer harvest season, hence Design Hour Volumes may be up to 25 percent higher than the peak hour analyzed in the TSP.)

Unsignalized Intersections

For unsignalized two-way stop-controlled (TWSC) intersections, level of service (LOS) is based on an intersection's capacity to accommodate the worst, or critical, movement. Typically, the left-turn from the stop-controlled approach is the most difficult movement for drivers to complete at a TWSC intersection. This is due to this movement being exposed to the greatest potential number of conflicting, higher-priority movements at the intersection. Available gaps in the through traffic flow of the uncontrolled approach(es) are used by all other conflicting movements before the side street left-turn can be negotiated. Therefore, the number of available gaps for the side street left-turn to negotiate its movement safely is likely to be substantially

lower than any other movement. As a result, the side-street left-turn typically experiences the highest delays and the worst level of service.

For the Highway 74 corridor through the Town of Lexington South of Highway 207 and Highway 207, ODOT stipulates a maximum volume to capacity ratio of 0.80 south of Highway 207. For the segment of Highway 74 north of Highway 207, a maximum volume to capacity ratio of 0.85 is required to be maintained. Table 2 summarizes the level of service and the volume to capacity ratio results for the unsignalized study intersections.

Table 2 – 1998 PM Peak Hour Level of Service and Volume to Capacity Ratio, Unsignalized Intersections

Intersection	Critical Movement	V/C Ratio	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Tom Street/Highway 74	Northbound	0.01	3.3	A	A
E Street/Highway 74	Southbound	0.01	4.5	A	A
C Street/Highway 74	Northbound	0.01	3.9	A	A
D Street/Highway 74	Northbound	0.01	3.9	A	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 2 indicates, all of the unsignalized study area intersections operate well below maximum volume to capacity ratios under existing weekday p.m. peak hour conditions.

In reviewing the level of service analysis and volume to capacity ratio results, it should be noted that the presence of trucks at the study intersections was accounted for in the analysis based on the October 1998 traffic count data. The October 1998 traffic count data indicates that the percentage of trucks on Highway 74 was approximately four percent on the north end of town and ranged from four to ten percent (eastbound vs. westbound) south of Highway 207. The percentage of trucks is somewhat lower than that reported at the Lexington ATR but it should be recognized that the ATR is located 1.4 miles south of Lexington and does not include local trips made internal to the town by area residents.

TRAFFIC SAFETY

Another important aspect of the transportation system is safety. The safety analysis described in the following section focuses on the accident history for Highway 74 within the Town of Lexington urban growth boundary.

Intersection Accident Analysis

The accident history of the study intersections was examined for potential and existing safety problems. ODOT accident data for the period January 1993 through December 1998 were used for this analysis. In addition, the ODOT District 12's 1996-1998 Safety Priority Index System (SPIS) lists were reviewed. The SPIS list identifies locations with relatively high accident rates and locations that have been the site of one or more fatal accidents. Review of the three respective annual SPIS lists indicates that no SPIS sites are located within the Town of Lexington.

Table 3 presents accident rates for the individual study intersections. Accident rates for intersections are calculated by relating the total entering volume of traffic at the intersection, on an average daily basis, to the number of reported accidents for a given period of time. The accident rate for intersections is expressed as the number of accidents per million entering vehicles (acc/mev).

Table 3 – Study Intersection Accident Rates

Intersection	Number of Accidents	Accidents/MEV
Tom Street/Highway 74	0	0
E Street/Highway 74	2	0.53
C Street/Highway 74	0	0
D Street/Highway 74	0	0

*ODOT Accident data search period of 1993 – 1998

As shown in Table 3, the accident data indicate that only the "E" Street/Highway 74 intersection had reported accidents. Further, both of the two reported accidents at the "E" Street intersection occurred in 1994. Based on this information, there is not an indication of a safety problem at the study intersections.

OTHER IDENTIFIED EXISTING TRANSPORTATION DEFICIENCIES

As an extension of the existing conditions analysis, different aspects of the transportation system with existing deficiencies were identified. A description of the deficiencies and potential improvements follows. The summary is based on field data/observations and information/suggestions that were made by members of the respective transportation agencies and the public.

Speeds on Highway 74

During the TSP development process, several community members expressed a desire to reduce speeds on Highway 74 as it passes through the town. Community sentiment reflects a common theme that many motorists and truckers drive too fast through town. The County Sheriff Department is the only police agency that currently enforces speed limits along Highway 74.

Highway 74 is operated and maintained by ODOT and the posted speed limit of 30 miles per hour on the highway through town is established by ODOT. ODOT (and most other transportation agencies) consider the 85th percentile speed (essentially the speed that 85 percent of the roadway users drive at or below) to be the best indicator of prevailing speeds on a given roadway. Posting speed limits based on the 85th percentile recognizes that drivers will travel at a speed that they are comfortable with regardless of the posted speed limit.

"F" Street/Front Street and "F" Street/Arcade Street Intersections

One issue that was identified by community members for consideration was the geometric configuration of the existing intersections of "F" Street/Front Street and "F" Street/Arcade Street. According to representatives of the town, modifications to this intersection have been made in the past but were found to be unsuccessful. At one point, a stop sign was posted on Front Street; however, this signing was later removed and a yield sign is currently posted on the eastbound approach of the intersection.

Access to Future Development

Although there has been a limited amount of new construction and development in the Town of Lexington during the last ten years, several areas have the potential to develop or redevelop during the next twenty years. These include a 74-acre residentially zoned parcel and the commercially zoned property near the airport. The accessibility of these areas is a concern for the community.

The 74-acre parcel of vacant land in the northeast quadrant of the town could potentially develop as large lot single family residential uses in the long-term. Access to a new residential subdivision on this parcel to the town's street network would likely be from "C" Street. Similarly, there are large lots on the west end of Town south of Highway 74 that could be developed as residential housing in the long-term future.

In case of development of an industrial park or other industrial/commercial related uses near the airport, adequate transportation linkages would need to be made to Highway 207 and possibly Highway 74. Such connections would be necessary to accommodate goods movement into and out of the industrial area and airport and should include multimodal facilities that provide better access for pedestrians, cyclists, and motorists. Airport access from Highway 207 is limited due to sight distance restrictions to ensure safe ingress and egress from the state facility.

The town considers a conceptual future street plan that shows a conceptual access for these properties an important element of this TSP as identified in Figure 16.

Placement of Traffic Signing

The placement of some traffic signing within the Town of Lexington was also identified as a concern. Based on field inspection, it appears that some traffic control devices (e.g. stop and yield signs) and street name placards have been inappropriately installed in the past. The primary issue with respect to the signing is visibility. Many of the signs are not mounted at an appropriate height or at a visible location, making identification of street names difficult and potentially creating a hazardous situation. The placement of the traffic control devices represents a liability to the town if they are inappropriately installed (Placement standards are identified in the *Manual on Uniform Traffic Control Devices*).

SUMMARY

Through an inventory of existing conditions, several key findings were identified. Those findings include:

- The Town of Lexington's transportation system is comprised primarily of auto-oriented transportation facilities and is focused around Highway 74.
- Local topographical constraints, flood-prone areas near Blackhorse Canyon, and the lack of major transportation corridors in the area have shaped the town's transportation system and will continue to present constraints to both growth and transportation improvements.
- Existing sidewalk facilities within the town are limited and no bicycle facilities were identified.
- Public transit service is available in the form of a senior bus and dial-a-ride service provided through Morrow County.
- Local airport service is available through the Lexington Airport located on the north side of the town. Although the Port of Morrow is considering developing an industrial park near the airport, no plans have formalized to date.
- On a typical weekday afternoon, the transportation system experiences its peak roadway traffic demand between 4:00 and 5:00 p.m. During this peak period, the transportation system operates well within established standards.
- An evaluation of historical ODOT accident data at the study intersections did not identify any safety deficiencies.
- Other existing transportation concerns identified include speeds on Highway 74, the geometric configuration of the existing intersections of "F" Street/Front Street and "F" Street/Arcade Street, access to future development, and placement of traffic signing.
- A conceptual future street plan could identify potential street extensions to guarantee access and rights of way as properties develop.

Section 3

Future Conditions Analysis

Future Conditions Analysis

INTRODUCTION

This section presents estimates of long-term future travel conditions within the TSP study area. The long-term future transportation needs for the Town of Lexington were examined based on available employment and population forecasts, review of the proposed roadway network, review of the operational analysis of the existing street system, and discussions with regional transportation personnel and representatives from the Town of Lexington.

TRANSPORTATION DEMAND

Future transportation demand within the Town of Lexington was estimated based on expected growth in the study area population, employment, and traffic traveling through the study area for the horizon year 2020. Future growth estimates were developed based on historical traffic volume trends in the study area as well as consideration of the unique trip making characteristics of residential and employment-based activities. The estimation included a review of the land use mix proposed in the town's Comprehensive Plan.

As part of this analysis, planned developments and transportation improvement projects were identified and reviewed within the town's urban growth boundary. Historic transportation trends were compared with proposed future site-specific growth to arrive at a reasonable forecast condition.

Land Use/Demographics

Year 2020 traffic volumes on the Town of Lexington's transportation system were forecast based on population and employment estimates developed by the State of Oregon for Morrow County and the town. These estimates were compared against recent development trends, planned developments, and forecast growth rates provided by local agencies to verify their appropriateness. The 20-year planning horizon was chosen to ensure compliance with the Transportation Planning Rule.

Population and Employment

Tables 4 and 5 summarize population and employment projections prepared for the Town of Lexington in conjunction with the TSP process.

Table 4 – Population Projections

Year	1990	1997	2000	2002	2005	2010	2015	2020	1997-2020 Average
Town of Lexington Projections									
Projected Population	286	290	294	297	314	340	366	390	--
Annual Percent Change	--	0.2%	0.5%	0.5%	1.8%	1.6%	1.5%	1.3%	1.3%
Morrow County Projections									
Projected Population	--	9,895	11,131	12,039	12,701	13,750	14,812	15,801	--
Annual Percent Change	--	--	4.0%	4.0%	1.8%	1.6%	1.5%	1.3%	2.1%

Table 5 – Employment Projections

Year	1990	1997	2000	2002	2005	2010	2015	2020
Town of Lexington Projections								
Projected Employment	108	110	110	111	117	126	133	139
Annual Percent Change	--	0.3%	0.2%	0.2%	1.9%	1.5%	1.0%	0.9%
Morrow County Projections								
Projected Employment	2,232	2,924	3,283	3,449	3,613	3,890	4,097	4,290
Annual Percent Change	--	3.93%	3.93%	2.5%	1.6%	1.5%	1.0%	0.9%

As shown in Table 4, the Town of Lexington's population is forecast to grow by an average annual rate of 1.3 percent (approximately 100 people) between 1997 (estimated population of 290) and 2020 (projected population of 390). Table 5 suggests a corresponding addition of 29 local employment opportunities between 1997 and 2020.

During the same period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020). The countywide employment projects approximately 1,365 additional employment opportunities will become available over the same 23-year period.

The near-term growth projections for the Town of Lexington suggest relatively flat growth; only seven new residents and two employment opportunities are forecast for the five-year period between 1997 and 2002. The majority of the town's growth is expected to occur during the last 18 years of the horizon period. The Town expects this trend to continue through the study period, unless some major factor changes, such as a new employer in or near the Town, installation of a sewer system, etc. In contrast, Morrow County is anticipating significant growth in the near-term horizon with the annual growth rate more closely paralleling Lexington's after the year 2005.

While these assumptions are what the Towns' traffic projections were based on, note that new figures from the 2000 Census show a population reduction to 260 persons. The Town anticipates that it is likely to continue to grow at a minimal rate of 0.5 percent. Census demographics also suggest an aging population. No new employment opportunities are likely soon, as the Town has no public sewer system.

These findings reflect the current development patterns being experienced in the area. Within the Town of Lexington, no significant development or employment activities are anticipated, suggesting that near-term future population increases will continue to be relatively small. While the Town of Lexington has not been the site of significant growth, there has been a recent acceleration in regional growth as suggested by the county's population estimates. This regional growth phenomenon has been attributed to several new employment and development activities that have occurred in and around the county. This affects the Town of Lexington's transportation system in the form of increased traffic volumes traveling through town on Highway 74 and Highway 207.

Additional information regarding the population and employment estimates is included in Appendix "C".

Anticipated Future Growth

In an effort to account for regional traffic growth, a net annual growth rate was chosen to forecast the year 2020 traffic analysis. This rate was determined based on a review of historical traffic volume trends, anticipated population and employment growth, regional population densities, and local knowledge of planned development.

Historical Growth

ODOT maintains an automatic traffic recorder along Highway 74 that indicated a historical 2.3 percent average annual growth rate between 1960 and 1997 as shown in Figure 6. The recorder, Station 25-007, is located approximately 1.4 miles south of the Town of Lexington. While this location is not within the Town of Lexington, it is the closest historical data source and is considered representative of local growth trends.

Based on the local and regional population and growth estimates, the addition of new residents in the region over the next 20 years is expected to result in a growth in traffic of approximately 2.3 percent annually. Like the regional population growth, the growth in traffic volumes is expected to occur at a relatively stable pace.

PLANNED TRANSPORTATION IMPROVEMENTS

Two planned roadway improvement projects within the Town of Lexington urban growth boundary were identified at the time this TSP was prepared including the "B" Street bridge construction and Highway 74 scenic vista turnouts.

"B" Street Bridge Reconstruction

During the year 2000, ODOT replaced the "B" Street Bridge (former railroad flatcar) with a new structure.

Highway 74 Scenic Vista Turnouts

As part of the Statewide Transportation Improvement Program (STIP), ODOT is tentatively planning a project to construct scenic pullouts along Highway 74 between Interstate 84 and the Town of Lexington. No specific project information or timeline has been identified and it is unclear whether any of the pullouts will be constructed within the Town of Lexington. ODOT has identified this project as being a "low" priority within Region 5 and it is not funded. Construction cost is estimated by ODOT to be $50,000.

Pavement overlay and bike and pedestrian improvements

As part of the Statewide Transportation Improvement Program, ODOT is tentatively planning a pavement overlay and bike/pedestrian improvement project along Highway 74 starting at "E" (MP 36.45) Street and continuing through to Mile Post 45.45. The project is expected to get underway in 2005 with an approximate cost of $1,449,000. The Town would like to extend the bicycle and pedestrian improvements from "E" Street (MP 36.45) through to "H" Street (MP 36.24) with an estimated cost of $36,000.

No other planned improvement projects were identified.

FORECAST FUTURE TRAFFIC VOLUMES/DEFICIENCIES

The transportation needs and travel demand patterns of Lexington will change with time. It is generally understood that as smaller rural communities grow in population and employment they become entities that are more self-sufficient and are better able to serve the full needs of their population. Citizens are able to find employment and services desired within the community instead of having to travel to large urban areas located nearby. The benefit to the transportation system is in the potential for some of these trips (now local as opposed to long distance) to be made via modes other than the automobile; thus reducing demand on the overall network. The future traffic volume forecast presented in this report reflects the anticipated benefits of a more multi-modal transportation system as well as the changing character of travel demand.

Future conditions within the Town of Lexington were forecast by applying the 2.3 percent annual growth rate assuming a "no-build" condition (i.e., no new roadways would be constructed in the 23-year horizon) to the 1997 local average daily traffic (ADT) volume data shown in Figure 7. Figure 9 illustrates the resulting forecast year 2020 average daily traffic volumes under the no-build condition.

Typically, two-lane rural highways with geographic features similar to Highway 74 and 207 can accommodate a maximum of 17,000 to 20,000 vehicles (including vehicles in both directions) daily based on the *Highway Capacity Manual* (Reference 2). Accordingly, the year 2020 forecast average daily traffic volumes shown in Figure 7 could be accommodated by two-lane roadways such as Highways 74 and 207. It should be further noted that the daily traffic volumes on the two respective highways could range up to 5,000 to 7,000 vehicles and still maintain the level of service that residents of Lexington are accustomed. The forecast volumes shown in Figure 8 clearly indicate that no capacity deficiencies are anticipated for highway traffic.

A similar analysis of traffic volumes at the study intersections was completed by applying the 2.3 percent annual growth factor to the 1998 existing intersection traffic counts shown in Figure 6. Figure 8 summarizes the forecast year 2020 weekday p.m. peak hour traffic volumes at the study intersections under the no-build condition. It should be noted that the traffic volumes shown in Figure 8 reflect the assumption that side-street traffic volumes along Highway 74 will grow by more than 2.3 percent (many of the side street approach volumes were less than five vehicles per hour under 1998 existing conditions). Adjustments were made to the side street volumes based on anticipated land-use scenarios discussed with town staff.

While the exact nature of future growth and development is not defined, the increases in side-street traffic volumes are not expected to be substantial and the volumes shown in Figure 8 were felt to reflect a conservative analysis.

Level of Service and Volume to Capacity Ratio Analysis

For the Highway 74 corridor through the Town of Lexington, ODOT stipulates a maximum volume to capacity ratio of 0.85 south of Highway 207. For the segment of Highway 74 north of Highway 207 and along Highway 207, a maximum volume to capacity ratio of 0.80 is required to be maintained on the major street approaches. Where traffic movement on and off State Highway 74 operates at Level of Service A or better, the correlating volume to capacity ratio of <0.48 is acceptable for level of service as defined in the 1999 Oregon Highway Plan. Where traffic movement on and off State Highway 74 operates at Level of Service B or better, the correlating volume to capacity ratio of <0.59 is acceptable for level of service as defined in the 1999 Oregon Highway Plan. Increased traffic volumes over the 20 year projection period within the city's urban growth boundary will not impact the level-of-service (LOS) or meet or exceed the maximum volume to capacity ratio of:

- 0.80 for Highway 74 south of Highway 207 (Regional Highway)
- 0.85 for Highway 74 north of Highway 207 (District Highway)
- 0.80 for Highway 207 (Regional Highway)

To ensure that the local study area intersections will continue to operate at an acceptable level of service, the forecast future traffic volumes were analyzed. The findings of this analysis are summarized in Table 6.

Table 6 – 2020 Forecast Level of Service and Volume to Capacity Ratio, Unsignalized Intersections

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Tom Street/Highway 74	Northbound	0.02	3.5	A	A
E Street/Highway 74	Southbound	0.20	6.0	B	A
C Street/Highway 74	Northbound	0.09	5.4	B	A
B Street/Highway 74	Northbound	0.04	4.7	A	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 6 indicates, all of the unsignalized study area intersections are forecast to continue operating below the maximum volume to capacity ratios under year 2020 weekday p.m. peak hour conditions. Clearly, even if side-street volumes were to increase substantially as suggested in Figure 7, there is more than adequate capacity at the study intersections. Based on these results, no roadway capacity-related mitigation measures are anticipated.

Figure 7 – 2020 Forecast Average Daily Traffic Volumes

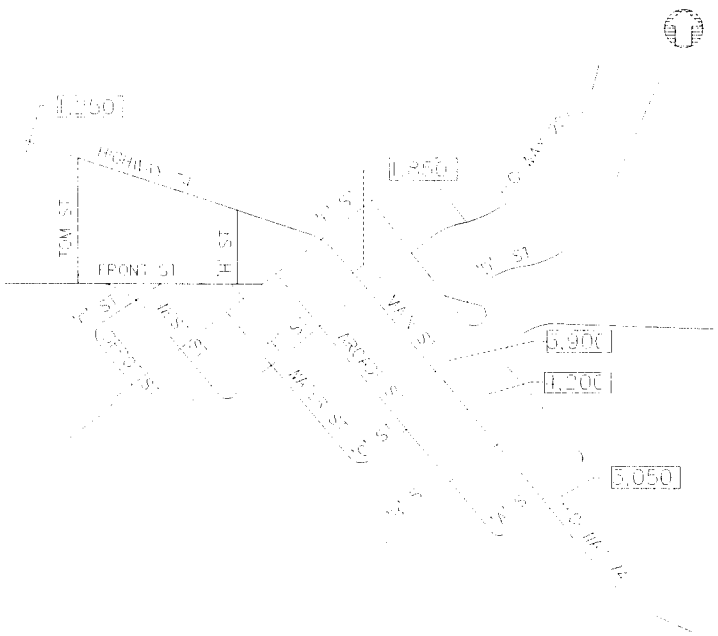
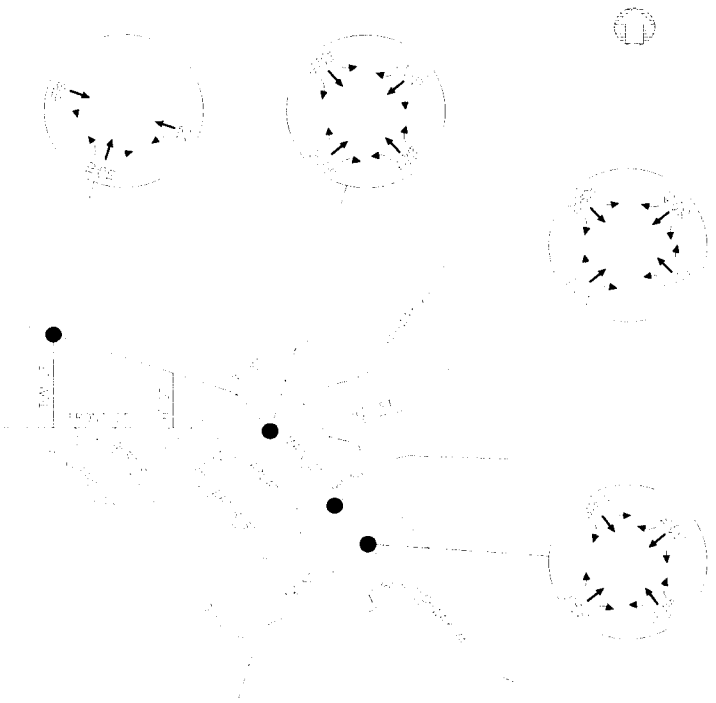


Figure 8 – 2020 Forecast Traffic Volumes, Weekday PM Peak Hour



Anticipated Future Circulation Deficiencies

In addition to the previously described capacity analysis, the future conditions evaluation involved the review and identification of potential future circulation deficiencies. Given the size and projected growth potential of the Town of Lexington, it appears that future circulation deficiencies will primarily involve the exacerbation of existing deficiencies as discussed below.

Pedestrian Circulation

There are several anticipated future circulation deficiencies that will need to be addressed including:

- In general, sidewalk facilities are extremely limited within the town and tend to appear only in areas of residential development.
- Some of the existing sidewalks are poorly maintained and do not satisfy current ODOT or Americans with Disability Act (ADA) design standards. The condition of sidewalks was identified at the first TAC meeting as a source of concern as it relates to access for the town's elderly residents. In addition to sidewalk condition, community members have identified a need for crosswalk facilities along Main Street.
- Ideally, pedestrian facilities should provide connectivity between major activity centers, such as housing, commercial areas, the post office, and recreation areas. There are commercial land uses located along Main Street that have the potential to attract pedestrian traffic and future development in the area can be expected to increase the demand for pedestrian amenities. Sidewalk connections to the former school building located in the southwest quadrant of the town would also be desirable. The bridge and the School District Building offer constraints to bicycle and pedestrian circulation and future remedies.
- While the Town acknowledges the need for pedestrian facilities and multi-use pathways. It has limited resources to apply to new projects or to maintenance of existing facilities.

At a minimum, roadway design standards should ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed arterials, collectors, and local streets. It is essential that existing sidewalks be connected to new pedestrian facilities as new developments are constructed or as road improvements are made. The alternatives analysis presented in the next section identifies potential methods to develop a comprehensive pedestrian network within the town.

Bicycle Circulation

The Town of Lexington does not currently offer designated bicycle facilities and has no circulation plan for bicyclists. The future potential for bicycle activity is somewhat limited by topographical constraints and the remote location of the town in relation to trip generators. It was noted that there currently are children riding bicycles in the community and there may be other recreational bicyclists in the area during seasonal cycling events that occur along Highway 74.

Given the potential for future bicycle access, the town should consider development of a bicycle circulation plan. The scope of the plan could be limited to on-street bicycle facilities along Highway 74 and one or two designated roadways in the town for bicycle use. Such alternatives will be further discussed in the **Alternatives Analysis** section.

OTHER ANTICIPATED DEFICIENCIES

The growth in the local and regional population will affect many aspects of the local transportation system. System deficiencies identified in the **Existing Conditions** section expect to exacerbate the increase in demand for transportation services. Accordingly, other subject areas that will need to be considered in the alternatives analysis include:

- public transportation services;
- potential changes that could be made to pursue speed reductions along Highway 74;
- potential geometric alternatives to the existing "F' Street/Front Street/Arcade Street intersection;
- access to future development; and
- placement of traffic signing.

SUMMARY

Several significant findings were identified through the future conditions analysis, most notably:

- The Town of Lexington's population is forecast to grow by an annual rate of 1.3 percent (approximately 100 people) between 1997 (estimated population of 290) and 2020 (projected population of 390). During the same period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020). Though the traffic projections were based on 1997 population estimates noted above, it should be noted that the 2000 Census indicates a population decline since 1990. The 2000 Census data indicates that the Town of Lexington's population is forecast to remain stable or grow by a minimal annual rate of 0.5 percent between 1997 (est. pop. 290) and 2020. Based on this information, Lexington anticipates minimal growth through 2020, reflecting current development patterns, and experience in the area.
- The near-term growth projections for the Town of Lexington suggest limited growth; only seven new residents are forecast for the five-year period between 1997 and 2002.
- The majority of the Lexington's population growth is expected to occur during the last 18 years of the horizon period with approximately five new residents being added to the town on an annual basis. These findings reflect the current development patterns being experienced in the area. Within the Town of Lexington, no significant development or employment activities are anticipated, suggesting that near-term population will remain stable or that increases will continue to be relatively small.
- The Town of Lexington's transportation system is expected to accommodate forecast future growth in travel demand without triggering the need for major capacity-related roadway improvements.
- In the absence of capacity-related improvements, there are connectivity and access issues that should be planned for and addressed. Enhancements to the town's roadway, pedestrian, bicycle, and public transit systems are desirable and will be reviewed in Section 4, **Alternatives Analysis**.
- The Town's resources for new projects and for maintenance of existing facilities are limited.

Section 4

Alternatives Analysis

Alternatives Analysis

INTRODUCTION

This section presents a summary of future transportation improvement alternatives that could be implemented to mitigate existing and projected future transportation system deficiencies. Potential roadway improvement alternatives are presented and recommendations are offered as to their feasibility. As potential deficiency mitigation projects were developed, consideration was given to how a multi-modal approach could contribute to individual projects. Thus, while the primary impetus for a given mitigation alternative may center on increasing vehicular capacity, provision of appropriate bicycle and pedestrian amenities was given equal consideration.

Special effort was provided in considering and recommending improvements to the pedestrian and bicycle systems. Recommendations were developed that create direct linkage to all identified pedestrian/bicycle generators and provide for a core pedestrian and bicycle transportation system. The alternative analysis and subsequent recommendation process were handled separately to ensure that a complete system for each mode was identified without constraint.

It should be noted that, in this section, formal alternative development and analysis have only been presented for the roadway network and its components. Other elements of the transportation system such as pedestrian access, bicycle access, etc. currently exist at a level such that an entire network needs to be developed. The **Transportation System Plan** section of this report contains the recommended improvements to all of the modal systems.

The remainder of this section is organized into two parts. First, a general discussion of improvement needs and associated ramifications are presented. A discussion of specific improvement alternatives, including estimated costs, then follows.

LAND USE/TRANSPORTATION SYSTEM RELATIONSHIP

The existing and future land uses within the Town of Lexington have a substantial impact on the local transportation system. As a result, the town's transportation system will continue to reflect a strong relationship to local land use well into the future. For illustrative purposes, the following discussion presents some of the transportation implications associated with various land use alternatives.

Background

In the past, Lexington has experienced very little population growth (less than 10 people since 1990) and consequently, relatively little new commercial and residential development. There are a significant number of vacant and redevelopable properties within the central part of town with direct access to existing town streets and potential access to town water and sewer services. However, in part because owners of these parcels have been unwilling to sell or develop many of these properties, recent growth has occurred and is expected to continue to occur in areas of the town that are not well served by existing roads or other services.

There are a number of vacant or redevelopable commercially zoned properties in the central commercial portion of town. In addition, there is a large section of vacant commercially zoned land at and around the Lexington Airport. At the same time, there is no industrial land within the town's urban growth boundary. Town staff reports that the Port of Morrow has expressed interest in the past in developing some of the land adjacent to the airport for industrial use.

The recent closure of the Kinzua Mill, located between Heppner and Lexington is expected to affect current and future employment levels in the area and increase the amount of commuting between Lexington and other parts of Morrow and adjacent counties.

Specific land use opportunities and constraints are described below for industrial, commercial, and residential land.

Commercial Land

There are two primary issues related to the town's commercial and industrial land. First, there is the possibility that potential new commercial development near the airport could compete with commercial businesses in the central part of town. Second, there is a lack of industrially zoned land within Lexington. To address these issues, the following measures are recommended:

1. Rezone commercial land near the airport to industrial use
2. Develop an access plan to serve undeveloped land in the area near the airport.

This approach would help direct future commercial activity to the town's main street area. It also could help provide additional land for industrial development. This in turn would support town policies to encourage commercial development to meet the needs of residents and visitors while also encouraging diversified, non-polluting industrial development that supports a stable job market.

Currently, a portion of the land near the airport is being used by the Morrow County Grain Growers. The existing land use (a farm implement dealership) presumably would be allowed under either commercial or industrial zoning. However, other types of commercial uses that could be developed under the existing zoning might compete with commercial businesses in the Main Street area. To protect the integrity of the Main Street businesses, these competing uses should not be allowed within the industrial zone.

Given the topography and current access limitations of the land surrounding the airport, primarily between Highway 74 and the airport, it will be necessary to develop an access plan to utilize this area effectively and efficiently. The town's current subdivision regulations require that a developer provide a sketch plan with any proposal for a subdivision or major partition. Among other items, the sketch plan must show the approximate location and width of proposed streets. After review and approval of the sketch plan by the town, an applicant must provide a more detailed tentative plan, including the location, width, names, approximate grades and radii of curves of proposed streets, as well as the relationship of proposed streets to projected streets shown on the town's Comprehensive Plan. These elements of the sketch and tentative plans would constitute an access plan.

It is important that the town enforce the development requirements and work closely with the developer during and, if possible, prior to the approval process to develop plans for the location of new streets and connection to existing roads. In doing so, the town should pay particular consideration to developing a street system that provides for effective internal circulation, adequate connections to existing streets, efficient development of land within the subdivision or partitioned area, and the ability to access and develop adjacent undeveloped land.

Residential Land

Recent residential development has occurred on the western edge of town (between Highway 74 and Front Street) in an area not well served by existing streets and other town services. This development has raised several issues related to the ability to cost-effectively provide town services and make efficient use of land. For example, it is likely to be more expensive to provide public services to these areas. In some cases (e.g., in the northwestern portion of the town between Front Street and Highway 74, west of Tom Street), dwelling units and access-ways have been located with relatively little consideration given to effectively providing access and services to adjacent undeveloped land in the future. In addition, in one case (vacant property in the northeastern corner of town), property owners are likely considering fewer lots than probably could be accommodated on their property. Without adequate planning for future access and provision of services, such practices could lead to less efficient use of land.

Furthermore, the Town does not have a public sewer system. Development and redevelopment is unlikely to occur at "urban" densities without this basic public facility. Until the Town does have a public sewer system, densities will be relatively low to accommodate individual sewage disposal systems.

To address these issues, the following measures are recommended.

Encourage Infill and Development of Properties Served by Existing Infrastructure

To encourage more development in the portion of the town served by existing streets and other infrastructure, the following measures are recommended.

- Use existing information and county Geographic Information Services (GIS) resources to prepare a map showing buildable, vacant properties.

  One way to encourage development of existing vacant or underutilized parcels is to provide potential builders or developers with information about them. It is useful to develop a map of such parcels along with a simple list, describing their location, size, zoning, physical constraints (if any) and ownership information.

  Through a review of aerial photographs and field checks, vacant parcels in Lexington have been identified. This information can be provided to individuals interested in future development in Lexington. Though it does not resolve the issue of unwilling sellers, it may help encourage future development in the central portion of town instead of areas on the fringe.

- Amend the town's zoning ordinance to reduce barriers to the creation of flag lots or other potential infill development.

Two types of development are possible on existing lots within the central portion of town: 1) development of completely vacant lots; and 2) additional development on lots that already have a house but are large enough, given minimum lot sizes, to accommodate additional development. Both types of development will help make more efficient use of existing streets and other infrastructure, ultimately reducing the cost to provide public services. The town's zoning and subdivision ordinances were reviewed to identify provisions that may inhibit development on vacant lots or infill/redevelopment of underutilized parcels. No regulations were identified that necessarily inhibit development of vacant lots where there is no partition or subdivision required.

- Consider differential development permitting or impact fees for land currently served by town services versus land not served to encourage development in the core area of the town, resulting in more cost-effective provision of public services.

  As noted above, it is more costly for the town in the short and long term to provide services to land that is not currently served by existing roads, water, sewer and other services. This is particularly important given Lexington's limited municipal budget. To address these higher costs, the town may want to consider implementing systems development charges for new development that is not served by existing infrastructure. This approach would encourage infill and redevelopment, and make more efficient use of existing roads and other infrastructure.

Provide for More Efficient, Orderly New Development

As noted previously, some recent development has been undertaken with relatively little consideration of connections to adjacent vacant land, existing town streets, and efficient use of land. To address these issues and improve future connectivity between new and existing streets and neighborhoods in Lexington, the measures outlined below are recommended:

- Amend and supplement existing subdivision regulations to include policies/requirements that ensure adequate connection to existing streets and provisions for connections to adjacent undeveloped land. Recommended ordinance provisions are included in Section 7, *Policies and Land Use Ordinance Modifications*.

  In addition to general policies related to connectivity, ordinance language regarding minimum block length and maximum cul-de-sac lengths is recommended. Such policies help provide for more travel options, can reduce the distance needed to get from one part of town to another and help improve access for emergency vehicles.

  This approach would allow for future infill in areas where new development is occurring and facilitate more efficient planning and provision of roads and other town services. It also could facilitate more orderly and possibly more compact development.

- Work with developers to incorporate the above requirements in a local access plan for any proposed development.

  The town's subdivision regulations already require developers to submit sketch and tentative plans indicating the layout of streets in both the subdivided and un-subdivided portions of the property. It is important that the town meet with developers to develop these access elements of the sketch and tentative plans to meet the connectivity objectives outlined above (and in the attached ordinance recommendations) as well as policies related to topography and other design/layout issues.

IMPROVEMENT ALTERNATIVES EVALUATION

The following discussion presents specific improvement alternatives that were considered for inclusion as part of the recommended Town of Lexington Transportation System Plan. For reference purposes, each alternative has been identified by number.

It should be noted that the order in which the alternatives are presented is not intended to convey the relative rank or significance of the respective projects. Further, the identified improvement alternatives were evaluated based on construction costs and ability to meet identified transportation needs. Other factors, including potential environmental impacts, were not specifically considered. Some environmental impacts that could occur have the potential to increase costs or require project modifications. The required modifications or increased costs could be significant enough to make the project impractical. All cost estimates were based on industry unit costs and do not reflect utility relocation, environmental constraints, property acquisitions, or inflationary increases in cost over the planning horizon of this document.

OPERATIONAL ISSUES AND IMPROVEMENT ALTERNATIVES

The need for mitigation of existing and future roadway/intersection operations in the Town of Lexington is relatively limited in scope. The long-term future forecast conditions did not identify any specific capacity-related roadway or intersection

deficiencies. Although no capacity improvement needs were identified, the community did identify four areas of concern as discussed below.

POSTED SPEED LIMIT ON HIGHWAY 74

Community input identified operating speeds on Highway 74 through the town as an issue of concern. The current posted speed limit of 30 miles per hour on the highway was established by ODOT and reflects the 85th percentile speed. Posting speed limits based on the 85th percentile recognizes that drivers will travel at a speed that they are comfortable with regardless of the posted speed limit.

Improvement Alternative #1 – Influence Highway 74 & 207 Streetscape

Given that changing the posted speed limit will not influence driver behavior, it is necessary to influence the driving environment to effect driver's speeds. Wide travel lanes and open shoulders convey a sense of security that encourages higher speeds. Specific changes to the roadway such as condensing the road environment through construction of curbs, lane restriping, adding bike lanes, and other amenities such as planter strips or street trees may contribute to reduced travel speeds on the highway. Once changes have been made to the roadway environment that effect drivers' perceptions, speeds will likely drop. Following these modifications, ODOT could determine the new 85th percentile speed and evaluate the need to change the posted speed limit.

Highway 74 & 207 Recommendations

Through new roadway and land-use standards, future development activities and roadway improvements along Highway 74 starting at "H" Street and continuing through town to "A" Street should be focused to influence the streetscape of Highway 74. The same ideas should be applied to Highway 207 from Clay Street and continuing through to Main Street. By modifying the streetscape of Highway 74 and 207, driver's perceptions can be influenced and travel speeds may be reduced. Section 5, **Transportation System Plan**, presents recommended roadway cross-section standards that will assist in fostering a more constrained perception of the Highway 74 and 207 travel environment.

It should be noted that the addition to or modification of Highways 207 & 74 cross sections, as well as potential signing changes, would require the approval of the State Traffic Engineer. Identification and documentation of the need for such changes in the town's TSP does not guarantee the provision or modification will occur.

"F" STREET/FRONT STREET AND "F" STREET/ARCADE STREET INTERSECTIONS

As noted in the **Existing Conditions** section, the geometric configuration of the existing intersections of "F" Street/Front Street and "F" Street/Arcade Street has been identified as a subject of community concern. A previous attempt to improve the intersection by installing a stop sign on Front Street was unsuccessful and a yield sign is currently posted on the eastbound approach of the intersection.

Improvement Alternative #2 – "F" Street Intersection Restriping/Traffic Control Modification

Although field investigation of the existing intersections indicated that some opportunity to realign the existing intersection approaches was available, community input suggested that such realignment was not feasible due to cost and property issues. Based on this information, the existing intersection configurations were further evaluated and it was determined that an acceptable alternative would be to control the northbound approach to the "F" Street/Front Street intersection with a yield sign. The curve from "F" Street to Front Street could also be restriped as the through movement, potentially offering a more "user-friendly" solution to the existing intersection configuration. Curbed channelization should also be provided to delineate a clear path for drivers.

The estimated cost to complete this project is $15,000.

Recommendation

The town should improve the existing "F" Street design as described in the mid- to long-term future.

ACCESS TO FUTURE DEVELOPMENT

There are several areas within the town that have the potential to develop or redevelop during the next twenty years and the accessibility of these areas is a concern for the community.

Improvement Alternative #3 - Modify Town Ordinances to Ensure Connectivity between Town Facilities and Future Residential Developments

From a more global policy perspective, as new subdivisions are constructed within the Town of Lexington in the future, better consideration should be given to the placement and availability of pedestrian, bicycle, and vehicular access both within the subdivision and the linkages to the remainder of the town. Town ordinances should be reviewed and modified as appropriate to encourage connectivity and to limit the lengths and use of cul-de-sacs in locations where the local topography does not dictate their use. Suggested ordinance modifications are discussed in Section 7.

In the event of development of an industrial park or other industrial/commercial related uses in the vicinity of the airport, adequate transportation linkages would need to be made to Highway 207 and possibly Highway 74. Such connections should be provided to accommodate goods movement into and out of the industrial area and airport and should include multi-modal facilities that provide better access for pedestrians, cyclists, and motorists.

PLACEMENT OF TRAFFIC SIGNING

Improvement Alternative #4 – Inventory and Review Posting of Town Signing

As discussed in the **Existing Conditions** section, the current placement of some traffic signing within the town is questionable. Inappropriate placement of traffic signing makes identification of street names difficult and has the potential to create hazardous situations as well as a liability issue for the town.

Under this improvement alternative, the Town of Lexington would inventory all existing traffic signing (including street name placards and traffic control devices) within the town's jurisdiction and evaluate whether those devices comply with the placement methodology identified in the *Manual on Uniform Traffic Control Devices*. Any signing identified as not being compliant should then be relocated or remounted per the specifications of the *Manual on Uniform Traffic Control Devices*.

The cost for this project is approximately $1000. With proper guidance and instruction, the field inventory could be completed relatively inexpensively by a summer intern. Further, it is unlikely that many new signs will need to be purchased given that the issue is primarily placement of the signs for visibility. Accordingly, the primary cost associated with this alternative would involve mobilizing local crews to remove and/or replace identified traffic control devices as appropriate.

Recommendation

This improvement alternative should be implemented in the immediate future to promote public safety. *It should be noted that the addition to, or modification of, signs along Highway 74 would require the approval of the State Traffic Engineer. Identification and documentation of the need for such changes in the town's TSP does not guarantee the provision or modification will occur.*

REDUCED RELIANCE ON THE AUTOMOBILE

Alternative #5 – Reduce Vehicular Reliance Through Zoning and Development Code Revisions

In part, Oregon's Transportation Planning Rule seeks to reduce the reliance on personal vehicles as a mode of travel through the creation of environments that foster alternative modes of transportation. Local land uses can have a significant impact on the form of transportation necessary to travel from one location to another. Specifically, by carefully structuring local zoning and development codes, development activities can be focused such that a more self-contained community can be achieved. Construction of mixed-use developments, the location of commercial and service businesses in the vicinity of residential land uses, and the provision of employment opportunities near residential areas are all means by which the need for travel by personal automobile can be reduced.

In relatively rural areas such as Lexington, the need to travel long distances to employment, commercial, and service opportunities fosters a travel environment dependent on personal automobiles. This is an issue for Lexington residents, many of whom work in other communities such as Boardman, which are 20 to 40 miles away. The recent closing of the Kinzua Mill between Lexington and Heppner may exacerbate this problem, as residents who formerly were employed at the mill likely will have to drive even further to new jobs. Recent residential development also has contributed to reliance on the automobile. Much of the recent development in the town has occurred in the northern periphery of the town, away from the core downtown area.

Currently there is no limited pedestrian and bicycle access within the town. Development of vacant parcels within the central part of Lexington or future development of large parcels on either end of the community with direct connections to the town's street grid system would reduce reliance on the automobile for short trips to local community commercial establishments and other uses.

Recommendation

Implementation of the land use recommendations identified in this TSP should be encouraged through appropriate zoning and development code revisions.

ACCESS MANAGEMENT

Alternative #6 – Promote Access Management along Highway 74 and Highway 207

The Oregon Department of Transportation has established access spacing standards for Highway 74 and Highway 207. These standards, which are presented in detail in Section 5, are intended to ensure the long-term safety and efficiency of the respective highway corridors. Implementation of the standards as they relate to local development activities will be essential to ensure the long-term viability of the highway corridors.

The future conditions analysis, as presented in this document, assumes that current public roadway spacing along Highway 74 and Highway 207 will be maintained into the long-term future. As long as the current public road access spacing standards along the two highways are maintained and new private access points are allowed in accordance with the access spacing standards presented in Section 5, it is expected that the forecast future traffic conditions will be reflective of long-term operations along the corridors. Conversely, if multiple additional access points are granted along the two highways, it can be expected that additional incremental delay will be added to highway operations.

Access Management Recommendation

Access Management should be implemented in the immediate future. No specific construction need is evident to implement this improvement as it simply promotes compliance with existing roadway policy. No immediate land use actions would be required either. Instead, as property along Highway 74 and Highway 207 is developed or redeveloped, appropriate action should be taken by local and state agencies to ensure that the relevant access spacing standards are reasonably enforced. Section 5, **Transportation System Plan** includes a full access management plan and corresponding implementation strategy complete with typical spacing standards, driveway widths, etc.

TRANSPORTATION DEMAND MANAGEMENT

Alternative #7 – Implement Transportation Demand Management Measures

Transportation Demand Management (TDM) measures identify opportunities to reduce the impact of trips generated by various land uses. Specifically, TDM techniques typically seek to reduce reliance on single-occupant vehicle trips and promote the use of alternative travel modes by persons accessing a given area or facility. The Transportation Planning Rule encourages the evaluation of TDM measures as part of the TSP development process.

TDM strategies often focus on major employers or other sources of traffic that can be influenced through scheduling changes, alternative transit opportunities such as carpools and buses, and other means. Oftentimes, financial disincentives are included in programs as a revenue generator to support other elements of an overall program. The success of commonly used disincentives is dependent on the environment in which a given employer is located.

Given the rural nature of Eastern Oregon and the Town of Lexington, the TDM measures available to the town are limited in scope as compared to larger metropolitan areas. One of the most promising options available to the town is the provision of a carpool or vanpool service for people who live in Lexington and work in neighboring communities. Coordination of a vanpool and/or carpool(s) to the major employers in the area could help to reduce the number of single occupant vehicle commute trips from Lexington and help the community to achieve transportation demand management objectives. The town could also promote carpooling to out-of-town employers through education.

Provision of a park-and-ride facility at a key location within the community is another means by which the use of non-auto dependent travel can be encouraged.

The cost of implementing a TDM program is dependent on the type and variety of measures selected. Facilitation of carpools, vanpools, or a park-and-ride facility could be completed through a volunteer network and/or coordination with major employers at minimal cost.

Recommendation

It is recommended that the Town of Lexington focus TDM efforts on supporting carpools and/or vanpools to major employers through education, coordination with employers, and provision of appropriate facilities such as park-and-ride areas.

SUMMARY

This section has presented the alternatives that have been developed and evaluated to address the near-term and long-range transportation deficiencies and to encourage infill/redevelopment within the Town of Lexington urban growth boundary. Table 7 summarizes the potential improvement alternatives and recommendations as to their implementation.

Table 7 – Summary of Improvement Alternative Recommendations

Alternative Number	Improvement Description	Estimated Cost*	Implementation Timeline	Responsible Jurisdiction
#1	Influence Highway 74 and 207 Streetscape	Not estimated	Concurrent with future development and roadway improvements along Highways 74 & 207	Town/ODOT
#2	"F" Street Intersection Restriping/Traffic Control Modification	$15,000	Near-term future	Town/ODOT
#3	Modify Town Ordinances to Ensure Connectivity Between Town Facilities and Future Residential Developments	Administrative	Near-term future	Town
#4	Inventory and Review Posting of Town Signing	$1,000	Near-term future	Town
#5	Reduce Vehicular Reliance Through Zoning and Development Code Revisions	Administrative	As appropriate	Town
#6	Promote Access Management along Highway 74 and Highway 207	Administrative	Concurrent with future development	Town/ODOT
#7	Implement Transportation Demand Management Measures	Administrative	As appropriate	Town

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

Section 5 incorporates the recommended improvements into the town's transportation system.

Section 5

Transportation System Plan

Transportation System Plan

INTRODUCTION

This section describes the individual elements of the Town of Lexington Transportation System Plan. The preferred alternative presented in this TSP consists of those transportation improvements necessary to support the Town of Lexington's Comprehensive Land Use Plan. The TSP addresses several components for development of the future transportation network including:

- Preferred Land Use Plan
- Roadway System Plan
- Pedestrian System Plan
- Bicycle System Plan
- Public Transportation System Plan
- Marine System Plan
- Air/Water/Pipeline System Plan
- Access Management Plan
- Implementation Plan

The individual plans and policies presented in this section were developed specifically to address the requirements of Oregon's Transportation Planning Rule. Projects associated with each plan element have been identified and costs have been estimated as described herein. The recommendations set forth by this plan reflect the findings of the existing and forecast future conditions analyses, the alternatives analysis, and the concerns expressed by both the citizens of Lexington and the public agencies that serve them.

PREFERRED LAND USE PLAN

Desirable Elements of the Preferred Alternative

The following are considered beneficial elements that should be explored as part of future land use planning and design efforts, preferably through amendments to the comprehensive plan, implementing ordinances and local street network:

- Rezone commercial land near the airport to industrial use;
- Develop an access plan to adequately serve undeveloped commercial land near the airport;
- Encourage infill and redevelopment in the portion of the town served by existing infrastructure;
- Use existing information and county Geographic Information System resources to prepare a map showing buildable vacant properties;
- Adopt differential development permitting or impact fees for land currently served by town services versus land not served;
- Amend and supplement the existing subdivision regulations to include policies and/or requirements that ensure connectivity with existing streets and adjacent properties, including a requirement to provide a conceptual future street plan;
- Amend the town's subdivision regulations to limit cul-de-sac length; and
- Work with local developers to agree upon a local access plan for individual development proposals.

ROADWAY SYSTEM PLAN

Based on the identified existing and anticipated operational and circulation needs the roadway system plan was developed. The town's roadway system plan provides guidance as to how to best facilitate travel within the town by addressing two key issues:

- Roadway functional classification system and corresponding roadway design standards, and
- Roadway connectivity, including new and improved streets to meet future capacity, circulation, and safety needs.

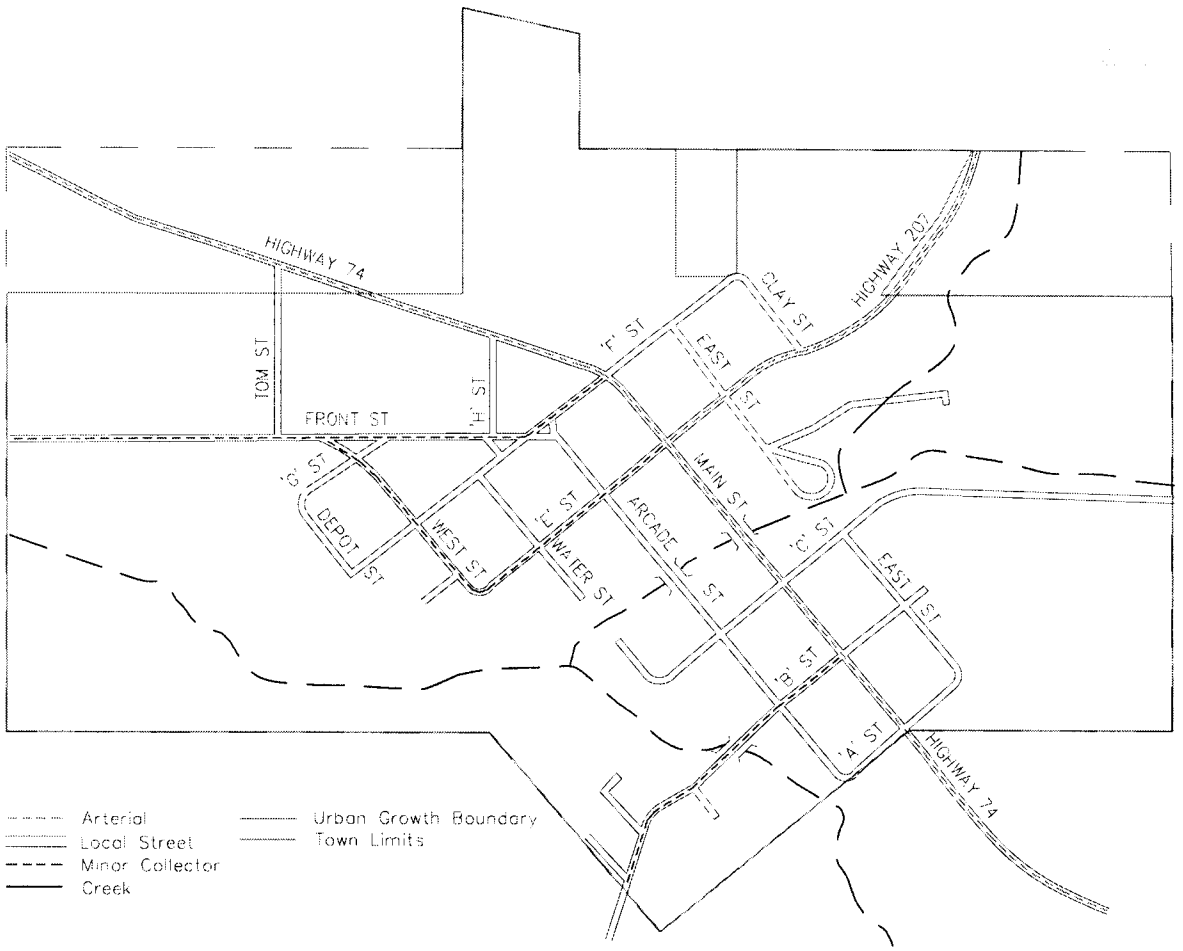
Functional Classification

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation. A functional classification of a given roadway determines its intended purpose, the amount, and character of traffic that it is expected to carry commitment to serve and promote non-auto travel, and its design standards.

The classification of a given street is intended to convey the requirements, capabilities, and capacity of each respective roadway while recognizing that roadway's contribution to the overall transportation system. It is imperative that the classification of streets is considered in relation to adjacent properties, the land uses that they serve, and the modes of transportation that can be accommodated. Further, each roadway must be appropriately designed to accommodate vehicles local to the roadway (i.e., passenger cars, heavy trucks, pedestrians, and bicycles). The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

The functional classification plan for the Town of Lexington incorporates three functional categories: arterials, collectors, and local streets. For the present, the Town will only use two of the designations, "arterials" for the state highways and "local streets" for all other roadways.

Figure 9 – Roadway Network and Functional Classification System



In small communities, arterials are roadways that are primarily intended to serve traffic entering and leaving the urban area. Arterials tend to carry significant intra-urban travel between downtown areas and outlying residential areas. While arterials may provide access to adjacent land, that function is subordinate to the travel service provided to major traffic movements. Arterials are the longest distance, highest volume roadways within the urban growth boundary. Although focused on serving longer distance trips, pedestrian and/or bicycle activities often are associated with the arterial streetscape.

Collectors

Collector facilities link arterials with the local street system. As implied by their name, collectors are intended to collect traffic from local streets (and sometimes from direct land access) and channel it to arterial facilities. Collector facilities tend to carry

lower traffic volumes at slower speeds than arterials. On-street parking is more prevalent and pedestrian amenities are typically provided. On collectors, bicycle facilities may be exclusive lanes or shared roadways.

For the purposes of TPR compliance, all collector facilities in this TSP are considered Minor Collectors. (The TPR requires that sidewalks and bike lanes be provided on all Major Collectors within a given Urban Growth Boundary). The preferred cross-section includes sidewalks but considered optional at the discretion of the Town.

Local Streets

Local streets are primarily intended to provide access to abutting land uses. Local street facilities offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic should be discouraged. On-street parking is common and sidewalks are typically present.

Using the roadway designations, all current and future streets within the town have been designated in the functional classification plan presented in Figure 9. The major roadway designations are summarized below.

Arterial

Highway 74

Highway 207

Minor Collector

"B" Street

"C" Street

"E" Street

"F" Street

Front Street

West Street

Local Streets

The remaining roads in the town are designated as local streets.

STREET DESIGN STANDARDS

Street design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. The standards are also established to provide appropriate separation between travel lanes and pedestrian and bicycle facilities. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands.

Figures 10, 11, 12, 13, 14, and 15 presents the typical cross sections for the various roadways identified in the functional classification system. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, and optional amenities such as landscape strips.

The cross sections illustrated in Figures 10 and 11 reflect the desire to develop multi-modal roadway facilities within the Town of Lexington in the future incorporating pedestrian facilities where appropriate. The identified cross sections are intended for planning and design purposes for new road construction as well as for those locations where it is physically and economically feasible to improve existing streets.

The typical cross sections present standards for roadways that allow for flexibility in defining the actual roadway width through optional features such as planter strips, and on-street parking. The use of on-street parking and planter strips and other amenities would be subject to the discretion of the Town of Lexington. Should residents want to improve or install pedestrian and/or bicycle use facilities, the Town has set a minimum standard of 5 foot sidewalks and 6 foot multi-use (Bicycle/Pedestrian) hard surface facilities.

Table 8 summarizes the street design standards for the different roadway classifications.

In reviewing these standards, it should be noted that ODOT has sanction over improvements that are implemented along Highway 74 and Highway 207.

Table 8 – Street Design Standards

Classification	Cross Section	Right-of-way	Turn Lane	Paved Travel Lanes	Bike Lane	Pedestrian Facilities	On-Street Parking	Landscape Strip

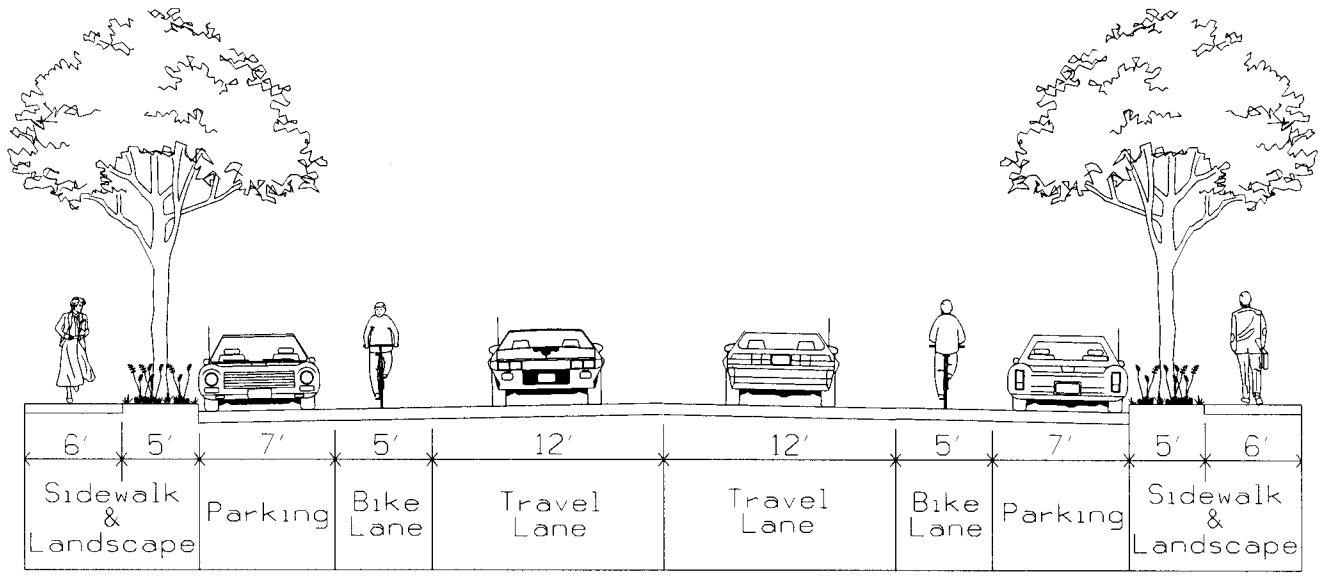
Arterial	2 lanes	70 feet	No	12 foot	5 foot	6 foot sidewalk – Both sides of roadway	7 foot where right-of-way is available	5 foot – Both sides
Collector	2 lanes	66 feet	No	12 foot	5 foot	6 foot sidewalk – Both sides of roadway	Optional – where right-of-way is available	6 foot – Both sides
Residential Street – Option 1	2 lanes	66 feet	No	12 foot	Shared Roadway	Shared Roadway	No	At discretion of the Town
Residential Street – Option 2	2 lanes	66 feet	No	12 foot	Shared Roadway	6 foot pedestrian facility separated one or both sides at the discretion of Town	At the discretion of the Town	5 foot landscaped strip on both sides which may include a swale
Residential Street – Option 3	2 lanes	66 feet	No	7 foot	Shared Roadway	6 foot sidewalks	7 foot on both sides of roadway	7½ foot on both sides of roadway
Alley	NA	16 feet	No	10 foot road surface minimum	Shared Roadway	Shared	No	No

Arterial Cross Sections

As indicated in Table 8, *arterial* facilities will have a right-of-way requirement of 70 feet and cross-section consisting of:

- Two 12 foot wide travel lanes
- 5 foot bike lanes on both sides of street
- 6 foot sidewalks on both sides of street
- 5 foot landscape strip
- 7 foot on-street parking on both sides of the roadway where right-of-way is available

Figure 10 – **Arterial** Cross-Sections



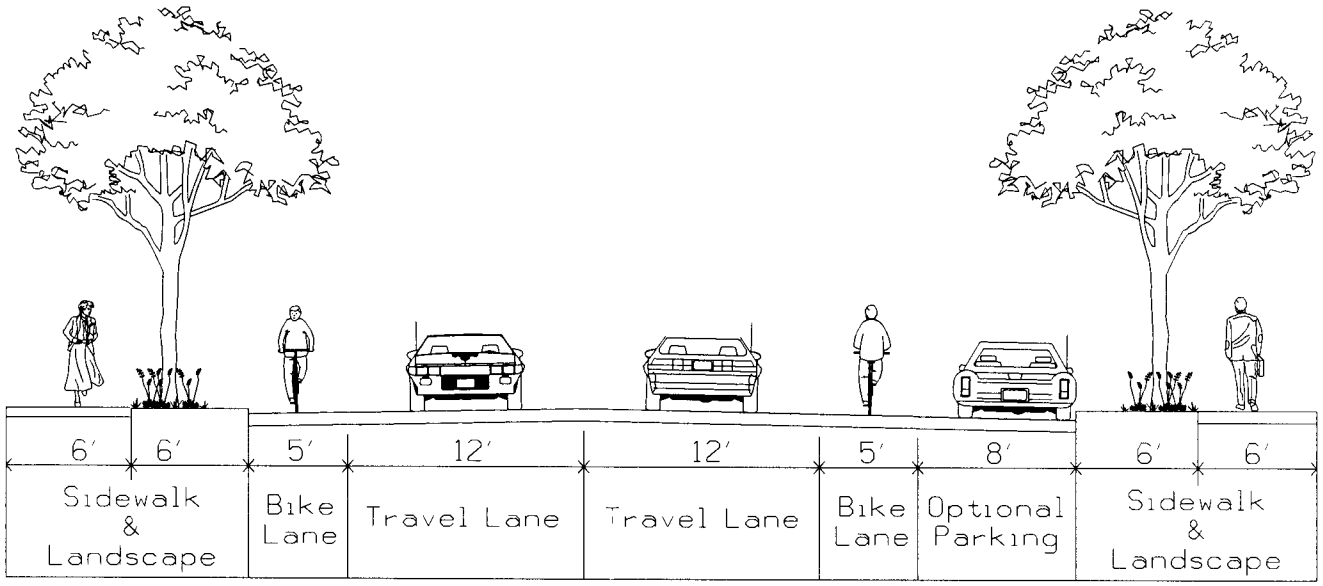
Collector Cross Sections

Collector streets will have a right-of-way requirement of 66 feet and a cross-section consisting of:

- two 12 foot wide travel lanes
- optional on-street parking may be required at the discretion of the town where right-of-way is available
- 6 foot landscaping strip on both sides of street

- 6 foot wide sidewalks on both sides of street
- 5 foot bike lanes on both sides of the street

Figure 11 – **Collector** Street Cross Sections



Local Street Cross Sections

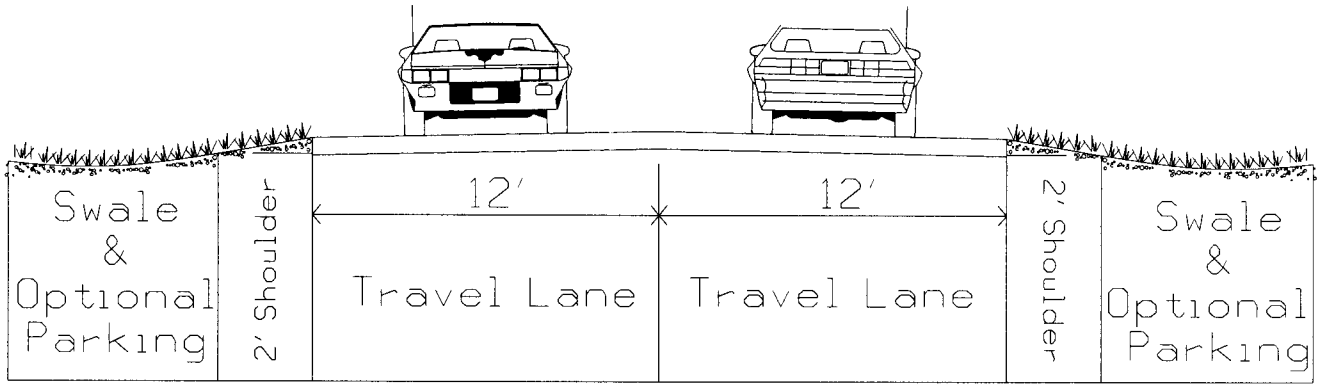
There are three *local street* options.

Option 1 indicates that *local streets* will have a right-of-way requirement of 66 feet and a required cross-section consisting of:

- Two 12 foot wide travel lanes
- 2 foot shoulders located on each side of the roadway
- Requirement of adjacent landscape strips and/or grassy swales on both sides of the roadway may be made at the discretion of the town.
- 11 feet on 1 side or 5½ feet (either/or at discretion of town) on both sides located outside each landscape strip and adjacent to landowner shall be provided for utilities.

Option 1 provides a cross section similar to current town standards. Pedestrians and bicycles will share the roadway with vehicular traffic.

Figure 12 – **Local Street** Cross Sections – **Option 1**

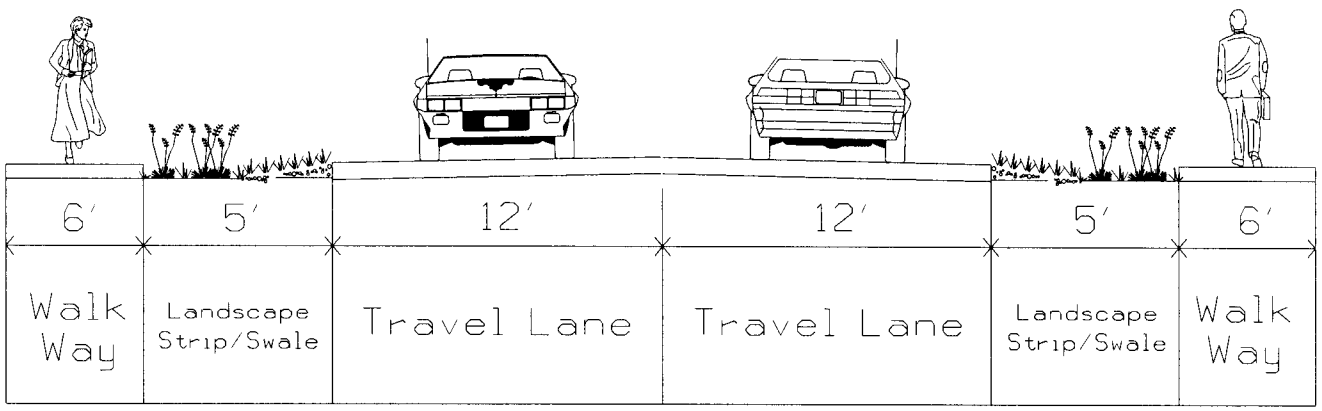


Local street ***option 2*** indicates that the local streets will have a right-of-way requirement of 66 feet with a cross-section consisting of:

- Two 12 foot wide travel lanes
- 5 foot landscaped strips that may include planting trees or other landscaping plants on both sides of the roadway. Grassy swales may be incorporated into landscape strips at the discretion of the Town as they provide storm drainage as well as separate pedestrians from vehicles.
- 6 foot separated paved pedestrian facilities on both sides of the roadway – one 6 foot separated paved pedestrian facility may be allowed at the discretion of the town.

Option 2 allows the town a cross section similar to current standards but incorporates the requirement of sidewalks and landscape strips into the cross-section.

Figure 13 – **Local Street** Cross Sections – **Option 2**

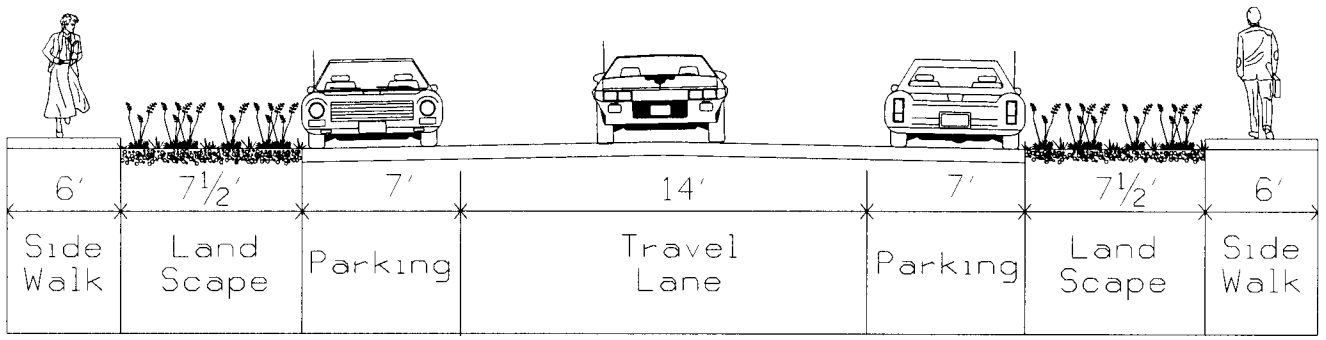


Local street ***option 3*** provides a 66 foot right-of-way containing:

- Two 7 foot travel lanes (one 14 foot)
- 7 foot parking strips on each side of the street
- 7½ foot landscape strips on each side of the street
- 6 foot sidewalks on each side of the street
- The remaining 11 feet of the right-of-way will provide an area reserved for utility placement. At the discretion of the town, the utility area may be split, placing 5½ feet on each side of the street as needed.

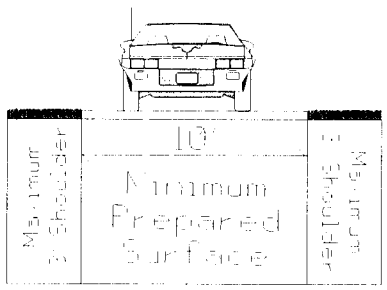
Option 3 allows the town a cross section that provides reduced paved surface resulting in more efficient use of land and reduced storm water run-off. This option costs less to construct, improve, and maintain and encourage more cautious driving and slower speeds, providing safety and convenience for pedestrians and bicyclists.

Figure 14 – **Local Street** Cross Sections – **Option 3**



Alleys will have a 16 foot right of way and a required 10 foot minimum prepared road surface. Bicycles and pedestrians will share the roadway.

Figure 15 – **Alley** Cross Sections



Through the flexible road standards provided in Table 8, the Town of Lexington will have the ability to reduce impervious surface and provide site-specific standards for roadway improvement projects that reflect local conditions. The optional availability of streetscape treatments such as landscape strips and on-street parking may be valuable to the town in the future as an instrument by which the character of roadways can be influenced. For example, narrow collector streets may be desirable in neighborhood areas as a speed deterrent for traffic on local streets. The landscaping strips are recommended between street and sidewalk on arterial and minor collector facilities to provide a buffer between cars and pedestrians. Locating the landscaping strip between the street and the pedestrian facility also allows for areas with no obstructions or impediments that would prevent or discourage pedestrian movements.

Connectivity

The Town has a grid system in place and considers the continuation of the grid an important element to promote greater connectivity for all modes of transportation. Figure 16 illustrates several potential road connection points that with future development will improve Town connectivity. However, due to the topography of the Town there are major complications in the feasibility of possible connections. The Town intends to encourage the completion and continuation of the grid pattern that is already in place, and considers it an important piece in maintaining the rural character of the Town.

Relation to Development Activities

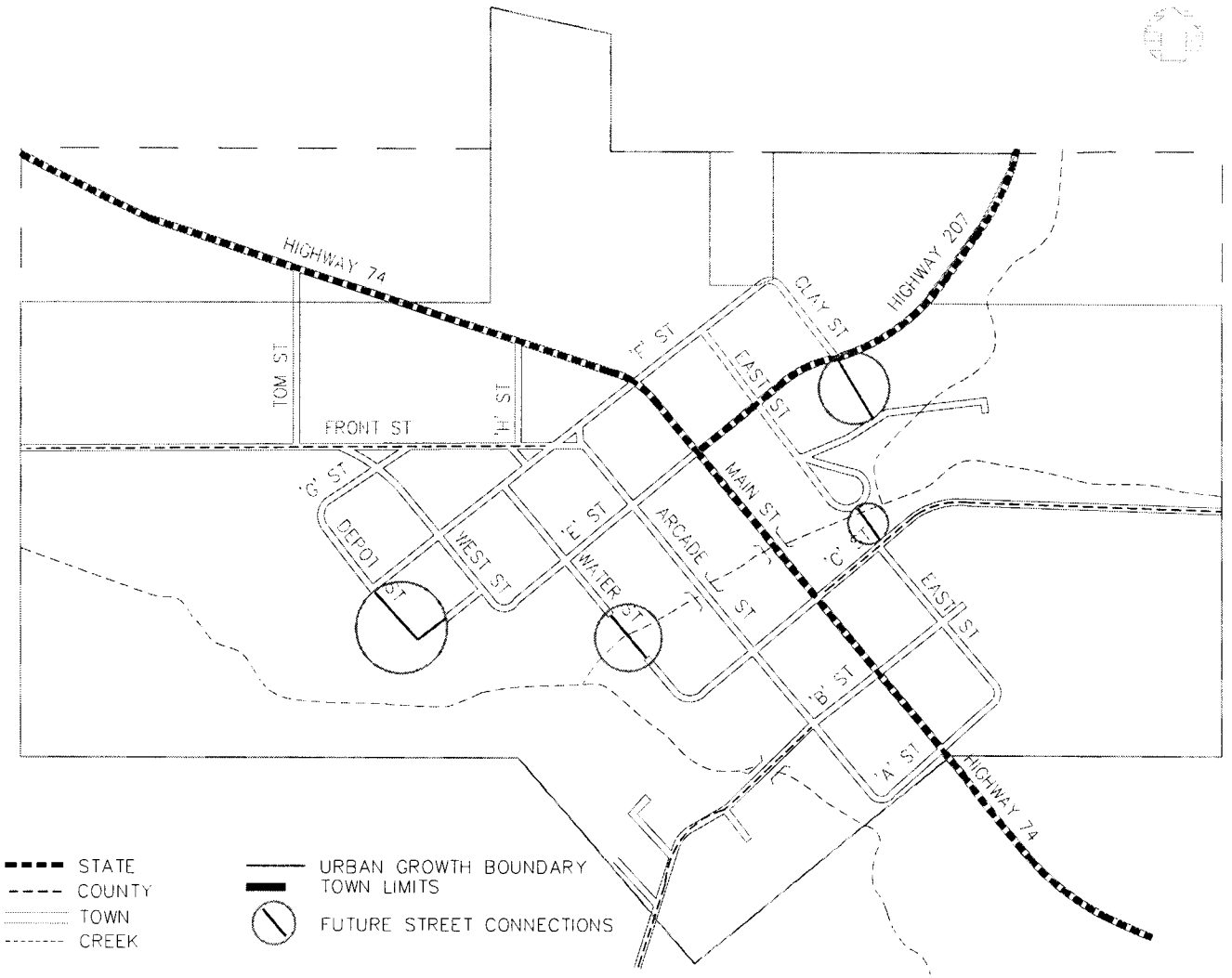
At the time development activities are proposed, the Town of Lexington, when appropriate, will require half-street improvements as part of a given project's conditions of approval. The conditions of approval should require that roadways adjacent to development activities be constructed to comply with the street standards presented in this TSP. Section 7, **Policies and Land Use Ordinance Modifications**, provides sample development review guidelines that are recommended for adoption by the town.

Relation to County Facilities

The Morrow County Transportation System Plan identified roadway standards for county facilities. The county's right-of-way requirement for Rural Access Roadways is 60 feet is in line with the 60 foot right-of-way requirement identified for local collector roads in this TSP. Although the county's Rural Access Roadways may be applicable to some roadways within the Town of Lexington Urban Growth Area, the roadway standards contained in the Town of Lexington TSP do not conflict with the county's standards. The county's Rural Access Roadway standards are intended for roads that do not exhibit substantial traffic volumes now but may be expected to expand in the future, hence the additional right-of-way requirement. It is likely that the county roads will become collectors when incorporated into town limits.

By comparison, the 66 foot right-of-way required on town streets designated as being residential roads reflects the expectation that these roadways will not require additional widening in the long-term future. The town's collector designation would be an appropriate counterpart to the county's Rural Access Roadway designation.

Figure 16 – Potential Street Connections



Parking Restrictions

To ensure adequate intersection sight distance, curbside parking should be prohibited within 20 feet of the edge of a given intersection.

Access spacing standards for the respective roadway classifications are presented later within this section.

ROADWAY IMPROVEMENT PROGRAM

Transportation infrastructure improvements within the Town of Lexington urban growth boundary over the next 20 years to meet both short- and long-term needs are listed below in Table 9. The projects have been divided into three time periods; 0 to 5 years, 5 to 10 years, and concurrent with local development.

Table 9 – Roadway Improvements

Improvement Description	Estimated Cost*	Responsible Jurisdiction
Near-Term, High Priority Projects (0-5 years)		
Inventory and Review Posting of Town Signing	$1,000	Town

Modify Town Ordinances to Ensure Connectivity Between Town Facilities and Future Residential Developments	Administrative	Town
Reduce Vehicular Reliance Through Zoning and Development Code Revisions	Administrative	Town
Improve West Street pavement conditions	Estimated at $60,000 per 1000' of finished roadway including sidewalks & landscaping	Town/County/ODOT
Improve Front Street pavement conditions	Estimated at $60,000 per 1000' of finished roadway including sidewalks & landscaping	Town/County/ODOT
Improve "E" Street pavement conditions	Estimated at $60,000 per 1000' of finished roadway including sidewalks & landscaping	Town/County/ODOT
Influence Highway 74 Streetscape – Improve roadway, add landscaping, sidewalks, curbs, etc.	$560,000	Town/ODOT
Mid-Term Projects (5-10 years)		
Improve "B" street pavement conditions	Estimated at $60,000 per 1000' of finished roadway including sidewalks	Town/County/ODOT
Improve "C" street pavement conditions	Estimated at $60,000 per 1000' of finished roadway including sidewalks	Town/County/ODOT
"F" Street Intersection Restriping/Traffic Control Modification	$15,000	Town/County/ODOT
Implement Transportation Demand Management Measures	Not applicable	Town
Concurrent with Development and Improvement Projects		
Influence Highway 207 Streetscape – Improve roadway, add landscaping, sidewalks, curbs, etc.	$560,000	Town/County/ODOT
Promote Access Management along Highway 74 and Highway 207	Administrative	Town/ODOT

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

ACCESS MANAGEMENT STRATEGIES

Access management is an important tool for maintaining a transportation system. Too many access points along arterial streets lead to an increased number of potential conflict points between vehicles entering and exiting driveways, and through vehicles on the arterial streets. This leads to not only increased vehicle delay and deterioration in the level of service on the arterial, but also a reduction in safety. Research has shown a direct correlation between the number of access points and collision rates. Experience throughout the United States has also shown that a well-developed access plan for a street system can minimize local cost for additional capacity and/or access improvements along unmanaged roadways. Therefore, it is essential that all levels of government maintain the efficiency of existing arterial streets through better access management.

The Transportation Planning Rule (TPR) defines access management as measures regulating access to streets, roads and highways from public roads and private driveways and requires that new connections to arterials and state highways be consistent with designated access management categories. As the Town of Lexington continues to develop, the arterial/minor collector/local street system will become more heavily relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/minor collector street system as new development occurs. Access locations on roadway sections need to be properly located to ensure safe and efficient travel along a given transportation facility. Access locations should be placed appropriately to limit potential conflicting turning movements, weaving maneuvers over short distances, and congestion along facilities.

One objective of the Lexington TSP was to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the town's streets. From a policy perspective, the Oregon Department of Transportation has legal authority to regulate access points along Highway 74 and Highway 207 within the town's urban growth boundary. The Town of Lexington will manage access on other minor collector and local streets within its jurisdiction to ensure the efficient movement of traffic and enhance safety.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways in the upper echelon of the functional classification system (i.e., arterials) tend to have stringent spacing standards, while facilities ranked lower in the functional classification system allow more closely spaced accesses. The following discussion presents the access management system for roadways in Lexington.

ODOT Access Management Standards

Access management is important to promoting safe and efficient travel for both local and long distance users along Highways 74 and 207 in and around Lexington. The *1999 Oregon Highway Plan* specifies the access management spacing standards and policies for state facilities. Future developments on state highways (zone changes, Comprehensive Plan amendments, redevelopment, and/or development) will be required to meet the Access Management Spacing Standards of the 1999 OHP. Although Lexington may designate state highways as arterial roadways within their transportation system, the access management for these facilities follows the Access Management Spacing Standards of the 1999 Oregon Highway Plan

Highway 207 and Highway 74 South of Highway 207 are categorized in the 1999 Oregon Highway Plan as Regional Highways. The primary function of these highways is to provide connections and links to regional centers, Statewide or Interstate Highways, or economic or activity centers of regional significance. The management objective is to safe and efficient, High-speed, continuous flow operation in rural areas and moderate to high-speed operations in urban and urbanizing areas. A secondary function is to serve land uses near these highways. Inside Special Transportation Areas (STA), local access is also a priority.

Highway 74 North of Highway 207 is categorized in the 1999 Oregon Highway Plan as a District Highway. According to the OHP, the primary function of these highways is to provide connections and links between small-urbanized areas, rural centers and urban hubs, and serve local access and traffic. The management objective is to provide for safe and efficient, moderate to high-speed continuous flow operation in rural areas reflecting the surrounding environment and moderate to low-speed operation in urban and urbanizing areas for traffic flow and for pedestrian and bicycle movements. Inside Special Transportation Areas (STA), local access is also a priority.

To assist in implementing state access management standards and policies, the 1999 Oregon Highway Plan also recognizes that state highways serve as main streets of many communities, such as downtown Lexington. Shorter block lengths and a well-developed grid system are important to a downtown area, along with convenient and safe pedestrian facilities. In general, downtown commercial arterial streets typically have blocks 200 to 400 feet long, driveway access sometimes as close as 100-foot intervals and occasionally; signals may be spaced as close as every 400 feet. The streets in downtown areas must have sidewalks and crosswalks, along with on-street parking. The need to maintain these typical downtown characteristics must be carefully considered along with the need to maintain the safe and efficient movement of through traffic. The Oregon Highway Plan recognizes the main street function through the designation of Special Transportation Areas (STAs).

Special Transportation Area

A Special Transportation Area (STA) is a designation that may be applied to a state highway, when a downtown, business district, or community center straddles the state highway within a community's urban growth boundary. STAs can include central business districts but they do not apply to whole cities or strip development areas along individual highway corridors. The primary objective of a STA is to provide access to community activities, businesses and residences, and to accomplish pedestrian, and bicycle movements along and across the highway in compact central business district. An STA designation will allow reduced mobility standards, accommodate existing public street spacing, compact development patterns, and enhance opportunities to provide improvements for pedestrians and bicyclists in the downtown area. Inclusion in a STA allows for redevelopment with exception to the proposed access management standards.

Access management in STAs corresponds to the existing city block for public road connections and discourages private driveways. However, where driveways are allowed and land use patterns permit, the minimum spacing for a driveway is 175 feet or mid-block if the current city block spacing is less than 350 feet. In addition, the need for local street connections may outweigh the consideration of maintaining highway mobility within a STA. In Lexington, the area along Highway 74 (ODOT Highway Number 52) between B Street (milepost 36.68) and F Street (milepost 36.34) exemplify the design features of a historic downtown. Within this segment of downtown highway, buildings are spaced close together, parking is on street, and the posted speed limit is 30 mph. The compact development pattern qualifies this area for consideration of an STA highway segment designation.

Upon adoption of the TSP by the Lexington City Council and a finding of compliance with the Oregon Highway Plan, the City of Lexington and ODOT Region 5 may jointly designate this segment of Highway 74 (ODOT Highway Number 52) as an STA

through a Memorandum of Understanding (MOU). The MOU will incorporate by reference the TSP and the following STA Management Plan provisions.

The primary objective of the proposed Lexington STA is to provide access to community activities, businesses and residences, and to accommodate pedestrian, and bicycle movements along and across the highway in the city's commercial area.

The designation of an STA in Lexington is intended to accommodate the existing public street spacing and compact development pattern. Specific access management conditions for the Lexington STA on Highway 74 (ODOT Highway No. 52) include:

- The minimum spacing for public road approaches in the STA is the city block spacing of approximately 325 feet.
- Public road connections are preferred over private driveways. Private driveways are discouraged in a STA.
- Where land use patterns permit, ODOT will work with the City and property owners to identify appropriate access to adjacent property owners within the STA.
- Where a right to access exists, access will be allowed to property at less than the designated spacing standard only if that property does not have reasonable alternative. Where possible, other options should be considered, such as joint access.
- Where the right to access exists, the number of driveways to a single property shall be limited to one. ODOT will work with the City and property owners if additional driveways are necessary to accommodate and service the traffic to the property, and will not interfere with driver expectancy and the safety of through traffic on the highway.
- Driveways shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Locations in areas of restricted sight distance or at points that interfere with the placement and proper functioning of traffic control signs, lighting or other devices that affect traffic operation will not be permitted.
- If a property is landlocked (no reasonable alternative exists) because a driveway cannot be safely constructed and operated and all other alternatives have been explored and rejected, ODOT might be required to purchase the property. However, if a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT has no responsibility for purchasing the property.

Traffic movement on and off the state highway operates at LOS A or better, correlating to a volume to capacity ratio of <0.48. Increased traffic volumes over the 20-year projection period will not affect the level-of-service (LOS) or meet the maximum volume to capacity ratio of 0.85 for Highway 74 (Regional Highway) south of Highway 207 or 0.80 for Highway 74 (District Highway) north of Highway 207 within the city's urban growth boundary. To maintain highway mobility through a STA in Lexington, land use development decisions (within the urban growth boundary) shall not cause traffic flow to exceed a volume to capacity ratio of 0.85 for a regional highway and 0.80 for a district highway. The posted speed limit in the STA is currently and will remain at 30 miles per hour as allowed by state statute in a business district. Curb (parallel or perpendicular) parking is permitted in the STA, provided minimum sight distance requirements are met for all public road connections and private driveways. Parking in this area is adequate at this time. No signals or traffic control devices currently exist in this area.

The designation of an STA in Lexington further identifies the need to accommodate pedestrian, and bicycle movements along and across the highway in the compact central business area. The recommended urban arterial standard for a state highway within the STA consists of a 70 foot right-of-way with a paved width of 50 feet that includes:

- two 12 foot travel lanes
- 5 foot bike lane on each side of the road
- 8 foot parking strip on each side of the road
- 6 to 10 foot walkway on each side of the road
- Planting strip of 0 to 5 feet depending on the width of the walkway and available right-of-way

To accommodate bicycle movements along the highway, bike lanes should be installed within the STA and extended to the City limits near A Street (milepost 36.76) and H Street (milepost 36.24), as recommended in the TSP, though the segment between the bridge and E Street may pose constraints to bike and pedestrian movement. The bridge is not wide enough to accommodate bicycle and pedestrian movement along Highway 74. The cut slope along the Morrow County School District Office also poses constraints to bicycle and pedestrian movement. In addition, Bicycle and Pedestrian movement needs to be accommodated along Highway 207 ('E' street), while other bicycle and pedestrian improvement should occur along identified collector and minor collector roadways as development and roadway improvements occur.

Another essential component to accommodate pedestrians in a STA is street crossings. The Town has applied to ODOT for inclusion of crosswalk enhancements, but were denied, as there was not enough traffic to warrant a crosswalk. The Town recognizes the need for safe crossing facilities and will ask ODOT to include a crossing facility during any future work conducted by ODOT within the Town. Future improvements and modifications to the highway within the STA and within the curb line, or if no regular established curb, to the r/w utilized for highway purposes will be made in accordance with the Oregon Highway Design Manual and with ODOT approval.

Existing maintenance and operational strategies along Highway 74 will be employed within the STA, consistent with Oregon Revised Statute 373.020, as follows:

ODOT shall be responsible for the ongoing maintenance of:

1. The roadway surface between curbs, or if no regular established curb, to that portion of right-of-way utilized for highway purposes
2. Painting centerline stripe
3. Designated school crosswalk delineation, directional and regulatory signs except those signs described as the City's responsibility
4. Plowing snow one blade-width of centerline stripe provided there are no conflicts with utilities.

Lexington shall be responsible for the on going maintenance of:

1. Storm sewer system
2. Sidewalks
3. Landscaping
4. Luminaries
5. U-turn signs, parking signs, and street name signs
6. Painting parking-stripes and other pavement delineation not described as ODOT's responsibility
7. Snow removal from parking strip

Future improvements and modifications to the highway within the STA will include maintenance and operational strategies with ODOT and City approval. Impact on Local Development Activities

Future developments along Highway 74 and Highway 207 (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the 1999 *Oregon Highway Plan* Access Management policies and standards (Appendix C of 1999 Oregon Highway Plan).

At unsignalized intersection and road approaches, the *1999 Oregon Highway Plan* indicates that the maximum volume to capacity ratio of 0.95 within a Special Transportation Area and 0.85 outside of a Special Transportation Area shall not be exceeded for intersections and road approaches.

The existing legal driveway connections, public street intersection spacing, and other accesses to the state highway system are not required to meet the spacing standards of the assigned category immediately upon adoption of this transportation system plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, ODOT is required to ensure that all safety and capacity issues are addressed.

Proposed land use actions that do not comply with the designated access spacing policy will be required to request consideration for deviation from ODOT based on deviation standards and policies outlined in the 1999 Oregon Highway Plan.

Town Standards

Table 10 identifies the minimum public street intersection and private access spacing standards for the Town of Lexington roadway network as they relate to new development and redevelopment. Table 11 identifies standards for private access driveway widths. In cases where physical constraints or unique site characteristics limit the ability for the access spacing standards listed in Tables 10 and 11 to be met, the Town of Lexington should retain the right to grant an access spacing variance. County facilities within the town's urban growth boundary should be planned and constructed in accordance with these street design standards.

Table 10 – Minimum Intersection Spacing Standards

Functional Classification	Public Street (feet)	Private Access Drive (feet)
State Highways	See Access Management Spacing Standards, 1999 Oregon Highway Plan (Appendix C of OHP)	
Other Arterials and Major Collectors within UGB	600	300
Minor Collector	300	75
Local	150	15

Table 11 – Private Access Driveway Width Standards

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	12	24
Multi-Family Residential	24	30
Commercial	30	40
Industrial	30	40

Management Techniques

From an operational perspective, the Town of Lexington should consider implementing access management measures to limit the number of redundant access points along the arterial and minor collector roadways. This will enhance roadway capacity and benefit circulation. Improvements that should be considered include:

- Planning for and developing intersection improvement programs in order to regularly monitor intersection operations and safety problems;
- Purchasing right-of-way and closing driveways; and
- Installing positive channelization and driveway access controls as necessary.

Enforcement of the access spacing standards should be complemented with the availability of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously effect the viability of the impacted properties. Thus, if an access management approach is taken, alternative access should be developed prior to "land-locking" a given property.

As part of every land use action, the Town of Lexington should evaluate the potential need for conditioning a given development proposal with the following items, in order to maintain and/or improve traffic operations and safety along the arterial and minor collector roadways:

- Crossover easements should be provided on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels. Figure 14 illustrates how this process would in the long run, facilitate compliance with access management objectives.
- Conditional access permits should be issued to developments having proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing driveways.
- Right-of-way dedications should be provided to facilitate the future planned roadway system in the vicinity of proposed developments.
- Half-street improvements (sidewalks or pedestrian facilities, curb and gutter, bike lanes/paths, and/or travel lanes) should be provided along site frontages that do not have full-buildout improvements in place at the time of development.

Using these guidelines, all driveways, and roadways along the state highways will eventually comply with the access spacing policy set for a particular segment of roadway as development and redevelopment occurs in the study area. State Highways are managed by the Oregon Department of Transportation and access and other state highway alterations must be submitted to the

Department of Transportation for review and the authorization of the proper permits. It should be noted that not every parcel can or should be addressed through the process. The topography of the parcel, type of proposed or adjoining use, and/or highway frontage may preclude a development from using consolidated or crossover access points (e.g., consolidating access for a commercial business and an industrial or agricultural land use would be inappropriate).

PEDESTRIAN SYSTEM PLAN

The pedestrian and bicycle system plan is shown in Figure 17. The key objective in the development of the pedestrian and bicycle system plan was to provide connectivity between major activity centers. Within Lexington, these activity centers include locations such as the school building, town offices (fire station), the convenience market on the northwest corner of the Highway 207/Highway 74 intersections, and commercial businesses such as restaurants along Highway 74.

Pedestrian Facilities

Under the pedestrian component of the plan, pedestrian facilities would be provided along all major roadways in an effort to develop and maintain a comprehensive pedestrian system. As shown in Figure 17, sidewalks are to be provided along Highways 74 and 207 throughout the town. It is essential that existing sidewalks be connected to new pedestrian facilities as new developments are constructed or as road improvements are made. Pedestrian facilities should be included in any full reconstruction of arterials or minor collectors. Provision of sidewalks or pedestrian facilities along one or both sides of key local roads is also encouraged.

Bicycle Facilities

Given the lack of existing bicycle infrastructure, and recognizing the rural character of the town, the bikeway system plan shown in Figure 17 was developed. As shown in Figure 17, the scope of the plan is proposed to be limited to designate on-street bicycle facilities along Highway 74 and Highway 207. The bikeway component of the overall system plan, while somewhat limited, provides for essential connections into and out of town. The existing and forecast traffic volumes and speeds along other roadways within Lexington do not warrant exclusive on-street bicycle lanes; the volumes and speeds are well within the range that permits bicyclists to comfortably and safely share the roadway with motorists. Therefore, the remainder of the town's minor collector and local street system is proposed to remain as shared facilities.

There are bicycle and pedestrian constraints along State Highway 74 between the bridge and "E" Street. The bridge is not wide enough to provide safe accommodations for pedestrians and bicycles to safely pass. The bridge sidewalk is not Americans with Disabilities Act compliant.

The cut slope located along the School District Office also constrains bicycle and pedestrian movement. Substantial improvements need to be made to ensure safe bicycle and pedestrian movement along the state facility.

To ensure that safe bicycle and pedestrian travel is available, a separate multi-use path may need to be constructed in order to accommodate non-motorized travel.

Figure 17 – Pedestrian and Bicycle System Plan

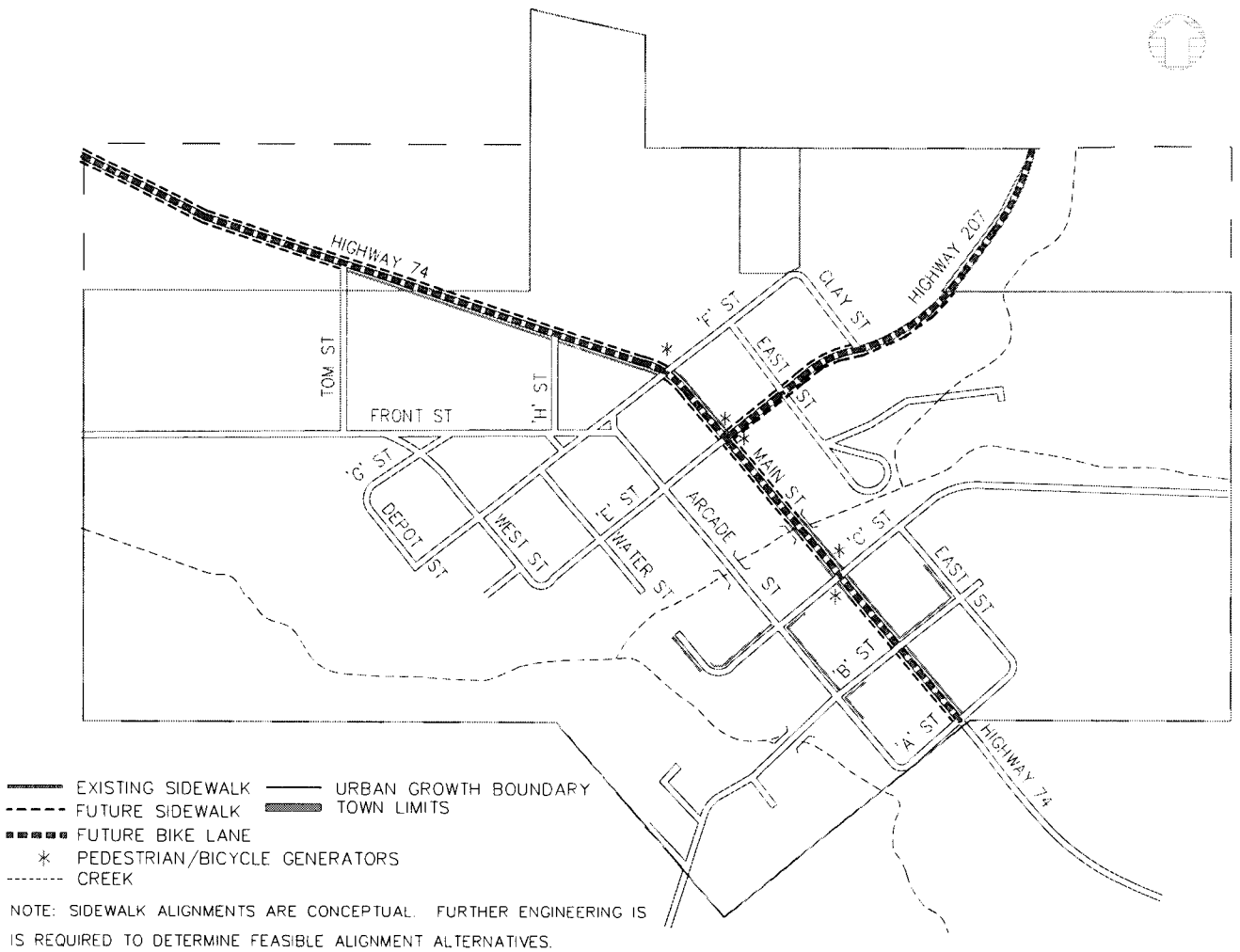


Table 12 provides a summary of pedestrian and bicycle system projects as well as corresponding cost estimates. The projects have been categorized into a near-term, mid-term, and long-term planning horizon to reflect the need to first connect major activity centers and then develop adjoining facilities in an incremental manner that recognizes the local budget constraints.

Table 12 – Pedestrian and Bicycle System Improvements

General Alignment	Project Start/End Point	Improvement Description	Estimated Cost*	Responsible Jurisdiction
Near-Term, High Priority Projects (0-5 years)				
Highway 74	"E" Street to "H" Street	Sidewalk/Bike Lanes	$36,000	Town/ODOT
Highway 74	"E" Street to "A" Street	Sidewalk/Bike Lanes Improvements (STIP)	Cost of this project is included in the cost estimate outlined in Table 9	Town/ODOT
"E" Street – Highway 207	West Street to Clay Street	Sidewalk/Bike Lanes	$25,000	Town/ODOT
Mid-Term Projects (5-10 years)				
"F" Street	West Street to Clay Street	Sidewalk	$15,000	Town/Private
"B" Street	South of Highway 74	Sidewalk	$13,000	Town/Private

Long-Term Projects (10-20 years)				
Arcade Street	"F" Street to "A" Street	Sidewalk	$18,000	Town/Private
Concurrent with Development Projects				
Highway 74	North of "F" Street to northern town limit	Sidewalk	$26,000	Town/ODOT
"C" Street	North of Highway 74	Sidewalk	$17,000	Private/Town
Front Street	"F" Street to Tom Street	Sidewalk	$22,000	Private/Town

*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

**The cost of individually providing bike lanes was not estimated because the provision of bike lanes is likely to be completed in conjunction with future reconstruction of the two respective highways. The shoulder widths vary through town with some areas requiring widening and other simply involving restriping. The cost to restripe lanes is estimated to be $0.25 per lineal foot; the cost of reconstructing the roadway shoulders has the potential to be much more substantial due to required cut/fill, asphalt, drainage, and other necessary improvements. Due to funding limitations ODOT is currently in a preservation/maintenance funding mode, hence the development of bike lanes is not anticipated until the long-term future.

In reviewing the cost estimates presented in Table 12 it should be noted that the cost estimates for sidewalk facilities assume minimum slope grading work, drywells for drainage, roadside curbing, and the sidewalk itself.

The remainder of the sidewalk facilities identified in Figure 17 should be provided in conjunction with development or redevelopment of adjacent properties. Similarly, many of the sidewalk and multi-use facilities presented in Table 12 could be completed incrementally as part of local development projects. Creating "partnership programs" with landowners and businesses to construct such facilities would be one method by which individual projects could be brought to fruition in a timely manner. The pedestrian facilities could be constructed as adjacent properties develop, thereby ensuring alternative modes of access to various land uses. The town would however, need to develop a reasonably equitable methodology of assessing the extent of facilities that individual developers would be required to provide.

PUBLIC TRANSPORTATION SYSTEM PLAN

Transit service provides mobility to community residents who do not have access to automobiles and provides an alternative to driving for those who do. Transit service should meet the needs both of travelers within the town and those of travelers making trips outside of the community.

The *1997 Oregon Public Transportation Plan* identifies minimum level of service standards for rural and frontier communities such as the Town of Lexington. Under the *1997 Oregon Public Transportation Plan*, public transportation in small communities and rural areas in the year 2015 (under Level 3-Respond to State and Federal Mandates and Goals) should:

- Provide public transportation service to the general public based on locally established service and funding priorities;
- Provide an accessible ride to anyone requesting service;
- Provide a coordinated centralized scheduling system in each county and at the state level;
- Provide phone access to the scheduling system at least 40 hours weekly between Monday and Friday; and
- Respond to service requests within 24 hours (not necessarily provide a ride within 24 hours).

Service Enhancements

Overall, the Town of Lexington should continue to monitor the adequacy of the transit service provided to the community and work with the county to extend service as necessary. The local transit program should also seek to meet the 2015 minimum level of service standards identified in the *1997 Oregon Public Transportation Plan*. Three improvement strategies are identified below for further consideration.

Increase Public Awareness

Both the town and the county should promote a greater public awareness of the available public transit services and the need for additional volunteer dispatchers and drivers. Greater awareness of the service and its needs will likely result in increased usage and availability. Provision of better recognition for drivers and/or driver meetings would be an additional avenue by which to encourage more volunteer participation in the program.

Coordinate Trips

Consideration should be given to coordinating trip requests to other neighboring communities and areas outside the county such as Hermiston and Pendleton. For example, a given day of the week could be designated for trips to Pendleton. This would then allow the town's residents to visit specialized medical service providers or satisfy other needs on a scheduled basis. Similarly, weekly shopping trips to Hermiston or other communities could be established to allow community members to purchase commodities not available through local commercial and service providers.

A recent survey conducted by transportation provider staff suggests that coordination of medical visits could be difficult due to the unpredictable nature of office visits, though the need for such a service should be more closely examined. Assuming that the demand for such a service exists, a scheduled weekly service would lend itself to greater coordination with service providers in the neighboring communities of Ione and Heppner.

Close coordination between the Town of Lexington and adjacent communities is also encouraged and should increase ridership and efficiency through better use of the resources available. Such coordination could prove to be especially fruitful if the weekly trips previously discussed are established as a joint community service. Coordinated trips to local community events would likely generate significant interest. Ultimately, if an increased demand for service can be established and documented; additional resources (e.g., funding and equipment) may be successfully pursued through grant applications or other alternative financing sources.

Provide Commuter Service

It is recommended that a carpool or vanpool service be provided for people who live in Lexington and work in neighboring communities. Provision of a vanpool and/or carpools to major employers in the area could help to reduce the number of single occupant vehicle commute trips from Lexington and help the community to achieve transportation demand management (TDM) objectives.

Vehicle Replacement/Stationing in Lexington

Lexington should consider housing one of the Morrow County transit vehicles within the town. Similar to the communities of Heppner and Ione, a vehicle could be permanently stationed within the town and operated by volunteers on an as needed basis. Preliminary discussions with representatives from Morrow County indicate that such a service would be considered by the county and could be brought to fruition (The Morrow County transit program ultimately has the ability to finance a vehicle to be stationed in the Town of Lexington) if the Town of Lexington can demonstrate a need for such service. Lexington should pursue this and other transit opportunities.

An opportunity currently exists to pursue procurement of a vehicle in that the Morrow County Special Transportation Program replaces vehicles on an as-needed basis and the county has budgeted to replace one vehicle in 1999. The Town of Lexington should support the Morrow County Special Transportation Program in its pursuit of additional vehicles and funding.

MARINE SYSTEM PLAN

The Town of Lexington should actively support the continued presence and operation of port facilities along the Columbia River as an alternative means of transportation.

AIR TRANSPORTATION SYSTEM PLAN

Existing regional air service for passengers and freight is provided via the Lexington Airport as well as aviation facilities in Hermiston and Pendleton. The continued use and appropriate expansion of these facilities is recommended.

PIPELINE SYSTEM PLAN

No major pipelines within the Town of Lexington were identified at the time this TSP was prepared; creation of future facilities should be encouraged by the town as appropriate.

IMPLEMENTATION PLAN

This section has outlined specific transportation system improvement recommendations as well as a corresponding timeline for implementation of the identified improvements. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather ranks projects to be developed over 0 to 5 year,

5 to 10 year, and 10 to 20 year horizon periods. In this manner, the implementation of identified system improvements has been staged to spread investment in this infrastructure over the 20-year life of the plan.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the Town of Lexington is to develop in an orderly and efficient way. Consequently, the plans recommended in the TSP should be considered in light of developing infrastructure sequencing plans, and may need to be modified accordingly.

SUMMARY

The adoption and implementation of this Transportation System Plan will enable the Town of Lexington to address existing transportation system deficiencies while also facilitating growth in the study area population and employment levels assumed in this study.

Section 6

Transportation Funding Plan

Transportation Funding Plan

INTRODUCTION

The Transportation Planning Rule (OAR 660-12-040) requires that the Town of Lexington Transportation System Plan (TSP) include a transportation financing program. These programs are to include:

- a list of planned transportation facilities and major improvements;
- a general estimate of the timing for planned transportation facilities and major improvements;
- determination of rough cost estimates for the transportation facilities and major investments identified in the TSP (intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan(s) and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms); and,
- a discussion of existing and potential financing sources to fund the development of each transportation facility and major improvement (which can be described in terms of general guidelines or local policies).

Section 5 of this TSP identified the recommended improvement projects, an implementation timeline, and estimated improvement costs. This section provides an overview of the Town of Lexington's historic funding levels and available funding sources at a federal, state, county, and local level.

The timing and financing provisions in the transportation financing program are not considered a land use decision as defined by the TPR and ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under State law. In addition, the transportation financing program is intended to implement the comprehensive plan policies, which provide for phasing of major improvements to encourage infill and redevelopment of urban lands, prior to facilities that would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

TOWN OF LEXINGTON FUNDING HISTORY

The 1998-1999 Town of Lexington Street Fund provides an annual budget of $25,650. By comparison, $23,346 was allocated to the 1997-1998 Street Fund and $40,100 is approved for the 1999-2000 fiscal year. The Street Fund is primarily dedicated to the operation and maintenance of the town's transportation facilities. Maintenance and preservation are the major work activities performed on the local street system. Virtually all of the annual Street Fund budget is derived from the town's share of the statewide gasoline tax and motor vehicle fees. This revenue sharing is based on population and distributed on a proportional share basis to all cities and counties.

It is expected that, for the foreseeable future, whatever funding is made available to the town through state and county resources will be applied to the maintenance and preservation of the existing street system. Should the town obtain funds in excess of the budget necessary to maintain the existing system, the TPR will seek to balance the application of these funds across all modes of travel. Therefore, the list of identified needs provided in this TSP should be the primary source for future projects to be implemented.

OREGON TRANSPORTATION FUNDING HISTORY

Road-Related Funding

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the State. Through the fiscal year 1996, the matching ratio in Oregon for Interstate Funds was: Federal 92.22 percent and State 7.78 percent.

During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last three Oregon Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption. Nevertheless, fuel taxes are the largest single source of highway revenues at approximately $390 million annually. Weight-miles taxes are the second largest source of revenue to the Highway Fund, at approximately $215 million annually.

Oregon Highway Trust Fund revenues are distributed among State (60.05 percent), County (24.38 percent) and Town (15.57 percent) governments to fund their priority road needs. Under the 1997-1999 legislatively adopted Department of Transportation budget, a total of $2,284 million revenue dollars was identified. Of the total available revenue, approximately $317 million dollars was allocated to counties and $185 million to cities.

Oregon law allows local government, in addition to receiving state highway trust fund revenues, to levy local fuel taxes for street related improvements. Multnomah and Washington Counties, and some small cities (Tillamook, The Dalles, and Woodburn) have used this authorization. Several attempts have been made by other jurisdictions, but have not been supported by the local electorate. As few local governments have implemented this option, non-user road revenues tend to be relied upon to supplement the funds received from state and federal user revenues. Other local funding sources have included property tax levies, local improvement district assessments, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other miscellaneous sources.

Oregon's current fee for cars and other light vehicles weighing 8,000 pounds or less is $30 biennially. Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities in Oregon have relied more on transfers from their general funds to support roadway improvements, than have counties. Ballot Measure 5, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the property tax rate for purposes other than for payment of certain general obligation indebtedness to $15 per $1,000 of assessed value. The measure further divided the $15 per $1,000 property tax authority into two components: $5 per $1,000 dedicated to the public schools; the remaining $10 dedicated to other local government units, including cities, counties, special service districts, and other non-school entities. The tax rate limitation for cities and counties went into effect in July 1991. The school portion of the measure was phased in over a five-year period beginning in July 1991.

In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which further affected the ability of cities and counties to pay for needed infrastructure through historic or traditional means. Ballot Measure 50 was approved by Oregon voters in May of 1997 and through legislation became law in July 1997. Ballot Measure 50 repealed Measure 47 and made efficiency changes to Measure 5. Measure 50 limits taxes on each property by rolling back the 1997-1998 assessed value of each property to 90 percent of its 1995-1996 value. Measure 50 also limits future growth on taxable value to three percent per year, with exceptions for new items such as new construction, remodeling, subdivisions, and rezoning. Permanent tax rates for Oregon's local taxing districts are also established in Measure 50 that replaces the former tax base amounts of the district. Measure 50 allows voters to approve new short-term levies outside the permanent rate limit if approved by a double majority.

At the same time that increased growth and increased transportation demands are occurring, cities and counties have lost another traditional source of revenue for infrastructure construction and modernization - timber harvest receipts. Under a 1993 negotiated mitigation plan, federal forest receipts to support county roads are decreasing 3 percent per year. In 1996, counties received 74 percent of their 1986-90 average receipts, and by 2003, they will receive 55 percent of the late 1980s average receipts.

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, counties, or cities, for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the State, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996.

A result of these recommendations was the appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal included a process for identifying a "base" transportation system, with a priority of maintenance, preservation, and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. Other components included provisions for realizing efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. The State Legislature was unable to reach consensus on the means to collect and distribute the funds and the package failed.

A part of future transportation funding will include identification of relationships and responsibilities relative to delivery of projects and services. In Oregon, the primary state role has been to construct and maintain the state highway system and to assist local government with funding of other modes. The State also has a role in inter-city passenger services and airports. This historically has been minor but would grow significantly if serious efforts were put into inter-city transportation improvements. Local governments provide local transit and airport support, in addition to providing maintenance, preservation, and construction for local roads, streets, and bridges. The Federal Intermodal Surface Transportation Efficiency Act of 1991

(ISTEA) began moving decision-making for federal programs to states and this program and other state policies incorporated in the Oregon Transportation Plan (OTP) encourage reassessment of responsibilities and obligations for funding. The Transportation Equity Act for the 21st Century (TEA21), passed in 1998, has continued the efforts first initiated by ISTEA.

These changing relationships have resulted in two significant issues for State and local governments. First, there is no clear definition of State responsibility. At one time, the State operated on an informal consensus that it should provide one-half the match on federally funded, local, and other projects that served statewide needs. No similar consensus seems to exist today. The State's responsibility for transit, airports, and other local transportation infrastructure and services is not clear. The question of regional equity is raised in considering especially high-cost project needs, such as the Bend Parkway or the Portland area light rail program. Regional equity will probably require consideration of all modes together, because different regions may have different modal needs and financial arrangements.

Given this dynamic transportation-funding environment, it is clear that local governments need to reassess traditional methods of funding projects and look creatively at ways to meet public expectations of high quality transportation services.

Transit Funding

Transit service in Oregon has evolved from private development and reliance on user fees for operating revenue, to public ownership with public subsidy for operations. No clear philosophy of the State role in providing transit services is evident and the State is discussing how it should raise revenue in support of transit. The State has used general funds, lottery funds, cigarette tax revenue, and other funds at various times to support transit service. These efforts have largely been targeted towards supplying half the required match to federal capital improvement grants. To date, the State has provided no operating funds for transit, other than the elderly and disabled program. The State role has been one of granting authority to local governments to raise locally-generated operating revenue.

While the state's role in transit funding is limited, the ODOT Public Transit Section does currently administer three public transit funding sources. These include Small City and Rural Transit Assistance (Section 18), the Special Transportation Fund (STF), and Section 16.

The Small City and Rural Transit Assistance program is a federally funded initiative that provides capital to operate and acquire vehicles for public transportation systems in cities with populations of less than 50,000 and rural areas. This assistance program is funded annually through an appropriation from the Federal Transit Administration (FTA) to each state with funds allocated to eligible providers based on a three-part formula. Fifty percent of the funds are distributed based on population, 25 percent are based on ridership, and 25 percent are based on service hours. There is a 50 percent local match requirement for operating costs and a 20 percent match for capital costs. The program stipulates that service must be marketed as "public transit": exclusive transportation services such as those limited strictly to senior citizens or employers are not eligible for funding under this program. Additional funding details, application information, and general assistance with the Small City and Rural Transit Assistance is available through ODOT's Public transit Division.

The Special Transportation Fund is intended for elderly and disabled citizens and is funded through the State cigarette tax. Funding for the purchase of vehicles and equipment for special transportation providers (i.e., servicing the elderly and disabled) is provided through a federal funding program known as Section 16.

POTENTIAL TRANSPORTATION FUNDING SOURCES

There are a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state, and local governments. Appendix D (Tables D-1, 2, 3) provides a summary of federal, state, and local highway, bridge, sidewalk, and bicycle funding programs respectively, which have typically been used in the past. Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 47 severely limit the opportunities for this funding source.

Appendix D (Table D-2) presents details of the revenue sources for streets, bridges, sidewalks, and bicycle facilities currently used by cities. The information is summarized by type of facility, and indicates the percent of revenue each funding source represents for all cities in Oregon, likely trends for the source, known constitutional or other limitations, and their respective rates. The general status of each funding source is summarized in Table D-3.

Funding Program

To implement the full extent of transportation infrastructure projects identified in this TSP, major financial expenditures can be anticipated over the course of the next 20 years. The town can expect to make significant investments to improve transportation facilities for existing development and to improve minor collectors and arterials that serve the entire area. In future years,

however, the burden for expansion of the transportation network should be borne by the development community creating the additional demand.

Based on the recommended roadway improvement projects identified in Table 9, at least $16,000 of roadway improvements has been identified for completion within the next 20 years. Additional projects for which cost estimates could not be prepared are also anticipated, though the expenditures necessary to complete these additional projects are expected to be minimal, as they are essentially administrative matters.

The vast majorities of the anticipated transportation improvements involve pedestrian and bicycle facility enhancements. Pedestrian and bicycle improvement projects are expected to be implemented on a gradual basis as roadways are reconstructed, development activities occur, or alternative funding becomes available through grant projects or some other financing mechanism. Sidewalk and bicycle facilities located along Highway 74 and Highway 207 may be provided by the State at such time that the roadways are substantially reconstructed; otherwise little, if any, ODOT funding is anticipated for pedestrian improvements. Thus, the identified pedestrian and bicycle improvement projects will be financed either by the town or developers as appropriate. Funding programs such as the Transportation Enhancement Program provide funds for enhancing pedestrian and bicycle facilities, landscaping, and other scenic beautification that may be a source of funding for adding sidewalks, multi-use paths, and bicycle facilities. Additional funding may be available through the creation of Local Improvement Districts or through grant projects.

State Funding

ODOT operates and maintains Highway 74 and Highway 207 in the Town of Lexington. State and federal funds administered through ODOT will be the primary sources of funding for improvements to these facilities. Additionally, most Federal funding is passed through ODOT to local jurisdictions. Due to funding limitations, ODOT is currently in a preservation/maintenance funding mode. While improvement projects affecting ODOT facilities are documented in this TSP, the inclusion of such projects in the TSP does not obligate ODOT to finance them.

A good working relationship with ODOT Region 5 planning staff and the Region Manager will be important to ensure that major roadway improvement projects on state facilities within the town are included in ODOT's State Transportation Improvement Plan (STIP) when it is updated. The town and Morrow County should take an active role in jointly representing the transportation priorities of Lexington to ODOT during its process of formally incorporating priorities into the STIP. For its part, the Town of Lexington Transportation System Plan will provide ODOT with highway-related transportation projects of importance to the town and should be used as a basis for discussion with ODOT.

Local funding participation in projects on state facilities may enable the ODOT to accelerate the priority of an improvement identified in the STIP. While not normally a requirement of project funding, local participation does demonstrate a strong commitment to ODOT and the local funds may be used to leverage state funds.

Local Funding

The Town of Lexington should continue to pursue federal, state, and county transportation funds for transportation projects. Given the high level of annual expenditures needed for construction of the transportation projects identified, existing sources of transportation revenue are not expected to be adequate to meet the demand for new projects. To meet the additional funding needs, the town may wish to consider additional revenue-generating options such as systems development charges, local improvement districts, and street maintenance fees as discussed below. It should be noted that, even with increased funding, it might prove difficult to fund all of the projects identified in this TSP within the 20-year planning horizon. Accordingly, the town should review the identified improvement projects on a periodic basis to prioritize local transportation system funding such that it most appropriately reflects current and projected needs.

Transportation System Development Charge

The Town of Lexington does not currently have a transportation system development charge, which would be assessed to developers. This charge could be implemented by the town, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Lexington TSP study, it is recommended that the town undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements. The study should determine the feasibility of implementing SDC fees, particularly with respect to evaluating equitability with neighboring cities both in economic and political terms. For the present, the level of development in the Town is insufficient to warrant pursuing this funding method.

Local Improvement Districts

Local improvement districts could be formed to improve currently substandard and unimproved roads. These projects may or may not be fully completed within the 20-year planning horizon.

Street Maintenance Fee

The Town of Lexington could investigate local adoption of a street maintenance fee to raise revenues to be dedicated toward street rehabilitation projects. These revenues could also be used to supplement the current State Highway Fund (State gas tax and vehicle registration fees) revenues already used for on-going maintenance.

Additional Considerations

There are important limitations that should be considered with respect to additional funding options. For example, the dollar amount of SDCs that can be assessed must meet legal requirements for establishing SDCs. Also, the success of any funding plan will be reliant on the approval of the community. Accordingly, the involvement of citizens of the community in developing and implementing a funding package is essential.

SUMMARY

Transportation funding resources available to the Town of Lexington and ODOT are limited. It is expected that, for the foreseeable future, those funding sources that are available will predominantly be applied to maintenance and preservation of the existing transportation system. As additional funding becomes available, the list of transportation improvement projects identified in this TSP should used to select projects for implementation. In the interim, the Town of Lexington should consider developing alternative transportation funding sources such as System Development Charges, Local Improvement Districts, or Street Maintenance Fees as a mechanism by which to finance improvements to the town's transportation system. However, given the small population and low level of new development, the Town will most likely rely on grant funding for most projects.

Section 7

Policies and Land Use Ordinance Modifications

Policies and Land Use Ordinance Modifications

INTRODUCTION

The purpose of this document is to summarize recommended amendments to the tow's codes to implement the Transportation Planning Rule (TPR). Specific amendments to the Comprehensive Plan and Municipal Code are summarized below.

It is stressed that the Transportation Growth Management (TGM) Program has developed the "Model Development Code and Users Guide for Small Cities". The Communities are encouraged to refer to the model ordinance and guidebook for strategies and model code provisions that can be readily adapted, adopted, and implemented locally to focus and stimulate urban residential and commercial development. The Transportation Growth Management Program also may provide funding opportunities through the grant application process.

The Town of Lexington recognizes that the Transportation Planning Rule requires implementing measures for the Transportation System Plan and the associated development codes. As such, it is the intent of the Town to adopt the Transportation System Plan and the amended development code to help ensure smart development of the local transportation systems and modes.

Section 8

Transportation Planning Rule Compliance

Transportation Planning Rule Compliance

In April 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the Transportation Planning Rule (TPR), OAR 660 Division 12. The TPR requires local jurisdictions to prepare and adopt a Transportation System Plan (TSP) by 1997. Outlined below is a list of recommendations (designated by *italics*) and requirements for a TSP for an urban area with a population between 2,500 and 25,000, and how each of those were addressed in the Town of Lexington TSP. The comparison demonstrates that the Town of Lexington TSP complies with the provisions of the TPR.

DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

TPR Recommendations/Requirements	Town of Lexington TSP Compliance
Public and Interagency Involvement	
Establish Advisory Committees.	A Management Team and Technical Advisory Committee was established at the outset of the project. Membership on the Management Team included members of the Town, County, and ODOT staff. Membership on the Technical Advisory Committee included representatives from all facets of the community.
• Develop informational material.	Technical memoranda and current status reports of work undertaken and completed by the advisory committee were published and made available to the public throughout the project. Press releases concerning the project and opportunities for participation at public workshops were published and materials (including report text, charts, and maps) were prepared for review defining critical components of the Town's TSP.
• Schedule informational meetings; review meetings and public hearings throughout the planning process. Involve the community.	Three Management Team/TAC meetings were held through the planning process. The meetings were advertised by distribution of meeting notices. All TAC meetings were advertised and open to the public.
• Coordinate Plan with other agencies.	Coordination with the Town, ODOT, and Morrow County was accomplished by including agency representatives on the project mailing list, individual project briefings/meetings, and participation on the Management Team and the TAC.
Review Existing Plans, Policies, Standards, and Laws	
• *Review and evaluate existing comprehensive plan.*	The following plans were reviewed as part of the development of the TSP: *1991 Oregon Highway Plan,* (June 1991); 1996 *Oregon Bicycle Plan*; *Town of Lexington Comprehensive Plan,* (1979); Draft *Statewide Transportation Improvement Program* (2000-2003).

• *Land use analysis - existing land use/vacant lands inventory.*	In developing the forecast of transportation needs, an analysis was conducted of current land use designations and land status within the project area to determine the capacity for growth, which would increase demand for transportation services. Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and the economic role of the Town in the region. Estimates of needed housing, commercial, and employment lands were derived from these forecasts.
• *Review existing ordinances - zoning, subdivision, and engineering standards.*	Existing Town Subdivision Ordinances, Zoning Ordinances, and Comprehensive Plan engineering standards were reviewed for adequacy in the development of the Town of Lexington TSP.
• *Review existing significant transportation studies.*	Significant transportation studies reviewed as part of the Town of Lexington TSP include the above mentioned comprehensive plans and their associated transportation elements and the Morrow County TSP.
• *Review existing capital improvements programs/public facilities plans.*	The Morrow County CIP and the State TIP were reviewed as part of Town of Lexington TSP development.
• Americans with Disabilities Act requirements.	ADA requirements were reviewed and acknowledged as part of the Town of Lexington TSP development.
• Review current Transportation System Plan and evaluate compliance with the 1999 Oregon Highway Plan	Reviewed existing Transportation System Plan and updated document to reflect requirements, standards, and policies of the 1999 Oregon Highway Plan.
Inventory Existing Transportation System	
• Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, *truck routes, number and location of accesses, safety, substandard geometry*).	An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and levels of service is provided in Section 2: Existing Conditions.
• Bicycle ways (type, location, width, condition, *and ownership/jurisdiction*).	As noted in Section 2: Existing Conditions, there are no existing bicycle ways within the Town of Lexington.
• Pedestrian ways (location, width, condition, ownership/jurisdiction).	Section 2: Existing Conditions, summarizes the location of the existing sidewalk facilities within the Town of Lexington.
• Public Transportation Services (transit ridership, volumes, route, frequency, stops, fleet, intercity bus, passenger rail, and special transit services).	A summary of the existing public transportation services is presented in Section 2: Existing Conditions. Only Special Transit and Intercity Bus services exist within the Town of Lexington.
• Intermodal and private connections.	A summary of the existing intermodal and private carrier transportation services is presented in Section 2: Existing Conditions.
• Air transportation.	A summary of existing air transportation facilities is provided in Section 2: Existing Conditions.
• Freight rail transportation.	As noted in Section 2: Existing Conditions, there are no freight rail transportation services within

• Water transportation.	the Town of Lexington. A summary of water transportation services is provided in Section 2: Existing Conditions.
• Pipeline transportation.	A summary of pipeline transportation services is provided in Section 2: Existing Conditions.
• *Environmental constraints.*	Development of the TSP did not include the identification of environmental constraints beyond those specifically documented in the TSP.
• Existing population and employment.	As outlined Section 1: Introduction, the 1997 Town of Lexington population is approximately 290 persons in the town. This information and employment data cited in Section 3: Future Conditions Analysis is included in Future Conditions as the basis for the forecasts that were performed for this TSP.
Determine Transportation Needs	
• Forecast population and employment	Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and Town of Lexington's economic role. This information is summarized in Section 3: Future Conditions.
• Determination of transportation capacity needs (cumulative analysis, *transportation gravity model*).	Travel demand forecasts were undertaken as part of this project. The methodology for travel forecasting and assumptions used in the transportation model are contained in Section 3: Future Conditions, which presents an analysis of future transportation conditions and identifies capacity needs.
• Other roadway needs (safety, bridges, reconstruction, and operation/maintenance).	Non-capacity related transportation needs are identified and recommended for implementation in Section 5: Transportation System Plan.
• Freight transportation needs.	Freight transportation needs are adequately met via motor carrier freight services.
• Public transportation needs (special transportation needs, general public transit needs).	Public transportation needs are discussed in Section 5: Transportation System Plan.
• Bikeway needs. • Pedestrian needs.	Future bicycle and pedestrian improvements are to be made in conjunction with roadway improvements to provide cyclists and pedestrians with full accessibility to Town of Lexington's street system. Plans for these facilities are shown in Figure 15 of Section 5: Transportation System Plan.
Develop and Evaluate Alternatives	
• Update community goals and objectives.	Goals were established as part of the TSP development (see Section 1: Introduction).
• Establish evaluation criteria.	Evaluation criteria was established from the study goals and objectives and used to develop the Preferred Alternative presented in Section 5: Transportation System Plan.
• Develop and evaluate alternatives (no-build system, all build alternatives, transportation system management, transit alternative/feasibility, improvements/additions to roadway system, land use alternatives, combination alternatives).	Section 4: Alternatives Analysis includes a summary of the land use and transportation alternatives considered and analyzed for Town of Lexington's TSP. Land uses, roadway alternatives, transportation system management options, bike and pedestrian options were analyzed.

• Select recommended alternative.	A recommended alternative for roadways, bikeways, and pedestrian facilities is contained in Section 5: Transportation System Plan.
Produce a Transportation System Plan	
• Transportation goals, objectives and policies.	Section 7: Policies and Land Use Ordinance Modifications outlines specific recommendations regarding transportation goals and policies.
• Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).	The streets plan element is outlined in Section 5: Transportation System Plan.
• Public transportation element (transit route service, transit facilities, special transit services, intercity bus and passenger rail).	The public transportation element is outlined in Section 5: Transportation System Plan.
• Bikeway system element.	The bikeway plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Pedestrian system element.	The pedestrian plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.
• Airport element (land use compatibility, future improvements, accessibility/ connections/conflicts with other modes).	The airport element is outlined in Section 5: Transportation System Plan.
• Freight rail element (terminals, safety).	There is no rail service available or anticipated to serve the Town of Lexington.
• Water transportation element (terminals).	The water transportation element is outlined in Section 5: Transportation System Plan
Produce a Transportation System Plan (Continued)	
• *Transportation System Management element (TSM).*	TSM element not applicable per OAR 660-12-020(2)(f) and (g).
• *Transportation Demand Management element (TDM).*	TDM element not applicable per OAR 660-12-020(2)(f) and (g).
Implementation of a Transportation System Plan	
Plan Review and Coordination	
• Consistent with ODOT and other applicable plans.	See Section 7: Policies and Land Use Ordinance Modifications
Adoption	
• Is it adopted?	*To follow.*
Implementation	
• Ordinances (facilities, services and improvements; land use or subdivision regulations).	Included in Section 7: Policies and Land Use Ordinance Modifications.
• Transportation financing/capital improvements program.	The transportation finance plan is summarized in Section 6: Transportation Funding Plan.

Section 9

References

References

1. Oregon Department of Transportation. *Oregon Highway Plan.* 1991, 1999.
2. Transportation Research Board. *Highway Capacity Manual,* Special Report No. 209. 1994.
3. U.S. Department of Transportation, Federal Highway Administration. *Manual on Uniform Traffic Control Devices.* 1988.
4. KCM, Inc. *Morrow County Transportation System Plan Final Report.* March 1998.
5. Oregon Department of Transportation. *1997 Oregon Public Transportation Plan*. April 1997.
6. Oregon Department of Transportation. *State Transportation Fiscal and Statistical Data for 1997.* September 1998.
7. Oregon Department of Transportation. *Financial Services Website, http://www.odot.state.or.us/fspublic* May 1999.

Appendix A

Plan and Policy Review

Plans and Policies Review

Existing plan policies and other actions will influence the analysis of land use and transportation issues and the alternatives to address these issues as well as other community objectives. This appendix provides a summary of the plans and policies reviewed as part of the development of the Transportation System Plan.

TOWN OF LEXINGTON COMPREHENSIVE PLAN

Lexington's Comprehensive Plan and implementing regulations were acknowledged by the Land Conservation and Development Commission (LCDC) in July 1980. They were last amended in 1979. The Plan consists of eight chapters as follows:

Chapter I: Summary and Conclusions and Comprehensive Plan Map

Chapter II: Summary of Findings

Chapter III: Citizen Involvement

Chapter IV: Goals and Policies

Chapter V: Natural Environment

Chapter VI: Socio-Economic Environment

Chapter VII: Bibliography

Chapter VIII: Appendices

Most findings and policies relevant to this study are found in Chapters II, IV, and VI (under a detailed discussion of current conditions and future need for transportation facilities). Relevant findings and policies are summarized below.

Chapters II and IV

- Open Spaces, Scenic and Historical Areas and Natural Resources: Examine any publicly owned lands including street rights-of-way for their potential open space use before their disposition.
- Economic Development: Encourage commercial development to meet the needs of residents and visitors; and encourage diversified, non-polluting industrial development in order to provide a stable job market.
- Housing: Allow for residential development which provides prospective buyers with a variety of residential lot sizes, a diversity of housing types, and a range in prices.
- Public Facilities and Services: Develop, maintain, update and expand police and fire services, streets and sidewalks, water and sewer system, and storm drains as necessary to provide adequate facilities and services to the community.

Transportation Findings:

1. Most town streets are paved and well maintained.

2. At the time the Comprehensive Plan was prepared, the Union Pacific Railroad and State Highways 74 and 207 provided freight access to Lexington's commercial enterprises and grain elevators. Since the adoption of the Comprehensive Plan, the Union Pacific Railroad line in town has been abandoned.

3. Commercial air, bus and Amtrak services were available at Hinkle, Pendleton, Boardman, or Hermiston at the time the Comprehensive Plan was prepared. Amtrak service is no longer available at these locations. 4. Lexington Airport is located just north of the Lexington Urban Growth Boundary. The Comprehensive Plan identified the need for the Aeronautics Division of the Oregon Department of Transportation to calculate and map a clear zone for the crosswind runway and for Lexington and Morrow County to evaluate comprehensive plan designations for affected property.

Transportation Policies:

1. To develop good transportation linkages (pedestrian, vehicular, bicycles, etc.) between residential areas and major activity centers.

2. To encourage industry to locate in areas which are or can be served by the railroad.

3. To prioritize the paving of town streets.

4. To contract with Morrow County or the State of Oregon or private contractors to pave streets within the town when they are doing other work in the area.

Energy Conservation:

Develop subdivision regulations, which require that, the orientation of streets and buildings allow for utilization of solar energy and require landscaping to reduce summer cooling needs.

- Urbanization Finding: Annexation to the town will be limited to land included within the urban growth boundary (DLCD administrative rule and case law citations included).
- Urbanization Policy: To establish an urban growth boundary to identify and separate urbanizable land from rural land.

Chapters VI: Socio-Economic Chapter, Section on Transportation

- A well-planned transportation system is essential to serve the people and commerce of a community. A transportation system should be planned around the fulfillment of the following objectives:

  1. To provide an integrated transportation system that will link the town with regional production, distribution, and marketing centers.

  2. To incorporate safety and efficiency factors in transportation system design to allow people and goods to travel conveniently.

  3. To create a transportation system that is current, flexible, and coordinated with the comprehensive plan.

  4. Permit orderly and timely expansion of the transportation system in an economically feasible manner.

  5. To maintain and improve the transportation system to allow it to carry out its intended function.

- Future Transportation Needs include:

  1. The Town of Lexington should accumulate funds and provide for continued maintenance and expansion of their public streets and sidewalks.

  2. Lexington might benefit from an intra-city bus service especially to serve senior citizens, though most respondents to a community survey indicated they would not support bus service if it were provided.

IMPLEMENTING REGULATIONS

The Zoning Ordinance (Ordinance No. 79-1) as amended, implements the Comprehensive Plan by establishing specific standards for use of the land by zoning districts and other development standards. The ordinance contains regulations for off-street parking, loading, internal accesses, bicycle racks (in specific zones), and surfacing, but not development standards related to streets, use of streets or access standards.

The Subdivision Ordinance, last amended in 1996, requires the dedication of streets in subdivisions and contains street standards including street widths, as shown in Table A-1.

Table A-1 – Street Standards

Street Type	Minimum Right-of-Way	Minimum Pavement Width		Maximum Grade (percent)	
		Residential	Commercial/ Industrial	Residential	Commercial/ Industrial
Arterial	66	44	52	6	5
Collector	66	40	48	8	6
Continuous minor street	66	36	40	10	6
Minor street less than 2,400 feet in length	66	28	40	10	6
Alley	16	--	--	--	--

Other standards include minimum curve radius, minimum length of tangents between reverse curves, minimum sight distance, cul-de-sac radius, design speed, minimum length of vertical curves and pavement depths. Four-foot wide (minimum) sidewalks are required to be included within the dedicated non-pavement right-of-way for all roads. Concrete curbs also are required for all roads where sidewalks are required.

Other provisions include frontage on improved streets; topography and arrangements; intersection angles (no less than 75 degrees, with intersection of no more than two streets); minimum curb radius (20 feet for local streets and 25 feet if one or more streets is a collector); road surfacing; street names; excess right-of-way; and street lights. In non-residential subdivisions, street rights-of-way must be adequate to accommodate the type and volume of traffic anticipated to be generated and special requirements for street, curb, gutter and sidewalk design and construction may be imposed by the town. In addition, streets carrying nonresidential traffic, especially truck traffic are not normally to be extended to the boundaries of adjacent existing or potential residential areas.

STRATEGIC PLAN

The Town completed a Strategic Plan in April 1998. The plan identifies strengths, weaknesses, opportunities, and threats to the community in a number of areas: economic development; community services and development; infrastructure; and housing. Goals and Attendant Strategies are identified as part of the Strategic Foundation. The following are specific actions proposed by the Strategic Plan that could affect the TSP and land use alternatives.

GOAL: Establish a community recreation area for the community of Lexington.

Strategy: Identify available sites, form community self-help strategy, establish project scope and form funding partnerships.

Action Plan: Same as strategy.

GOAL: Upgrade and maintain the existing road system within the Town of Lexington.

Strategy: Develop scope, schedule, and costs of road improvements.

Action Plan: Same as strategy.

Appendix B

Description of Level-of-Service Methods and Criteria

Description of Level-of-Service Methods and Criteria

LEVEL OF SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various LOS from A to F.[1]

SIGNALIZED INTERSECTIONS

The six LOS grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average stopped delay per vehicle. Using this definition, LOS D is generally considered to represent the minimum acceptable design standard.

Table B-1 – Level of Service Definitions (Signalized Intersections)

Level of Service	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stop delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stop delay is in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered unacceptable to most drivers. This condition often occurs with over-saturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

1 – Most of the material in this appendix is adapted from the Transportation Research Board, Highway Capacity Manual, Special Report 209 (1994).

Table B-2 - Level of Service Criteria for Signalized Intersections

Level of Service	Stopped Delay per Vehicle (Seconds)
A	≤ 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60

UNSIGNALIZED INTERSECTIONS

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The *1994 Highway Capacity Manual* provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of LOS for unsignalized intersections is presented in Table B4. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard.

Table B-3 – Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Delay per Vehicle to Minor Street
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in queue.
B	• Some drivers begin to consider the delay an inconvenience. • Occasionally there is more than one vehicle in queue.
C	• Many times, there is more than one vehicle in queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in queue. • Drivers feel quite restricted.
E	• Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table B-4 – Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Total Delay per Vehicle (Seconds)
A	< 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. **While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections.** No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

Appendix C

Employment and Population Forecast Methodology

Employment and Population Forecast Methodology

COGAN
OWENS
COGAN

320 WOODLARK BUILDING
813 SW ALDER STREET
PORTLAND, OREGON 97205-3111
503/225-0192 • FAX 503/225-0224

PLANNING,
COMMUNICATIONS,
GOVERNMENTAL AND
COMMUNITY RELATIONS,
ENVIRONMENTAL STUDIES

MEMORANDUM

DATE: February 3, 1999

TO: Julie Kuhn

FROM: Matt Hastie MH

RE: **Morrow County Population and Employment Projections**

We have completed projections to be incorporated in Technical Memorandum #3 for the Morrow County TSP project. This memo outlines the methodology and assumptions used to develop projections for the cities of Boardman, Heppner, Ione, Irrigon and Lexington. For Boardman and Irrigon, we have estimated future population for the City and urban growth area (area between the existing city limits and urban growth boundary (UGB)). For the other cities, we have provided projections for the city limits only. All employment projections are for the cities only.

METHODOLOGY

Population

The Oregon Office of Economic Analysis (OEA) has developed population and employment forecasts through the year 2040for each county in Oregon. These are recognized as the official projections to be used by state agencies and local jurisdictions for planning purposes. Counties are responsible for allocating population to their cities and unincorporated areas. For the purposes of buildable lands and other planning studies, local jurisdictions may modify the OEA projections if agreed to by the appropriate coordinating state agency. In 1997, Morrow County, in coordination with the Oregon Department of Land Conservation and Development (DLCD) and the cities of Boardman and Irrigon, agreed to a modified set of 1997 population estimates and future projections. These projections assumed a higher rate of growth than forecast by the OEA through the year 2002 and incorporate the OEA growth rates from 2002 through 2020. The higher growth rates are based on substantial recent/ ongoing population and employment growth in the region. In addition, growth rates for specific cities are assumed to fluctuate from the county average in the near term.

We used these 1997 estimates and modified growth rates in our projections. In addition, we estimated the number of people within the urban growth areas of Boardman and Irrigon (based on the number of dwelling units and the average number

of people per dwelling unit in Morrow County) to estimate and project the population within the UGB for these two cities.

Employment

Current estimates of employment for individual cities are not available through the County, state or any of the individual jurisdictions involved in this project. As noted above, the state has developed county-wide employment projections for non-agricultural employment which can be used to estimate future growth rates for the county. In estimating current and future employment, we assumed the following:

- Between 1990 and 1997, employment growth rates mirrored those for population growth with these exceptions:
  - The rate of employment growth was slightly lower than population growth in Boardman, where employment growth was high but population growth was likely higher, due to significant employment growth in Umatilla County (i.e., some new Boardman residents in the workforce work in Umatilla County).
  - The rate in Irrigon was significantly lower than the rate of population growth, given Irrigon's "bedroom community" characteristics and the high rate of population growth there.
- Between 1997 and 2002, we also estimate a somewhat higher rate of employment growth than the original OEA projections, following the same logic used to develop population estimates, as well as the assumptions stated above.
- For 2002 - 2020, as with the population estimates, we assumed the employment growth rates projected by the OEA.

The attached tables show the projections.

POPULATION PROJECTIONS

County/City		1997	2000	2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow		9,895	9,828	11,179	2.5%	10,723	1.8%	11,594	1.6%	12,463	1.5%	13,322	1.3%
Adjusted Morrow		9,895	11,131	12,039	4.0%	12,701	1.8%	13,750	1.6%	14,812	1.5%	15,801	1.3%
Boardman	City and	2700	3,126	3,446	5.0%	3,635	1.8%	3,936	1.6%	4,240	1.5%	4,523	1.3%
	City and UGA	3062	3,545	3,908	5.0%	4,123	1.8%	4,463	1.6%	4,808	1.5%	5,129	1.3%
Heppner	City and	1480	1,502	1,517	0.5%	1,601	1.8%	1,733	1.6%	1,867	1.5%	1,992	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Ione	City and	310	319	326	1.0%	344	1.8%	372	1.6%	401	1.5%	428	1.3%
	City and UGA		-	-	1.0%	-	1.8%	-	1.6%	-	1.5%	-	1.3%
Irrigon	City and	1200	1,470	1,683	7.0%	1,776	1.8%	1,922	1.6%	2,071	1.5%	2,209	1.3%
	City and UGA	1444	1,769	2,025	7.0%	2,137	1.8%	2,313	1.6%	2,492	1.5%	2,658	1.3%
Lexington	City and	290	294	297	0.5%	325	1.8%	352	1.6%	379	1.5%	404	1.3%
	City and UGA		-	-	0.5%	-	1.8%	-	1.6%	-	1.5%	-	1.3%

EMPLOYMENT PROJECTIONS

County/City	1990	1997	2000 % change		2002 % change		2005 % change		2010 % change		2015 % change		2020 % change	
OEA Morrow Co. Proj.	2232	2,924	3,283	3.9%	3,449	2.5%	3,613	1.9%	3,890	1.5%	4,097	1.0%	4,290	0.9%
Boardman	641	1,029	1,261	7.0%	1,444	7.0%	1,528	1.9%	1,646	1.5%	1,730	1.0%	1,809	0.9%
Heppner	580	601	610	0.7%	616	0.5%	652	1.9%	702	1.5%	738	1.0%	772	0.9%
Ione	121	125	127	0.6%	128	0.5%	136	1.9%	146	1.5%	154	1.0%	161	0.9%
Irrigon	236	290	317	3.0%	336	3.0%	356	1.9%	384	1.5%	403	1.0%	422	0.9%
Lexington	108	110	110	0.2%	111	0.2%	117	1.9%	126	1.5%	133	1.0%	139	0.9%

Appendix D

Supplemental Funding Information

Table D-1 – Summary of road related transportation funding programs: Federal Sources

Program Name	Description
Community Development Block Grants (CDBG)	Community Development Block Grants are administered by the Department of Housing and Urban Development and potentially be used for transportation improvements in eligible areas.

Table D-2 – Summary of road related transportation funding programs: State Sources

Program Name	Description
State Highway Fund	The State Highway Fund composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carrier. In 1994, the state gas tax was $0.24 per gallons. Vehicle registration fees were $15 annually. Revenues are divided as follows: 15.57 percent to cities, 24.38 percent to counties, and 60.05 percent to ODOT. The city share of the State Highway Fund is allocated based on population. ORS 366.514 requires at least on percent of the State Highway Fund received by ODOT, counties, and cities be expended for the development of footpaths and bikeways. ODOT administers the bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.
Special Public Works Fund (SPWF)	The State of Oregon allocates a portion of revenues from the state lottery for economic development. The Oregon Economic Development Department provides grants and loans through the SPWF program to construct, improve, and repair infrastructure to support local economic development and create new jobs. The SPWF provides a maximum grant of $500,000 for projects that will help create a minimum of 50 jobs.
Transportation Access Charges	The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed, limited access corridors; service in high-demand corridors; and bypass facilities to avoid congested areas. Congestion pricing, where drivers are charged electronically for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements; but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods. ORS allow DODOT to construct toll bridges to connect state highways and improve safety and capacity. ORS also allow private development of toll bridges. Recent actions by the Oregon Legislature provide authority for developing toll roads. State authority for congestion pricing does not exist; new legislation would be required.
Immediate Opportunity Fund (IOF)	Financed at a level of $5 million per year to a maximum of $40 million through FY96. The fund is to support specific economic developments in Oregon through the construction and improvement of roads and is restricted for use in situations that require a quick response and commitment of funds. It is anticipated that the maximum amount available for single project is $500,000 or 10 percent of annual program level. This fund may be used only when other sources of financial support are unavailable or insufficient and are not a replacement or substitute for other funding sources.
Oregon Transportation Infrastructure Bank (OTIB)	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highway, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaries units at intersections between State highway and city and county streets, which are included on the statewide priority; and are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the Statewide signal priority list with local road requirements.

Table D-3 – Summary of road related transportation programs: Local Sources

Program Name	Description
Special Assessments – Local Improvement Districts	Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works projects as street paving, drainage, parking facilities, and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct and/or financial benefit to its owners. Local Improvement Districts (LIDS) are legal entities established by the City to levy special assessments designed to fund improvements that have local benefits.

	Through a local improvement district, streets or other transportation improvements are constructed and a fee is assessed to adjacent property owners.
Systems Development Charges (SDC)	Systems Development Charges are fees paid by land developers intended to reflect the increased capital costs incurred by a municipality or utility because of a development. Development charges are calculated to include the costs of impacts on adjacent areas or services, such as increased school enrollment, parks and recreation use, or traffic congestion. Numerous Oregon cities and counties presently use SDCs to fund transportation capacity improvements. SDCs are authorized and limited by ORS 223.297 – 223.314.
Local Gas Tax	A local gas tax is assessed at the pump and added to existing state and federal taxes. Tillamook, The Dalles, and Woodburn are examples of Oregon cities that have a local gas tax. Multnomah and Washington counties also have gas taxes.
Local Parking Fees	Parking fees are a common means of generating revenue for public parking maintenance and development. Most cities have some public parking and many charge nominal fees for use of public parking. Cities also generate revenues from parking citations. These fees are generally used for parking related maintenance and improvements.
Street Utility Fee	Most city residents pay water and sewer utility fees. Street user fees apply the same concept to city streets. A fee would be assessed to all businesses and households in the city for use of streets based on the amount of use typically generated by a particular use. For example, a single-family residence might, generate 10 vehicle trips per day on average compared to 130 trips per 1,000 square feet of floor area for retail uses. Therefore, the retail use would be assessed a higher fee based on higher use. Street services fees differ from water and sewer fees because usage cannot be easily monitored. Street user fees are typically used to pay for maintenance more than for capital projects.
Vehicle Registration Fees	Counties may implement local vehicle registration fee, operating similar to the state vehicle registration fee, a portion of which would be allocated to the Town.
Property Taxes	Local property taxes could be used to fund transportation, although this is limited by Ballot Measures 5 and 47.
Revenue Bonds	Revenue Bonds are bonds whose debt service is financed by user charges, such as services charges, tolls, admissions fees, and rents. If revenues from user charges are not sufficient to meet the debt service payments, the issuer generally is not legally obligated to levy taxes to avoid default, unless they are also based by the full faith and credit of the insuring governmental unit. In that case, they are called indirect general obligation bonds. Revenue bonds could be secured by a local gas tax, street utility fee, or other stable transportation revenue stream.

Table D-4 – Current Revenue Sources for Cities

Facility	Revenue Source	Importance (not 100%) (Millions of 1995 Dollars)	3 Year Trend	Dedication	Rate
Streets, Bridges, Sidewalks, Bike Lanes	Oregon Highway Trust Fund	51% of total road or $89	Growing at approximately 1.75% per year	Constitutionally limited to funding activities that benefit autos and trucks	24¢/gal. For gas; $30biennium registration fee.
	General Fund Transfers	9% or $15	Varies but assume growth @ 3%/year, but not used by all cities	May be used for any purpose	Varies widely
	Special Property Tax Levies	5% or $7	Increasing and only used by 18 cities	May be used for purpose described in election	Varies widely
	Improvement District Assessments	7% or $12.5	Varies but increases when local development increases	May be used for construction of adjacent streets and sidewalks	Varies with construction cost and local ordinances
	Systems Development Charges and Traffic Impact Fees	4% or $7	Varies but increases when local development increases, only used by about 2 dozen cities	May be used for construction of new streets	Varies with construction cost and local ordinances. Rates are generally higher in the Metro area
	Utility Franchise Fee	3% or $4	Flows roughly with population and inflation	Is a general revenue used by some cities for streets	Statutory limit of 5%of utility gross receipts

	Interest Earning	4% or $6	Varies with current interest rates	Have same Constitutional limits as Highway Fund	Used as general street revenue
	Local Gas Tax	0.44% or $0.7	Unchanged	Have same Constitutional limits as Highway Fund	Used by Tillamook, The Dalles, and Woodburn
	Private Contributions	3% or $4.3	Varies widely	Usually contributions are related to specific development street impacts	Negotiated individually
	Miscellaneous – Permit fees, finds, fines, parking, Motel Tax, others	8% or $14.5	Gradual Growth	General revenues use for streets	Varies widely by City
	Federal – FHWA and HUD	3% or $5.6	Relatively Stable	Used mainly for new construction with some rehabilitation	Based on federal allocation to Oregon
	Miscellaneous State Revenues – Mainly Lottery funds	2% or $3	Varies, no trend	Used mainly for economic development capital improvements	Specific grants to individual cities each year
Off Street Bike Paths	Miscellaneous general funds and ISTEA	Unknown	Varies from year to year	ISTEA and General funds used for construction, General Funds used for maintenance and repair	Varies from year to year

Table D-5 – Current Revenue Sources in Oregon

Transit Service Type/Function	Funding Source	Status
Urban Public Transportation – Portland and Eugene – Operating and Capital	1. Local Payroll Tax – operating 2. Federal Grants – Capital 3. Federal Grants – Operating 4. Fares and Advertising	1. Major Source — $100 million/year and growing – Sensitive to economic conditions 2. Major Source – $10 million/year – stable 3. Minor Source – $5 Million/year – declining 4. Minor Source – Growing with ridership
Urban Public Transportation – Salem, Corvallis, Medford, Kalamath Falls	1. Property Tax – Typically a taxbase or stand alone levy within $10 cap for local government services 2. Federal Grants – Capital 3. Federal Grants – Operating 4. Fares and Advertising	1. Major Source – Growing slowly 2. Major Source – $2 Million/year – Stable 3. Minor Source – $2 Million/year – Declining 4. Minor Source – Growing with ridership
Small City and Rural – Astoria, Union County, etc. – Operating and Capital	1. Local Payroll Tax – Typically within city or county operating levy 2. Federal Grants – Capital 3. Federal Grants – Operating 4. Fares and Advertising	1. Major Source – Stable 2. Major Source – Declining 3. Minor Source – Declining 4. Minor Source – Stable
Mobility for Seniors and People with Disabilities – Operating and Capital	1. Special Transportation Fund - 2¢ State cigarette tax for operating and capital 2. Social Service Agency grants and contracts for operating 3. Local Property Tax – typically within city or county operating levy 4. Federal Grants – Capital and Operating 5. Fares, donations, and adverising	1. Major Source – $5 million/year – Declining 2. Major Source – Declining 3. Minor Source – Stable 4. Major Source – Declining 5. Minor Source – Stable
Inter-city Bus – Operating and Capital	1. Major Interstate Routes: Fares 2. Branch and Feeder Routes: Private capital and fares	1. Sole Source – Declining 2. Private