

GRANT PRODUCT

Grant file # PR-4-99-023

City of Umatilla Transportation System Plan

Umatilla, Oregon

Prepared For:
City of Umatilla
300 6th Street
Umatilla, Oregon 97882
(541) 922-3226

Prepared By:
Kittelson & Associates, Inc.
610 SW Alder, Suite 700
Portland, OR 97205
(503) 228-5230

February 1999

Project No. 2613.08

Table of Contents

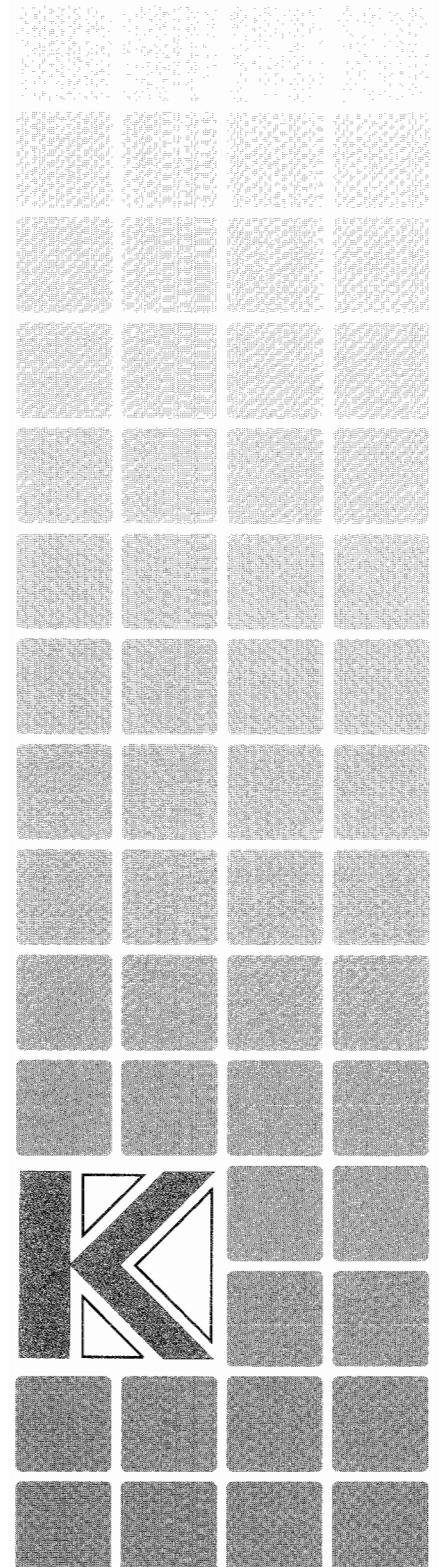


Table of Contents

Introduction.....	2
Study Area	2
Public Involvement And Study Goals.....	4
Transportation System Plan Study Methodology and Organization.....	5
Existing Conditions.....	8
Introduction.....	8
Transportation Facilities	8
Pedestrian/Bicycle Generators And Connectivity.....	15
Pedestrian System	17
Bicycle System.....	17
Public Transportation System	19
Air Transportation System.....	19
Railroad Transportation System	19
Marine Transportation System.....	20
Irrigation Canal/Water System	20
Pipeline Transportation System	21
Traffic Operations Analysis.....	21
Traffic Safety	26
Other Identified Existing Transportation Deficiencies	29
Conclusion	31
Future Conditions	34
Introduction.....	34
Transportation Demand	34
Historical Traffic Growth.....	37
Planned Transportation Improvements	37
Travel Demand Forecasting Methodology	37
Summary	42
Alternatives Analysis.....	44
Introduction.....	44
Intersection Improvements.....	44
Highway 395/Highway 730 Intersection	44
Umatilla River Road/Highway 730 Intersection.....	45

Table of Contents (Continued)

Powerline Road/Highway 730 Intersection	46
Highway 730 Intersections Between Eiselle Drive and The Northbund Interstate 82 Interchange Ramps.....	52
Eiselle Avenue/Highway 730 Intersection.....	55
Interstate 82 Interchange	55
Highway 730 Fire Signal	59
Summary	59
Transportation System Plan	61
Introduction.....	61
Roadway System Plan.....	61
Pedestrian System Plan	69
Bikeway System Plan	71
Public Transportation System Plan.....	73
Railroad System Plan.....	73
Marine System Plan	73
Air Transportation System Plan.....	73
Irrigation Canals/Water System Plan.....	74
Pipeline System Plan	74
Access Management Strategies.....	74
Implementation Plan	83
Summary	83
Transportation Funding Plan.....	85
Introduction.....	85
City of Umatilla Funding History	85
Oregon Transportation Funding History.....	86
Potential Transportation Funding Sources.....	88
Proposed Transportation Improvement Program.....	88
Potential Funding Sources	93
Policies and Land Use Ordinance Modifications.....	95
Review of Plans & Policies of the City of Umatilla & Recommendations for Compliance with the Transportation Planning Rule	95
Background	95
Comprehensive Plan	96

Table of Contents (Continued)

Municipal Code Title 10: Zoning Regulations	99
Land Division Regulations	99
Public Facilities Plan	99
Summary	99
Transportation Planning Rule Compliance	117
References	124

List Of Figures

Figure 1 Study Area	3
Figure 2 Summary of Roadway Jurisdictions	9
Figure 3 Locations of On-Street Parking and Paved Roads	10
Figure 4 Average Daily Traffic Volume Data	16
Figure 5 Existing Sidewalk and Bicycle Facilities	18
Figure 6 Existing Lane Configurations and Traffic Control Devices	22
Figure 7 1997 Existing Traffic Volumes, Weekday PM Peak Hour	24
Figure 8 Locations of Anticipated Development Activity	36
Figure 9 Historic Growth Trends on Highway 730	38
Figure 10 2017 Forecast Traffic Volumes, Weekday PM Peak Hour	40
Figure 11 Powerline Road/Highway 730 Intersection Potential Improvements	48
Figure 12 Functional Classification Roadway Cross Sections	63
Figure 13 Recommended Roadway Network and Functional Classification System	65
Figure 14 Recommended Pedestrian Plan	70
Figure 15 Recommended Bikeway Plan	72
Figure 16 Example of Crossover Easements and Conditional Access Policy/Process	82

List Of Tables

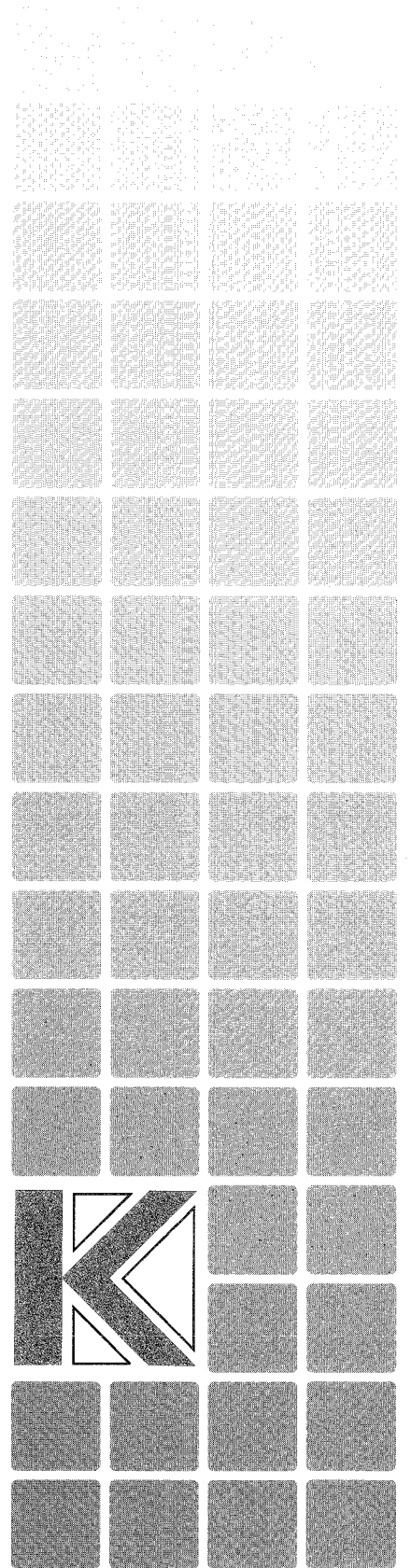
Table 1 Highway 730 Existing Conditions	12
Table 2 Existing PM Peak Hour Level of Service, Signalized Study Intersections	23
Table 3 Existing PM Peak Hour Level of Service, Unsignalized Intersections	25
Table 4 Study Intersection Accident Rates	27
Table 5 Planned Developments	35

List Of Tables (Continued)

Table 6 20-Year Traffic Annual Growth Projections	37
Table 7 Forecast Year 2017 PM Peak Hour Level of Service, Signalized Study Intersections.....	41
Table 8 Forecast Year 2017 Weekday PM Peak Hour Level of Service, Unsignalized Intersections..	42
Table 9 Interstate 82 Interchange Year 2017 Stacking Distance Analysis	56
Table 10 Roadway Classifications and Standards	66
Table 11 Highway 730 Minimum Intersection Spacing Standards	75
Table 12 Minimum Intersection Spacing Standards	80
Table 13 Private Access Driveway Width Standards	81

Section 1

Introduction



Introduction

The City of Umatilla, in conjunction with the Oregon Department of Transportation (ODOT), initiated a study of the City of Umatilla's transportation system in the late fall of 1997. The purpose of this study is to guide the management of existing transportation facilities as well as the development of future facilities over the next 20 years.

This study has been prepared in compliance with State of Oregon legislation requiring local jurisdictions to prepare a Transportation System Plan (TSP) as part of their overall Comprehensive Plan. Accordingly, this document is formatted to provide the necessary elements for the City of Umatilla to assemble its Comprehensive Plan. In addition, this document provides Umatilla County and ODOT with recommendations for incorporation with their respective planning.

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), requires that all jurisdictions develop the following:

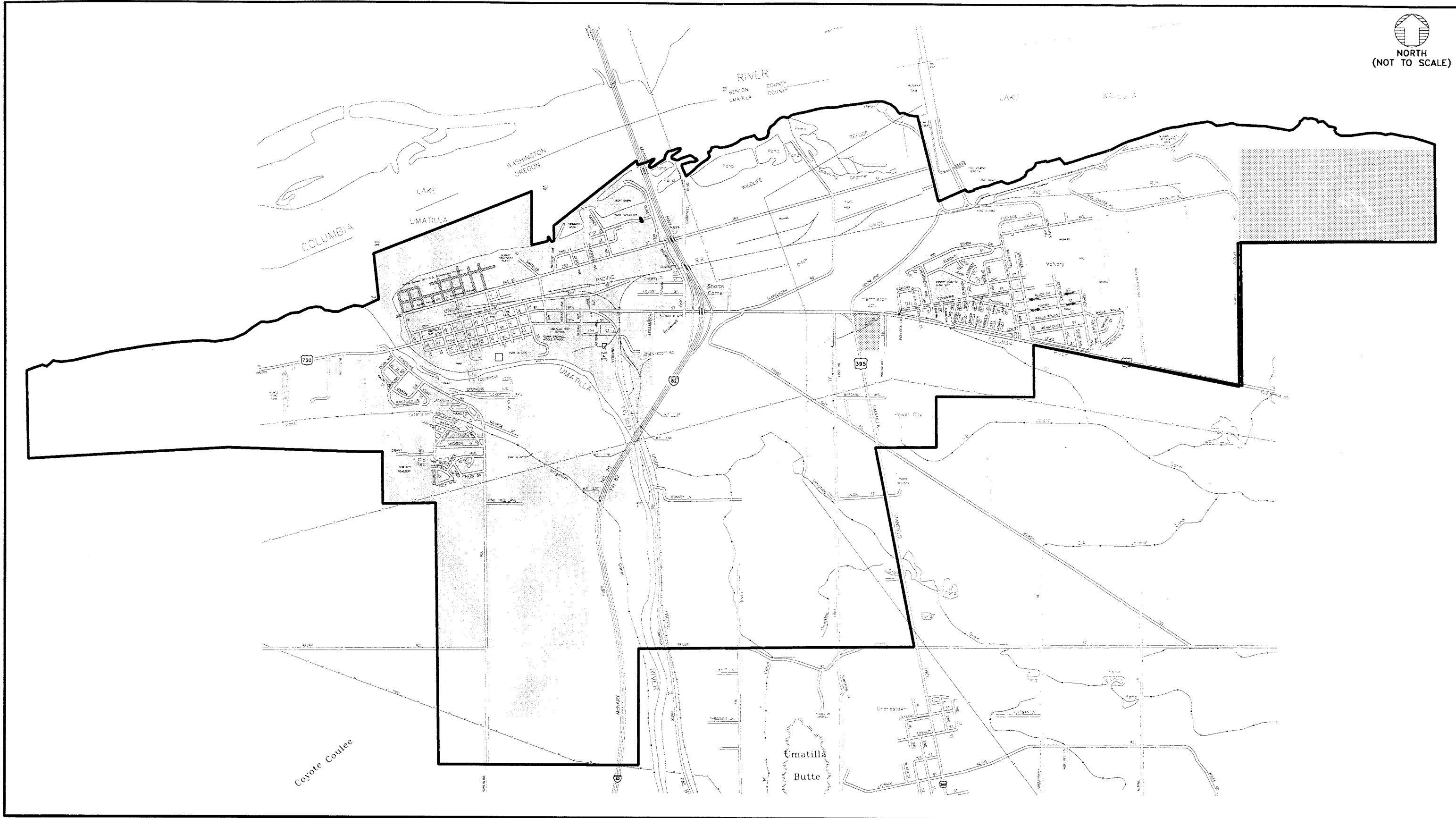
- A road plan for a network of arterial and collector streets
- A public transit plan
- A bicycle and pedestrian plan
- An air, rail, water, and pipeline plan
- A transportation finance plan
- Policies and ordinances for implementing the transportation system plan

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 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 Umatilla is located in Eastern Oregon on the shore of the Columbia River. The study area for this TSP is shown in Figure 1 and is bounded by the City's urban growth boundary (UGB). As shown in Figure 1, Umatilla is located at the crossroads of several inter- and intra-state transportation facilities including Interstate 82, Highway 730, Highway 395, and the Columbia River.

The City of Umatilla is located along one of the major roadway facilities linking the states of Oregon and Washington and serves as a gateway location for commercial traffic between the two states. The Portland State University Center for Population Research estimates a 1998 population of 3,515 for the City of Umatilla. Beyond the City of Umatilla, the nearest population centers are Boardman and Irrigon to the west; Hermiston and Pendleton to the south and east, and the Tri-Cities area of Washington to the north. At a distance of approximately five miles, Hermiston is the next closest population center.



LEGEND

— URBAN GROWTH BOUNDARY

▨ CITY LIMITS

STUDY AREA
 CITY OF UMATILLA, OREGON
 TRANSPORTATION SYSTEM PLAN
 FEBRUARY 1999

Currently, the City of Umatilla and the region as a whole, is experiencing unprecedented growth associated with the development of facilities such as the Umatilla Army Depot Chemical Weapons Incinerator and Wal-Mart distribution center, located in Hermiston, and the Two Rivers Correctional Facility, located on the eastern fringe of Umatilla's city limits. Resource-based enterprises currently comprise a large portion of the local employment base with the remaining local employment consisting of service, retail, industrial/manufacturing, and public service related activities.

PUBLIC INVOLVEMENT AND STUDY GOALS

The TSP planning process provided the citizens of Umatilla 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 served as guidelines for developing and evaluating alternatives, selecting a preferred transportation plan, and prioritizing improvements.

To facilitate the planning process, two committees were formed to guide the planning process: the Management Team and the Citizens Advisory Group. The Management Team was comprised of representatives of the City of Umatilla, Umatilla County, ODOT, and the consultant team. The Citizens Advisory Committee included members from all walks of life within the City including business persons, representatives of the local police and fire departments, the Port of Entry, and residents of the City itself.

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 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 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, including evaluation of traffic signal warrants as appropriate.
5. Identify access spacing standards.
6. Provide an acceptable level of service at all intersections in the City, recognizing the rural character of the area.
7. Identify existing and potential future safety concerns as well as strategies to address those concerns.
8. Provide enhanced access to Highway 730 for the Umatilla Rural Fire District Station 1.

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 the Columbia River as a means of transportation.
3. Encourage the continued use of local freight rail service provided by Union Pacific Railroad.
4. Encourage the continued use of public transportation services.

Goal 4

Identify and prioritize transportation improvement needs in the City of Umatilla, 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 Umatilla's Transportation System Plan began with an inventory of the existing transportation system. 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 2017) 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 a recently compiled buildable lands inventory, reasonable assumptions could be drawn as to the potential for and location of future development activities. **Section 3** of this report, *Future Conditions*, 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 system, as well as potential conflicts to implementation and integration with the surrounding transportation 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, a Marine Plan, and a Rail/Air/Canal/Pipeline plan.

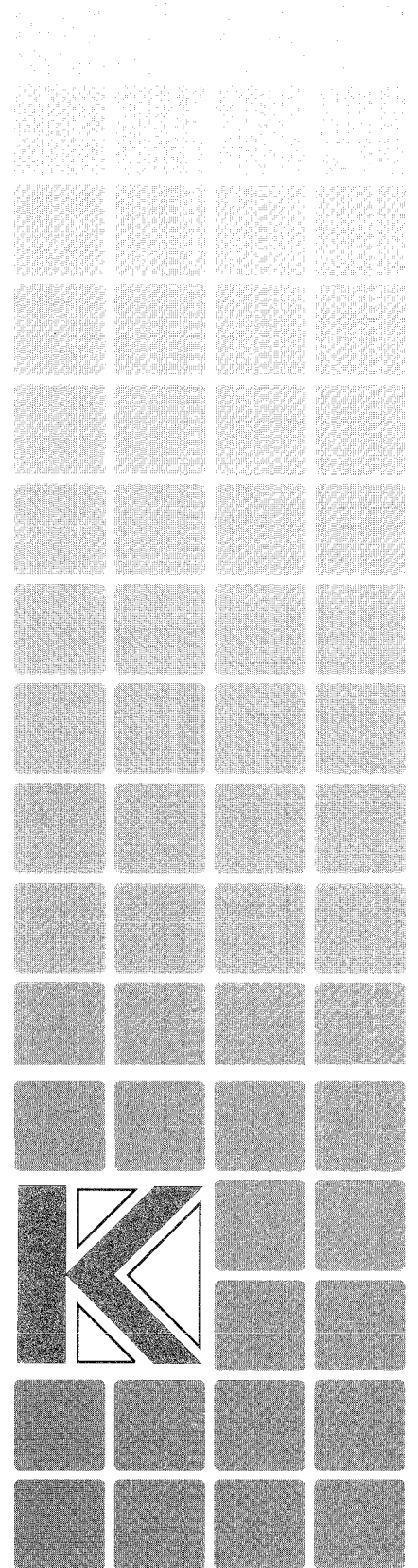
Section 6, *Transportation Funding Plan*, provides an analysis and summary of the alternative funding sources available to finance the identified transportation system improvements.

Early in the process of developing a TSP for the City of Umatilla, it was recognized that 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 insure compliance with the TPR, several comprehensive plan and zoning ordinance modifications have been developed. 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 Umatilla 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 transportation system and land use conditions. This section describes the existing conditions for all transportation modes that the transportation system plan will address including roads, bicycles, pedestrians, transit, rail, air, marine, water transmission, electrical transmission, and pipeline modes. 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.

TRANSPORTATION FACILITIES

The transportation system within the City of Umatilla includes more than roadways that vehicles drive on; it also includes facilities for modes as varied as bicycles and riverboats. All of these facilities will be identified and discussed in detail in the following sections.

Jurisdictions

Four core jurisdictions are responsible for the bicycle, sidewalk, roadway, and marine facilities that are located within the study area. In many instances, transportation facilities are identified as essential facilities and included as a part of the transportation plan for more than one jurisdiction. Such duplicity is normally supplemented with intergovernmental agreements that identify the responsibilities each jurisdiction accepts regarding a particular facility. The jurisdictions responsible for facilities within the City of Umatilla UGB are:

- The Oregon Department of Transportation (ODOT)
- Umatilla County
- City of Umatilla
- U.S. Army Corps of Engineers

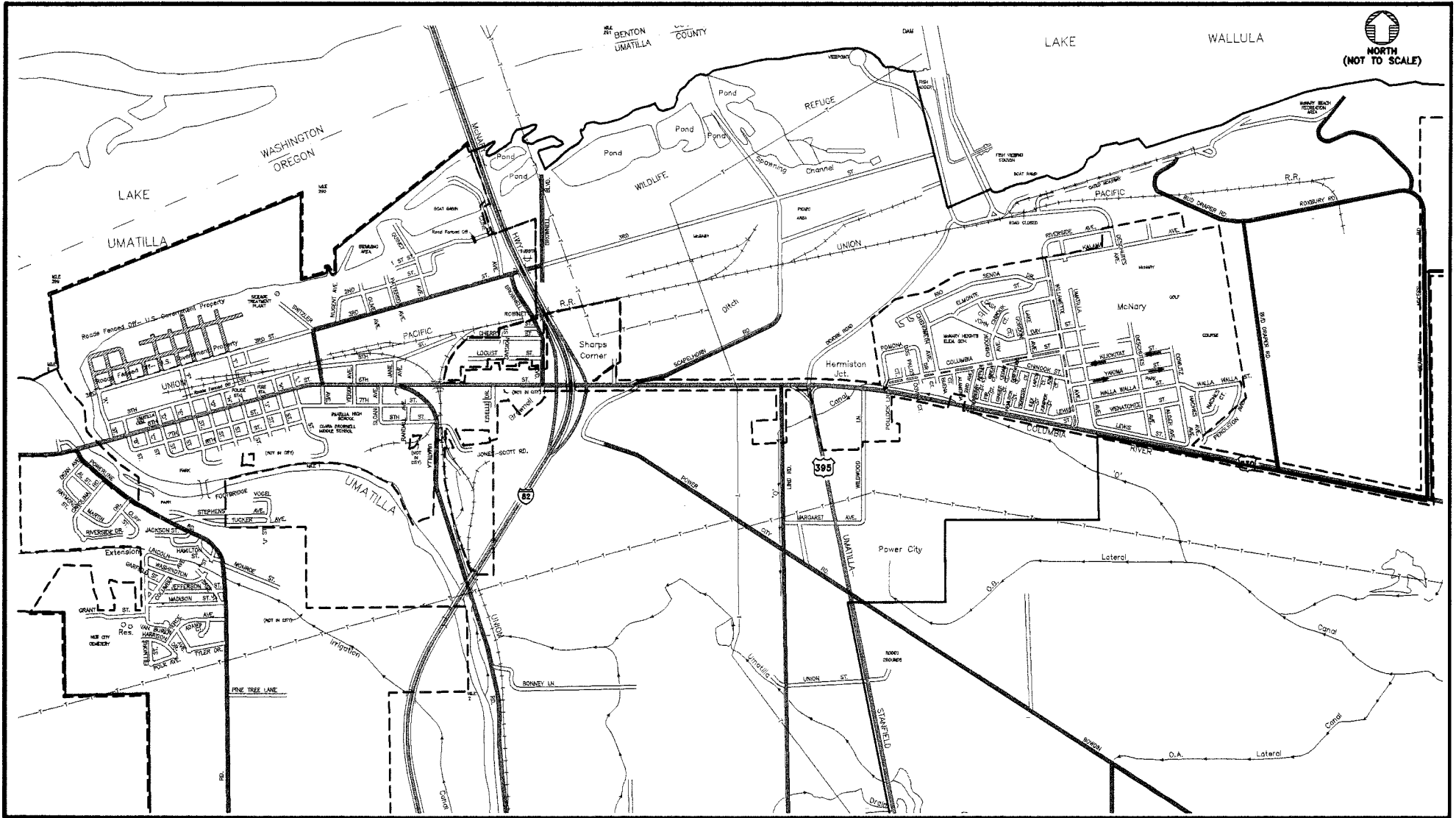
Roadway System

As part of this TSP, the entire existing public street system within the UGB was inventoried. The inventory identified locations of on-street parking, paved/unpaved roadways, existing traffic control, street widths, and posted speed limits. The following paragraphs summarize the findings of that inventory.

The roadway system within the City of Umatilla is collectively owned and maintained by three jurisdictions: ODOT, Umatilla County, and the City of Umatilla. Figure 2 identifies the jurisdictional ownership of the existing roadway facilities. All roadways not in color are, by default, owned by the City. Those roadways shown as shaded are controlled by the United States Government and are no longer available for public use.

On-Street Parking and Roadway Conditions

Figure 3 identifies the location of on-street parking and paved/unpaved roads within the city limits. As shown in Figure 3, the majority of the roadways within the study area have on-street parking on at least one side of the road. Unpaved roads can be found at various locations within the city.

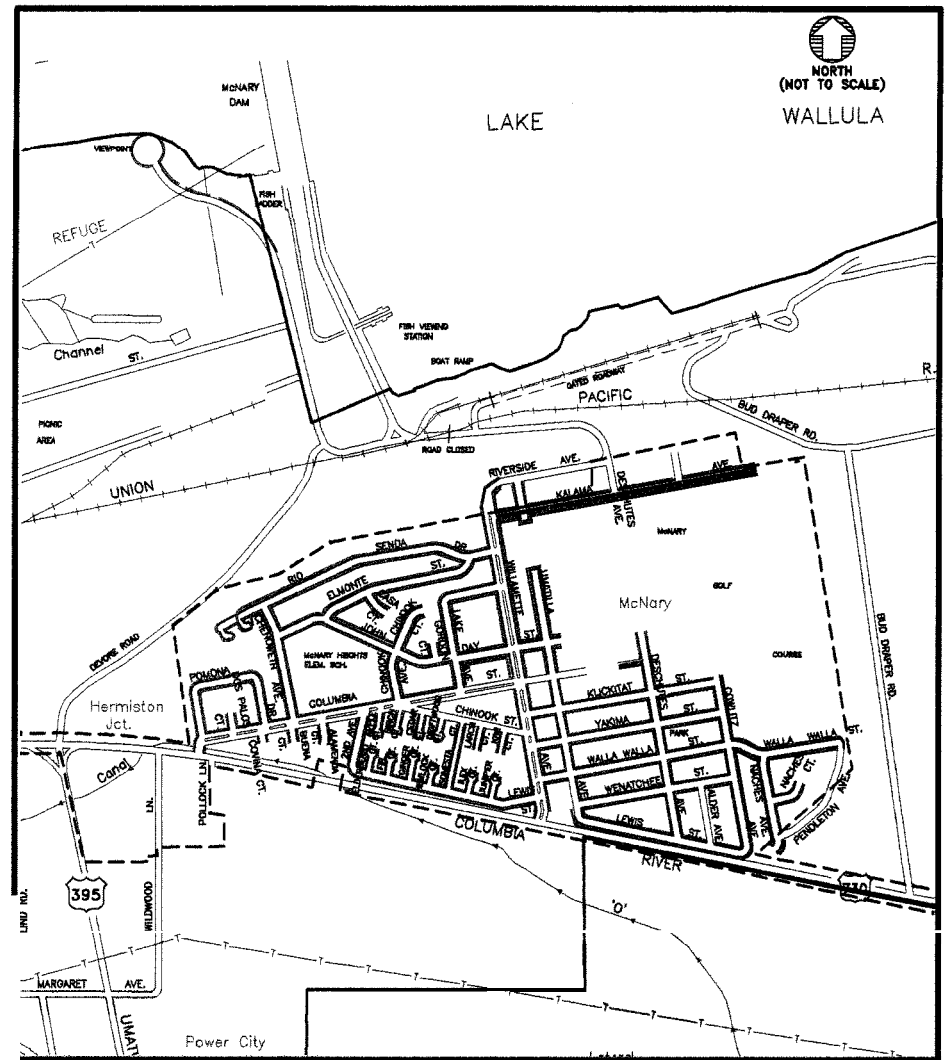
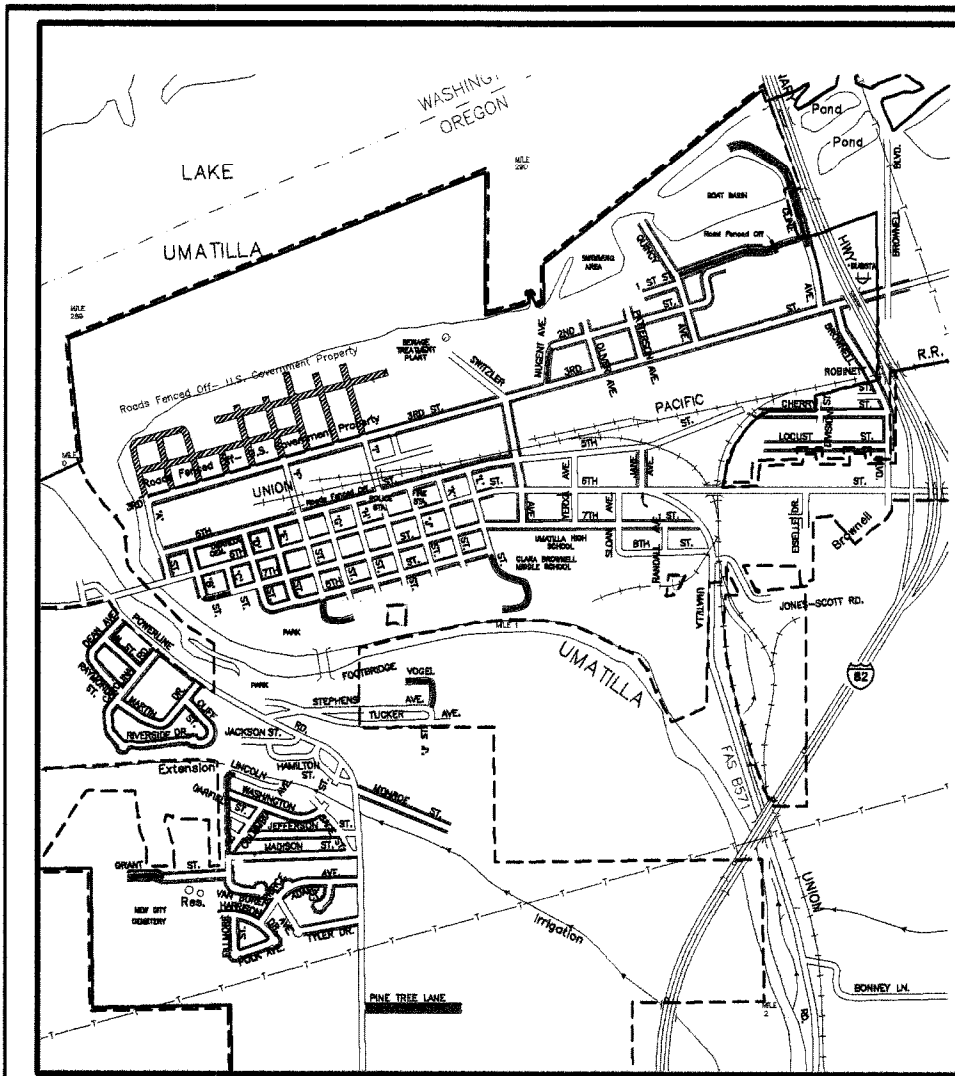


LEGEND	
	ODOT JURISDICTION
	UMATILLA COUNTY JURISDICTION
	CITY LIMITS
	UGB
	CITY JURISDICTION
	NO PUBLIC ACCESS

SUMMARY OF ROADWAY JURISDICTIONS

CITY OF UMATILLA, OREGON
TRANSPORTATION SYSTEM PLAN
FEBRUARY 1999

FIGURE	
2	



LEGEND

- ON-STREET PARKING
- UNPAVED
- - - CITY LIMITS
- - - URBAN GROWTH BOUNDARY
- ▨ NO PUBLIC ACCESS

LOCATIONS OF ON-STREET PARKING AND UNPAVED ROADWAYS

CITY OF UMATILLA, OREGON
TRANSPORTATION SYSTEM PLAN
FEBRUARY 1999

FIGURE

3



State Facilities

There are three primary roadway facilities within the study area: Interstate 82, Highway 730, and Highway 395. A brief description of each facility is presented below, including general characteristics of the facility and the traffic served.

Interstate 82. I-82 is a *Category 1* interstate freeway 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. I-82 is oriented north-south through the City and provides connections between Interstate 84 (I-84) to the south and the Tri-Cities (Kennewick, Richland, Pasco, Washington) to the north. Interstate 82 is an essential intra- and interstate commerce route.

Interstate 82 is a four-lane facility (two lanes in each direction) with two grade-separated interchanges (Highway 730 and Powerline Road) providing easy access to the City. The 1996 average daily traffic (ADT) volume on I-82 was 12,675 vehicles at the Umatilla Bridge¹. Bicycle and pedestrian travel is prohibited on I-82; however, the northbound Interstate 82 Columbia River Bridge span does provide a separate multi-use path for pedestrians and bicycles. Posted speed along I-82 in the vicinity of the City is 65 m.p.h.

Highway 730. Highway 730, also called the Columbia River Highway, is a state highway of a *Regional Level of Importance* (Reference 1). 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 Washington and serves as a city-to-city link between such neighboring cities as Irrigon, Umatilla, and Cold Springs Junction. The 1996 ADT on Highway 730 was 6,100 vehicles at the west city limits and 3,900 vehicles at the east city limits.

Highway 730 provides the backbone of the City's transportation system and serves as the primary east-west corridor through town. The cross-section design of Highway 730 changes from a two-lane roadway to a four-lane roadway from west to east. The cross-section design and posted speed limits are identified in Table 1.

¹ ODOT permanent recorder 30-025

**TABLE 1
 HIGHWAY 730 EXISTING CONDITIONS**

Roadway Section Boundary Limits	Cross Section	Speed Limit (MPH)
West City Limits to Umatilla River Bridge	2-lane	45
Umatilla River Bridge to Jane Avenue	3-lane	25
Jane Avenue to Union Pacific Railroad Overpass	3-lane	35
Union Pacific Railroad Overpass to I-82 Interchange	3-lane	35
I-82 Interchange Area	5-lane	35
I-82 Interchange to Scapellhorn Road	4-lane	35
Scapellhorn Road to Columbia Street (Polluck Lane)	4-lane	45
Polluck Lane to East City Limits (east of Willamette Ave.)	4-lane	55
East City Limits to Eastern UGB Boundary	2-lane	55

No striped bike lanes are provided along Highway 730 within the City of Umatilla. Sidewalks are provided intermittently within the city limits and are predominantly concentrated within the downtown area between Jane Avenue and “A” Street. On-street parking spaces are provided intermittently along Highway 730 between Jane Avenue and the Umatilla River Bridge.

Highway 395 -- Highway 395 (Umatilla-Stanfield Highway) is a state highway linking Highway 730 with Interstate 84 to the south. Historically, Highway 395 had been identified by ODOT as a facility with a *District Level of Importance*. A recent study of the Highway 395 corridor indicated that the classification of the study area segment of Highway 395 should be re-designated to reflect a *Regional Level of Importance* (Reference 2). The 1991 Oregon Highway Plan, (Reference 1) states that 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. By comparison, *District Highways* serve local traffic and land uses. The redesignation of Highway 395 was based “on a desire to balance the need for relatively uncongested traffic flow conditions on the highway with the need to maintain local access” (Reference 2).

The Oregon Department of Transportation’s January 1999 draft of the 1998 Oregon Highway Plan (Reference 3) suggests that Highway 395 will be redesignated as having a *Statewide Level of Importance*, if adopted as drafted. The *Statewide Level of Importance* designation implies that the primary purpose of the highway is to provide connections and links to larger urban areas, ports, and major recreation areas that are not directly served by interstate highways. The 1991 Oregon Highway Plan, (Reference 1) further states that *Statewide* highways provide links to the interstate system and alternate links to other states.

Highway 395 serves primarily as a north-south route connecting Umatilla with the cities of Hermiston and Stanfield to the south. The 1996 ADT on Highway 395 was 11,600 vehicles at the roadway’s northern terminus. Beginning at the northern terminus of Highway 395 (the intersection with Highway 730) and continuing south to the City of Umatilla UGB, the roadway has a four-lane cross section and a speed limit of 55 m.p.h. No sidewalks or bike lanes are provided along Highway 395 within the UGB.

Umatilla County Facilities

At the time this TSP was prepared, Umatilla County did not have a formal functional classification system for roadways within the County. The County did provide a general roadway classification scheme for county roadways within the City of Umatilla UGB. The classification scheme was loosely defined to reflect the importance, character, and capacity of each identified facility based on historical traffic counts and staff familiarity with the area. The hierarchy of functional classification provided by the county was broken into three categories: Major Collector, Minor Collector, and Local Access Road. Notable county roadways within the study area are listed below and shown in Figure 2 (unless otherwise noted, the identified facilities were considered by the County to be the functional equivalent of a Local Access Road).

- *Powerline Road*

Powerline Road is one of two north-south county roadways that connect Umatilla with the City of Hermiston. Powerline Road has a two-lane cross section and was identified by the County as serving the equivalent of a Minor Collector function. The northern terminus of Powerline Road intersects with Highway 730 at an unsignalized intersection immediately west of the Umatilla River Bridge. Property along the northern portion of Powerline Road has predominately been developed for residential land uses, though no sidewalks or bicycle facilities are provided and no on-street parking is allowed.

- *Umatilla River Road*

Umatilla River Road is the second of two north-south county roadways that connect the City of Umatilla with the City of Hermiston to the south. This two-lane roadway was identified by the County as serving the equivalent of a Major Collector function. Umatilla River Road was noted to be the primary choice of drivers for trips between the two cities and, although the roadway has a narrow cross section at some points and no sidewalks, it was noted to be frequently used by pedestrian and bicycle traffic. The northern terminus of Umatilla River Road intersects with Highway 730 at an unsignalized "T"-intersection.

- *Brownell Boulevard*

Brownell Boulevard provides a north-south connection between Highway 730 and the shore of the Columbia River. This two-lane facility was divided into two segments as a result of the construction of Interstate 82. The southern segment of Brownell Boulevard connects Highway 730 with 3rd Street while the northern segment connects 3rd Street with a wildlife refuge that extends to the shore of the Columbia River. The southern terminus of Brownell Boulevard intersects with Highway 730 at a signalized intersection immediately east of the Umatilla Port of Entry and is used as the sole egress route for truck traffic passing through the Port of Entry's weigh station. On-street parking is allowed along Brownell Boulevard, though no bicycle or pedestrian facilities are available.

- *3rd Street*

Third Street is a two-lane east-west roadway that extends from Avenue "A" to the McNary Dam area. Although this facility parallels Highway 730 throughout a large portion of the City, its location does not directly serve the major residential areas. Consequently, its use is currently largely limited to trips related to the McNary Dam area and local business uses along the roadway such as the Bonneville Power Authority. No bicycle or pedestrian facilities are provided along 3rd Street.

- *Bud Draper Drive*

Bud Draper Drive links Highway 730 with Roxbury Road and serves as the gateway to the Port of Umatilla Industrial Park. This two-lane north-south facility was constructed with an industrial grade concrete base and is intended to function as the truck route for the industrial park. To date, access connections (driveways) to Bud Draper Drive have only been granted to industrial park land uses and no sidewalk or bicycle facilities have been provided.

- *McNary Beach Access Road*

McNary Beach Access Road serves as a second north-south access route to the Port of Umatilla Industrial Park and also provides access to the McNary Beach Recreation Area located on the shore of the Columbia River. This two-lane roadway was not intended to serve as a primary access route for truck access to the business park and its current cross section does not provide bicycle or pedestrian facilities.

- *Power City Road*

Power City Road provides two-lane access for gravel quarries and residential areas west of Highway 395, intersecting with Highway 395 at an unsignalized intersection. Large portions of Power City Road are not paved and no bicycle or pedestrian facilities are provided.

City of Umatilla Facilities

Prior to development of this TSP, the City of Umatilla did not have a roadway classification system in place to identify the hierarchy of existing roadways. This classification system was developed in conjunction with this TSP and is presented in Section 5. Notable city streets are listed below and are shown in Figure 2.

- *5th Street*

Fifth Street is located one block north of Highway 730 on the City's west side and is aligned roughly parallel to Highway 730. This two-lane east-west facility serves a mix of both residential and industrial land uses but does not provide bicycle or pedestrian facilities.

- *7th Street*

Seventh Street is located one block south of Highway 730 on the City's west side and is also aligned roughly parallel to Highway 730. The north side of this two-lane facility serves a mix of commercial/residential land uses while the south side provides access to private residences and the City's middle and high schools. Sidewalk facilities are provided along most of 7th street and on-street parking is permitted; however, no bicycle facilities are currently available.

- *Switzler Avenue*

Switzler Avenue is the primary north-south through connection between 3rd Street and 7th Street. Sidewalk facilities are provided along this two-lane facility and on-street parking is permitted, though no bicycle lanes are currently provided.

- *Devore Road*

Devore Road forms the north leg of the signalized Highway 730/Highway 395 intersection and provides access from the respective highways to the U.S. Army Corps of Engineer's McNary Dam facilities and the Port of Umatilla. This two-lane roadway offers no bicycle, pedestrian, or on-street parking facilities.

- *Willamette Avenue*

Willamette Avenue is the primary north-south road through the McNary residential area and is the only two-way street that offers a connection to Highway 730 from the McNary Housing Area. Willamette Avenue has a landscaped median between the northbound and southbound lanes and intersects with Highway 730 at an unsignalized intersection. On-street parking is allowed along Willamette Avenue, though few pedestrian and no bicycle facilities are provided.

- *Columbia Street*

Columbia Street is the primary east-west roadway within the McNary residential area, running from Deschutes Avenue west to Highway 730. The eastbound and westbound travel lanes of Columbia Street are separated by a planted median strip. While Columbia Street does not have continuous sidewalks, it is the only roadway in the study area that currently provides striped bicycle lanes. Although Columbia Street intersects with Highway 730, access to the Highway is provided in only one direction. "Do Not Enter" signs prohibit vehicles from entering Columbia Street from Highway 730, except in the case of emergency vehicles.

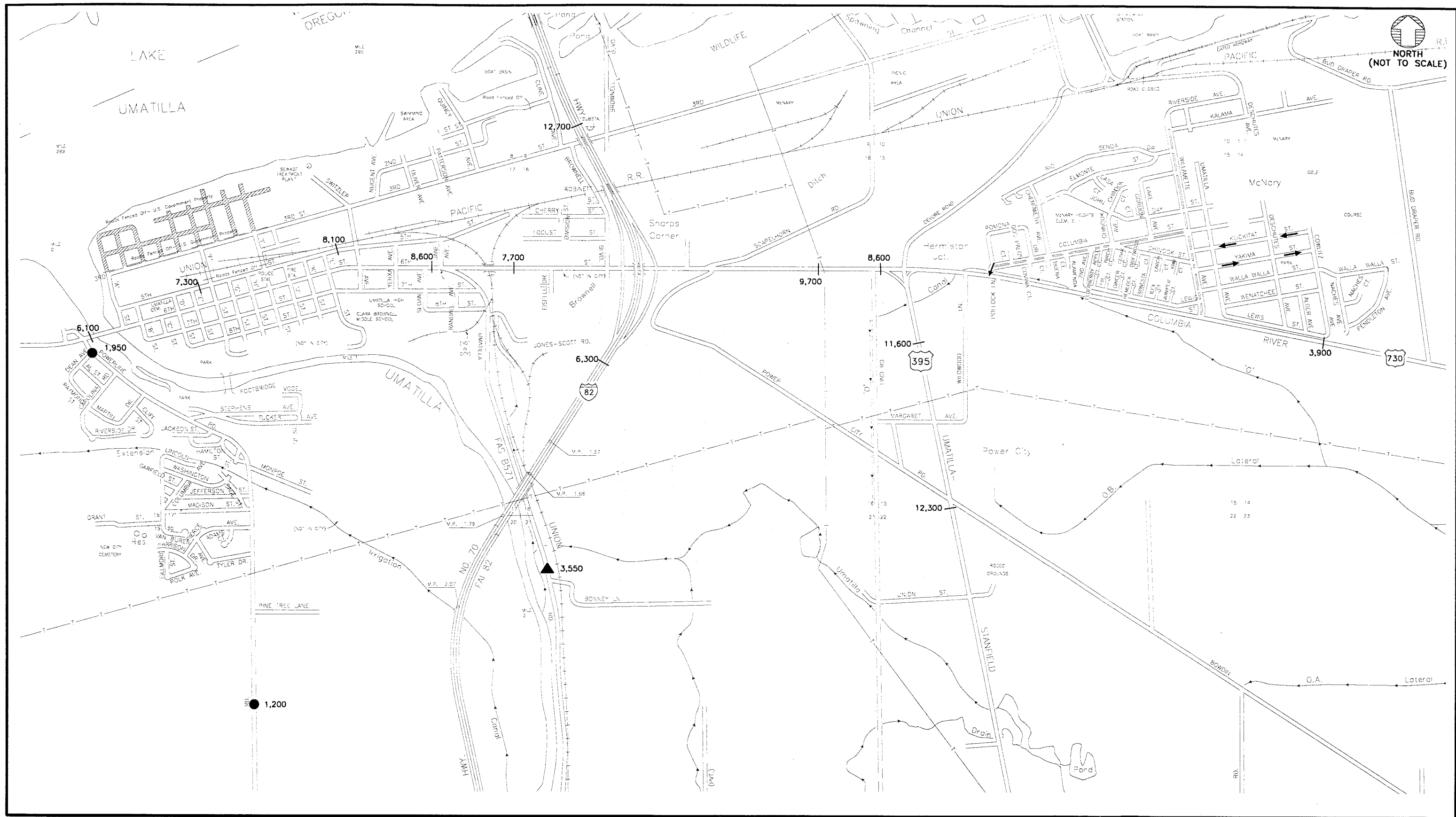
Average Daily Traffic Volumes

For comparative purposes, Figure 4 summarizes Average Daily Traffic (ADT) volume data estimated or counted by ODOT and Umatilla County, at several points along key roadway corridors within the study area. This figure offers a glimpse of the relative traffic levels on several of the major area roadways.

PEDESTRIAN/BICYCLE GENERATORS AND CONNECTIVITY

In order to evaluate the adequacy of the sidewalk system and bicycle network, a survey of existing connections between pedestrian and bicycle "generators" and the arterial- and collector-level roadways was conducted in the field. Pedestrian and bicycle generators were defined to be facilities that typically attract high levels of pedestrian or bicycle activity on a regular basis. A listing of typical generators is provided below:

- Schools and colleges
- Churches
- Parks
- Open spaces
- Shopping centers
- Cemeteries
- Libraries
- Municipal swimming pools
- Community centers
- Government offices
- Museums



LEGEND

- ESTIMATED
- ODOT 1996 DATA
- ▲ UMATILLA COUNTY 1997 DATA

AVERAGE DAILY TRAFFIC VOLUME DATA

CITY OF UMATILLA, OREGON
 TRANSPORTATION SYSTEM PLAN
 FEBRUARY 1999

FIGURE 4

- Historical landmarks
- Urban downtown core districts

Figure 5 illustrates the locations of existing pedestrian and bicycle generators. While not currently available, ideally, at least one sidewalk connection and one reasonably direct bike facility should be provided between each of these generators and the existing arterial- and collector-level roadways in order to enhance the safety and attractiveness of pedestrian and bicycle travel throughout the city.

PEDESTRIAN SYSTEM

The City of Umatilla's existing pedestrian network system includes shared roadways along minor local streets and sidewalks along the many of the arterial streets. A map of the existing pedestrian facilities is shown in Figure 5 that illustrates the roadways within the City of Umatilla UGB that currently have sidewalks on one or both sides of the street. The condition of these pedestrian facilities vary from poor to good, with facilities in poor condition generally being located in the downtown and McNary residential areas of the community.

As is typical with many cities, the existing sidewalk system in Umatilla is relatively complete along the core city area, in this case Highway 730. Outside of the core city area however, most of the sidewalk system is incomplete and tends to appear in areas of recent development. In general, there are a lack of sidewalks and pedestrian crossings along several key roadway facilities in the study area. Local roads tend to exhibit disjointed sidewalks in the city, especially in areas where lots or subdivisions are not fully developed. No sidewalk facilities currently connect the east and west sides of the City. Further, many arterial and collector level roadways such as Powerline Road, Willamette Avenue, Columbia Street, and 3rd Street have limited or no sidewalk facilities.

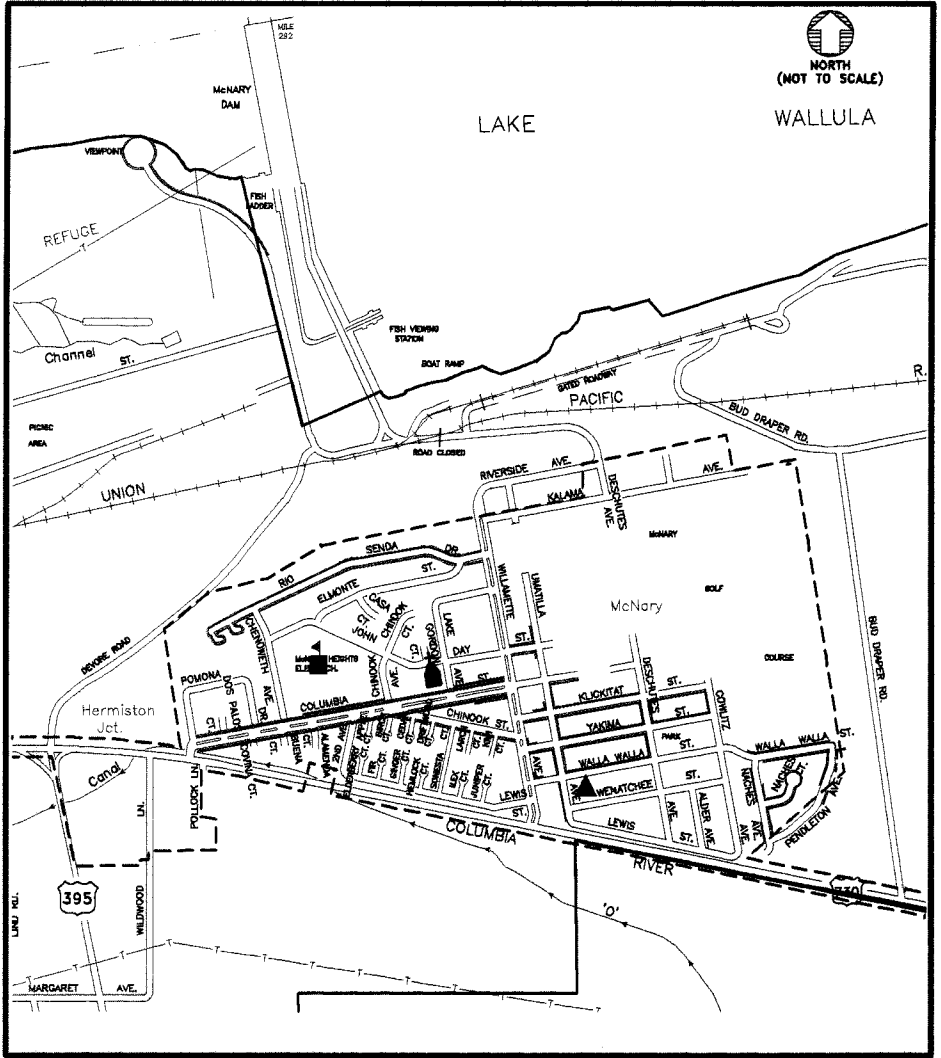
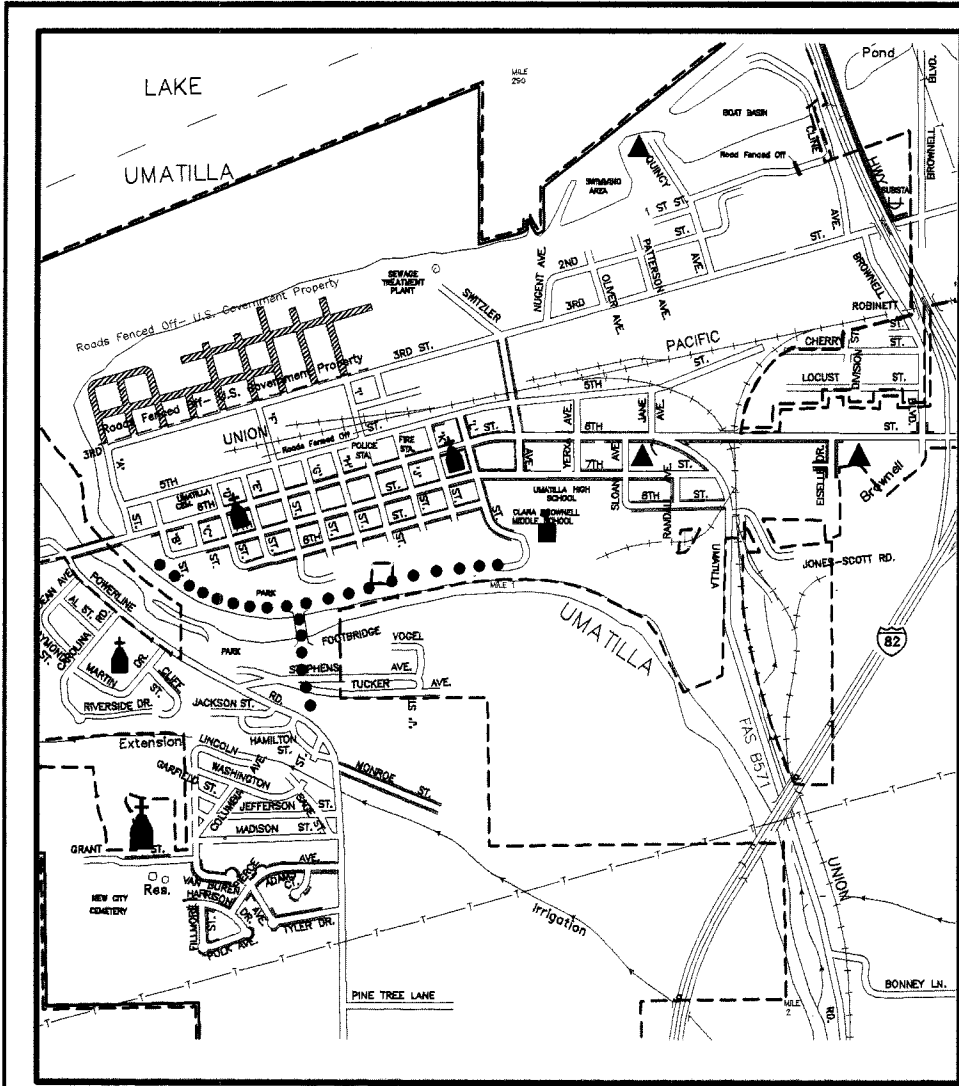
Pedestrian Bridge

The City of Umatilla has a pedestrian foot bridge crossing the Umatilla River that was constructed to provide a connection between the residential area south of the Umatilla River and the school facilities located along 7th Street on the north side of the river. The bridge was originally installed after school bus service was terminated for portions of the residential areas on the south side of the river. The bridge was constructed to provide students with a convenient walking path that also effectively prohibits the use of bicycles and other motorized vehicles on the bridge. Pedestrian connections to this bridge are provided by gravel-based pathways that are poorly maintained and partially overgrown with brush.

BICYCLE SYSTEM

Figure 5 illustrates the existing bicycle network within the study area. As shown in Figure 5, the network is limited to two basic facilities and there is a lack of connectivity throughout the city with respect to the bicycle network. There is only one roadway in the study area with striped, on-street bike lanes, Columbia Street. An additional multi-use path is provided for bicycle traffic to cross the Columbia River via the northbound Interstate 82 bridge; however, no striped on-street bike lanes connect to this facility on either side of the River.

With the exception of a short bikeway paralleling the Columbia River, the City of Umatilla does not currently have a designated bicycle trail system. The City and County of Umatilla have discussed the possibility of a future bikeway, but no plans are currently under formal consideration.

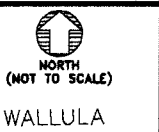


LEGEND

	SIDEWALKS		SCHOOL		PUBLIC BUILDING
	BIKE LANES		CHURCH		FOOTPATH
	UGB		CITY LIMITS		NO PUBLIC ACCESS

EXISTING SIDEWALK AND BICYCLE FACILITIES

CITY OF UMATILLA, OREGON
TRANSPORTATION SYSTEM PLAN
FEBRUARY 1999



Bicycle and Pedestrian Access to Parks

The City of Umatilla is located along the south shore of the Columbia River. Marina facilities and a beachfront park located along the shore offer scenic views of the area and serve as generators of recreational traffic. Currently, the only pedestrian facilities located along the waterfront are provided adjacent to the McNary Dam on property owned by the Army Corps of Engineers.

PUBLIC TRANSPORTATION SYSTEM

The City of Umatilla neither provides nor subsidizes public transportation services within its boundaries. Only para-transit services are available in the City of Umatilla and on a limited basis.

Para-Transit Service

Limited Dial-a-Ride services (pre-arranged taxi/van service) are provided in the area, though all operate from points outside the City of Umatilla and are primarily intended to service elderly and/or disabled persons. Some of the regional dial-a-ride providers include Foster Grandparent/Senior Companions, RSVP of Eastern Oregon, and the Umatilla County Mental Health Program. Foster Grandparent/Senior Companions is an operation based in Pendleton at the hospital. Their service is intended for low income seniors and seniors with children. Both RSVP of Eastern Oregon and the Umatilla County Mental Health Program provide service to the Umatilla area on a limited basis.

Intracity Bus

No intracity bus service is provided in the City of Umatilla.

Intercity Bus

Greyhound provides intercity bus service to the City of Umatilla, making daily stops at the intersection of Switzler Avenue and Highway 730. No shelter is provided at the bus stop and, while the bus travels through town daily, stops are made only on an as-needed basis (flag stop). This service provides connections to Hermiston, the Tri-Cities (Washington), and Portland, Oregon.

AIR TRANSPORTATION SYSTEM

No commercial or private aviation facilities are located within the City of Umatilla. Regional freight cargo and air passenger services are provided at the Eastern Oregon Regional Airport at Pendleton, located approximately 35 miles southeast of Umatilla via I-84 and in Pasco, Washington, located approximately 30 miles to the north. 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 municipal airport. Hermiston's airport does not offer commercial flights but charter service is available and several local businesses make use of the facility. This airport provides facilities for crop dusting aircraft that serve farmers/foresters in the area.

RAILROAD TRANSPORTATION SYSTEM

Union Pacific Railroad operates a local freight rail line through portions of the City of Umatilla. The "Umatilla Turn" connects local manufacturers with Union Pacific's Hinkle Yard and main rail trackage to the south in Hermiston. From Umatilla, the rail line travels south roughly parallel to Umatilla River Road until reaching downtown Hermiston, where the line turns to the southwest and travels towards Union Pacific's main facilities at the Hinkle Rail Yard. Union Pacific operates an unloading ramp and truck-to-rail terminal at Hinkle Rail Yard.

Because the rail line terminates along the banks of the Columbia River at the Port of Umatilla, it is operated as a spur and the frequency of freight trains varies based upon demand. Currently, service is provided on Mondays, Wednesdays, and Fridays during the evening hours. Typically, trains depart Hermiston for Umatilla at approximately 2:30 p.m. and arrive in Umatilla between 5:00 p.m. and 8:00 p.m., depending on the number of local switching operations in route. The frequency of trains can be increased should shipping demand warrant additional service in the future.

MARINE TRANSPORTATION SYSTEM

The Columbia River borders the City of Umatilla to the north and serves as a means of transportation for both commercial and recreational traffic. The McNary Dam, operated by the U.S. Army Corps of Engineers, is located approximately one mile east of Interstate 82 and serves both commercial barge traffic and recreational boats traveling along the Columbia River past the City of Umatilla. A lock located alongside the dam allows river traffic to bypass the dam.

Currently, the Port of Umatilla maintains two marine facilities along the Columbia River. The Umatilla Marina Park, located immediately west of Interstate 82, is located on property owned by the U.S. Army Corp of Engineers, though the marine facilities are operated and maintained by the Port. Approximately 124 slips are currently available at the marina as well as a boat launch ramp, a fueling dock, a 38-space recreational vehicle parking area, and restroom facilities.

The second marine facility operated by the Port is located on the east side of the McNary Dam and is used for commercial cargo handling purposes. A container terminal (shallow draft/barge dock) at this location is used to transfer containerized frozen potatoes using a 50-ton crane. Weekly barge service is provided to the area for potato shipments and electrical service is available at the docks to support up to 100 refrigerated containers. In addition, Pendleton Grain Growers operate a grain transfer facility and Tidewater Terminal Company operates a tank farm that provides for liquid fertilizer and fuel transfers. The port also serves as a terminal for transferring diesel fuel to a pipeline owned by Kaneb Pipeline Corporation, which in turn supplies Hinkle Rail Yard. The marine facilities at the port have access to rail service provided by Union Pacific, via the "Umatilla Turn."

Although recreational river traffic is generally limited to private vessels operating in the area, river cruise lines call at the Umatilla Marina Park for tourist related activities. Typically, the river cruise ships dock so that passengers can travel to Pendleton or Patterson to partake in regional tourist attractions. Currently, the Umatilla Marina Park is not considered a base of operations for the river cruise lines and does not serve as an origin for their trips.

IRRIGATION CANAL/WATER SYSTEM

The West Extension Irrigation District operates an irrigation canal that travels through western portions of the City of Umatilla. The canal carries water from the Three-Mile Dam on the Umatilla River north roughly paralleling Interstate 82. The canal then travels to the west (roughly parallel to Highway 730) to its ultimate destination in Boardman, Oregon. Lateral lines from the canal are available to some users within the City of Umatilla. The West Irrigation District has no expansion plans at this time.

The Hermiston Irrigation District operates several irrigation canals within the City of Umatilla's UGB. The "O" Canal transports water from the Umatilla River north through Echo, Stanfield, Hermiston, and ultimately up to the McNary Area of the City of Umatilla. The canal crosses under Highway 730 at two points east of Highway 395. The "OB" and "OA" laterals break off from the "O" canal to serve district customers south of Highway 730. Similarly, the "R" canal travels north to Umatilla providing irrigation service to the area. Minor expansion of lateral lines to serve new customers in the Umatilla area is

possible, though the irrigation district tends to service customers needing irrigation for parcels encompassing two or more acres, as opposed to small homeowners.

PIPELINE TRANSPORTATION SYSTEM

A four-inch diesel line owned and operated by the Kaneb Corporation and servicing Union Pacific Railroad's Hinkle Railyard originates at the Port of Umatilla and carries fuel south.

TRAFFIC OPERATIONS ANALYSIS

A total of 12 signalized and unsignalized study area intersections were selected for detailed analysis under existing conditions. These intersections were identified by the respective transportation agencies as being focal points of the City's roadway network. Traveling west to east, those intersections include:

Columbia River Highway (Highway 730) and:

- Powerline Road
- Switzler Avenue
- Umatilla River Road
- Eiselle Drive
- Brownell Boulevard
- Interstate 82 West (southbound) Ramp
- Interstate 82 East (northbound) Ramp
- Highway 395/Devore Road
- Columbia Street (Polluck Lane)
- Willamette Avenue
- Bud Draper Drive
- McNary Beach Access Road

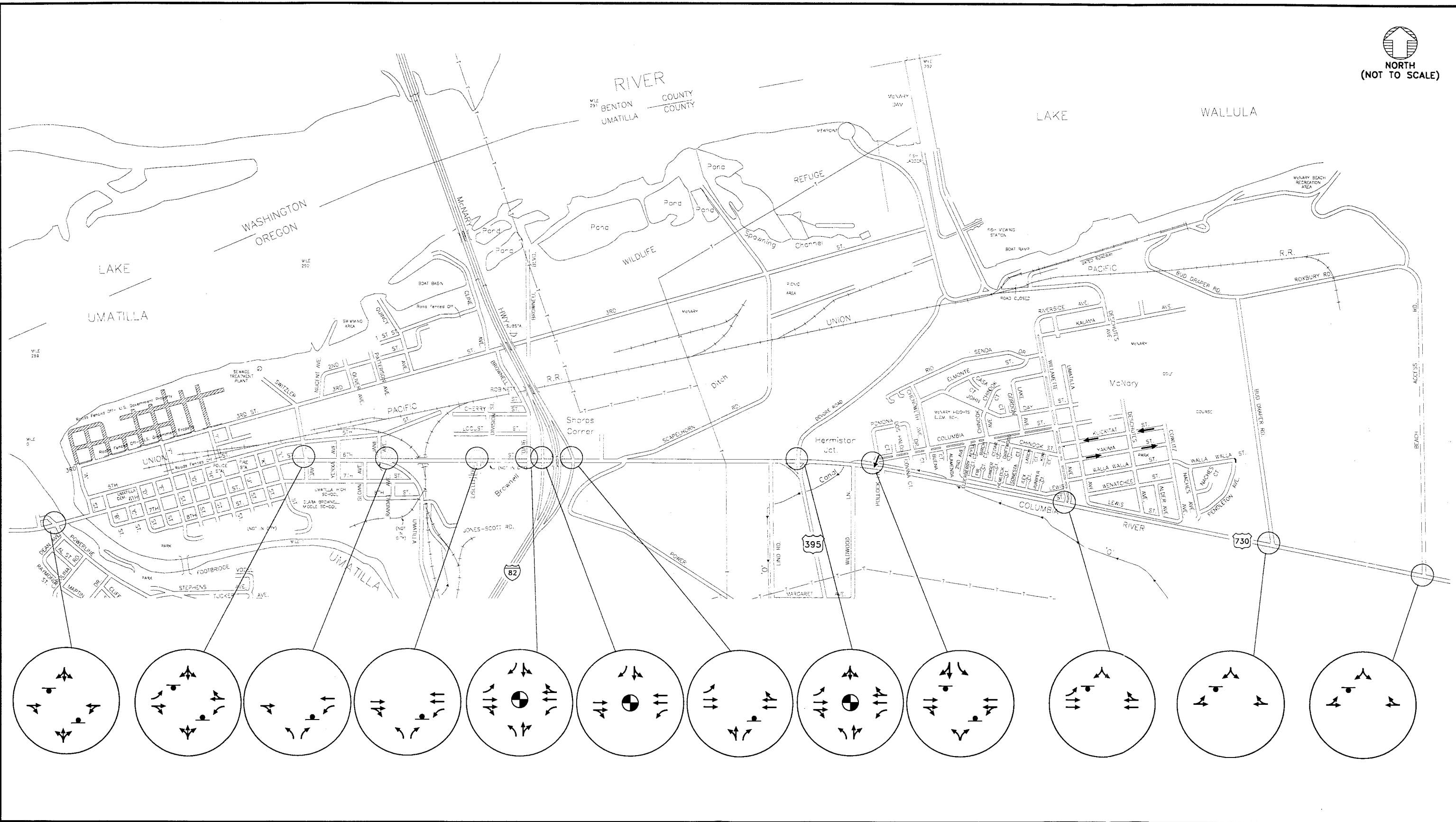
Figure 6 illustrates the existing lane configurations and traffic control devices at each of the study intersections. Using the existing intersection geometries, traffic control devices, and traffic volumes, the operational performance of the respective study intersections was analyzed.

Traffic operations at each of the intersections were examined during the existing weekday p.m. peak hour. The p.m. peak period has been shown in previous studies to be the worst case condition for traffic operations within the Umatilla area 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 study intersections were conducted in late May, 1997. These manual turning movement traffic counts were conducted between 4:00 p.m. and 6:00 p.m. on a mid-week day. The highest one-hour flows during these periods were then 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 4:45 and 5:45 p.m.



LEGEND

-  TRAFFIC SIGNAL
-  STOP SIGN

EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROL DEVICES

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.

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 study area intersections to determine existing levels of service. Level of service analysis is a traffic engineering term that refers to the operational characteristics of a roadway or intersection. The level of service concept has been developed to quantify the degree of comfort (based on delay) afforded to drivers as they travel through an intersection. Six grades are used to denote the various levels of service from “A” (ample capacity and minimal delay) to “F” (severe congestion and excessive delays). 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 4).

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.

Figure 7 summarizes the level of service results for signalized and unsignalized intersections. Signalized intersection level of service results are shown with a capital letter. Unsignalized intersection level of service results are shown with a lower case letter.

Signalized Intersections

For signalized intersections located within an Urban Growth Boundary along a highway of a *Regional Level of Importance* (such as Highway 730), ODOT’s *Oregon Highway Plan* indicates that, under current conditions, level of service “A” through “D” are considered acceptable and that level of service “E” through “F” are generally considered unacceptable.

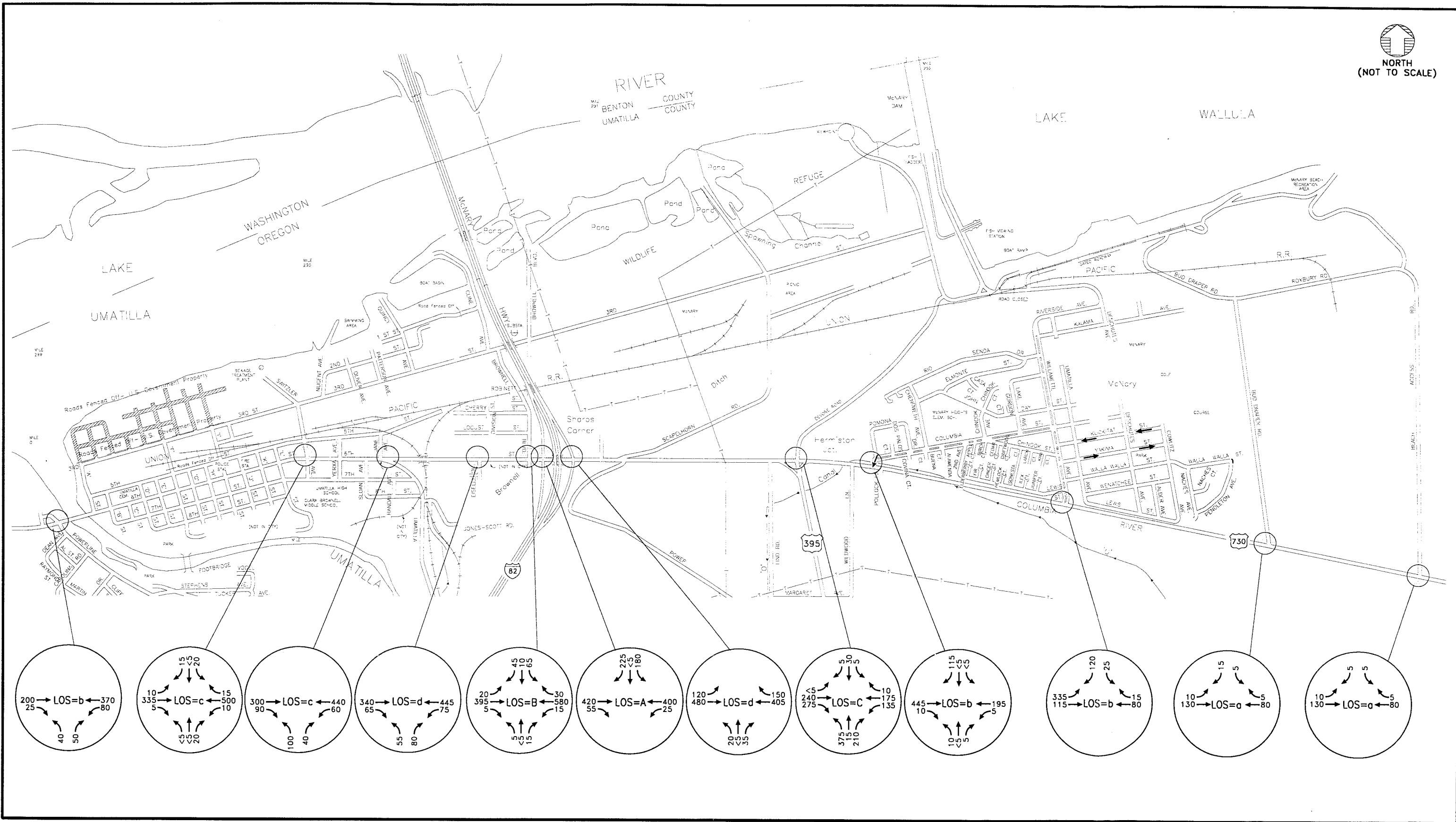
The signalized intersection level of service analyses were duplicated using ODOT’s own analysis method, SIGCAP, to analyze signalized intersections throughout this report. While the HCM methodology bases levels of service on the delay experienced by motorists, SIGCAP uses intersection volume-to-capacity ratios to determine level of service. Table 2 summarizes the level of service analysis results for the signalized study intersections.

**TABLE 2
 EXISTING PM PEAK HOUR LEVEL OF SERVICE,
 SIGNALIZED STUDY INTERSECTIONS**

Intersection	Highway Capacity Manual			SIGCAP	
	V/C	Average Delay(sec/veh)	LOS	V/C	LOS
Brownell Boulevard/Highway 730	0.30	16.5	C	0.55	B
I-82 southbound Ramp/Highway 730	0.37	17.7	C	0.46	A
Highway 730/Highway 395	0.47	15.2	C	0.60	C

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 2 indicates, all signalized intersections currently operate at acceptable levels of service under existing weekday p.m. peak hour conditions.



LEGEND
 LOS = INTERSECTION LEVEL OF SERVICE
 X : SIGNALIZED INTERSECTION
 x : UNSIGNALIZED INTERSECTION

**1997 EXISTING TRAFFIC VOLUMES
 WEEKDAY PM PEAK HOUR**

Unsignalized Intersections

For unsignalized two-way stop-controlled (TWSC) intersections, level of service is based on the 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 TWSC intersections, ODOT stipulates that level of service "A" through "D" are considered acceptable, level of service "E" is generally considered "marginally acceptable", and level of service "F" is unacceptable. Table 3 summarizes the level of service results for the unsignalized study intersections.

**TABLE 3
 EXISTING PM PEAK HOUR LEVEL OF SERVICE,
 UNSIGNALIZED INTERSECTIONS**

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	LOS
Powerline Road/Highway 730	Northbound	0.12	7.7	B
Switzler Avenue/Highway 730	Southbound	0.11	11.3	C
Umatilla River Road/Highway 730	Northbound Left	0.35	18.0	C
Eiselle Drive/Highway 730	Northbound Left	0.24	23.2	D
Interstate 82 Northbound Ramp/Highway 730	Northbound Left	0.14	24.4	D
Columbia Street (Polluck Lane)/Highway 730	Southbound Left	0.01	9.8	B
Willamette Avenue/Highway 730	Southbound	0.21	5.4	B
Bud Draper Drive/Highway 730	Southbound	0.02	3.2	A
McNary Beach Access Road/Highway 730	Southbound	0.01	3.9	A

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 3 indicates, all of the unsignalized study area intersections operate at acceptable levels of service under existing weekday p.m. peak hour conditions.

Based on the level of service analysis results shown in Tables 2 and 3, the local Umatilla area roadway system can generally be quantified as being more than adequate to accommodate existing travel demand. Notwithstanding the level of service analysis results, operational concerns have been identified involving the Interstate 82 interchange. These concerns are directly related to the adjacent truck weigh station and the traffic signal location.

Port of Entry/ODOT Truck Weigh Station

The signalized study intersections of Brownell Boulevard/Highway 730 and the southbound Interstate 82 ramp/Highway 730 are located extremely close to each other and ODOT has coordinated the signals in an effort to improve intersection operations. Nevertheless, it was noted that queuing problems associated with truck traffic accessing the truck weigh station occurred at these two intersections during the weekday p.m. peak hour conditions.

Field observations made during the mid-summer (1997) weekday p.m. peak hour at the Brownell Boulevard/Highway 730 intersection and the southbound Interstate 82 ramp/Highway 730 intersection

identified several signal cycle failures. The observed failure of the intersections to perform adequately was a direct consequence of Interstate 82 truck traffic destined to the Umatilla Port of Entry/Oregon Department of Transportation truck weigh station. At the time the observations were made, the weigh station (located on the northwest corner of the Brownell Boulevard/Highway 730 intersection) was only operating one processing lane during the p.m. peak hour. It was observed that the truck traffic at the weigh station queued onto the westbound Highway 730 lane, through the two study intersections, and back up the Interstate 82 southbound exit ramp. The truck queue effectively limited westbound Highway 730 traffic to a single travel lane.

Truck traffic circulating back out of the weigh station to Highway 730 currently is routed to Highway 730 via the southbound approach of Brownell Boulevard. Because of the slow start up speeds of the trucks, it was observed that only four to six trucks were able to access Highway 730 from Brownell Boulevard during each signal cycle. As a result, truck traffic was constantly queued on the northern approach to the Brownell Boulevard/Highway 730 intersection. The truck queue exiting the site wrapped from Brownell Boulevard back around the weigh station exit road and averaged 15-20 trucks during the peak period. This traffic effectively blocks the southbound approach of Brownell Boulevard to local traffic and is reported to be a source of contention among some members of the local community; especially persons accessing the Oregon Welcome Center.

This condition varies by season; a visual inspection of intersection operations made during the fall of 1997 identified no significant truck queuing at the intersections. Seasonal increases in truck traffic were attributed to peaking characteristics experienced by shipping interests and local harvest activities.

Community representatives further noted that truck drivers have inadvertently turned northbound on Brownell Boulevard in an attempt to access the weigh station. Realizing that they are on the wrong road and can't access the weigh station, the trucks apparently then try to back out of Brownell Boulevard onto Highway 730 so that they can proceed west on Highway 730 and enter the weigh station at the correct access.

TRAFFIC SAFETY

In addition to conducting intersection operational analyses, the relative safety of the study area's roadway network was examined to determine if any outstanding safety deficiencies or potential conflict points could be identified. This safety review included an examination of historical accident records, a visual examination of the study intersections, and discussions with the both local agency staff and the general public.

Intersection Accident History

The accident history of the study intersections was first examined for potential and existing safety problems based on data provided by ODOT. ODOT accident data for the period 1993-1996 were used for this analysis. In addition, the ODOT District 12's 1992-1995 Safety Priority Index System (SPIS) list was 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 4 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 (Accidents/MEV). An accident rate of 1.0 Accidents/MEV is generally accepted as the safety threshold for intersections within urban areas, with accident rates below 1.0 considered indicative of intersections that are likely to be operating safely.

**TABLE 4
 STUDY INTERSECTION ACCIDENT RATES**

Roadway Section Boundary Limits	Number of Accidents	Accidents/MEV
Powerline Road/ Highway 730*	3	0.36
Switzler Avenue/Highway 730*	3	0.10
Umatilla River Road/Highway 730*	4	0.35
Eiselle Drive/Highway 730*	3	0.26
Brownell Road/Highway 730	6	0.35
Interstate 82 Southbound Ramp/Highway 730	2	0.10
Interstate 82 Northbound Ramp/Highway 730	6	0.34
Highway 395/Devore Road/Highway 730	10	0.47
Columbia Street (Polluck Lane) /Highway 730*	1	0.12
Willamette Avenue/Highway 730	1	0.10
Bud Draper Drive/Highway 730	2	0.57
McNary Beach Access Road/Highway 730	0	0.0

*ODOT Accident data search period of January 1994 - December 1996

As shown in Table 4, there is not an indication of a safety problem at the study intersections; however, some additional details regarding the reported accidents are worthy of further discussion as noted below.

A fatal accident was reported at the Willamette Avenue/Highway 730 intersection and resulted in inclusion of this site on the SPIS list. Although a fatality was involved, this was the only accident reported at the intersection over the four year analysis period and a field inspection of the intersection led to the conclusion that no significant safety deficiency could be identified from the accident data.

Similarly, a fatal accident was reported at the Columbia Street (Polluck Lane)/Highway 730 intersection. Although a fatality was involved, this was the only accident reported at the intersection over the three year period. A field inspection of the intersection led to the conclusion that no significant safety deficiency could be identified from the accident data, although it was noted that the one-way nature of the north leg of the intersection may contribute to confusion at the intersection.

The Interstate 82 southbound ramp/Brownell Boulevard/Highway 730 area also appeared on the SPIS list, though the accident rate in this area was much less than 1.0 accident/MEV. ODOT records indicate that the signal system timing controlling these intersections has been reconfigured to improve the intersection's safety.

In reviewing the aforementioned accident data, it should be noted that this information reflects *reported* accidents and is only as accurate as the information provided. No assumptions have been made regarding the number, location, or severity of the unreported accidents in the study area.

Due to the generally low volume of traffic at many of the study intersections, it is inappropriate to assume that the low accident rates are a definitive indication that all intersections are safe. Often, geometric or other deficiencies do not compromise the safety of an intersection until increased traffic volumes exacerbate a problem. Recognizing the potential for the existence of a safety deficient location not identified through a review of accident data, field reconnaissance were performed in an attempt to further identify potential safety deficiencies within the transportation system.

Safety Reconnaissance

Safety reconnaissance trips were made to all of the study intersections and, in conjunction with comments provided by local agency staff and the general public, resulted in the identification of a limited number of safety deficiencies. One of the primary sources of safety concerns was determined to be intersection sight distance.

Intersection sight distance is simply defined as the length of roadway that is visible to a motorist. Sight distance requirements at unsignalized intersections are defined by the American Association of State Highway and Transportation Officials (Reference 5). The existing sight distances provided at the study intersections were examined and found to be generally adequate with the exception of those at two intersections, Powerline Road/Highway 730 and Umatilla River Road/Highway 730.

Locations and descriptions of identified safety concerns are presented below:

Powerline Road/Highway 730 Intersection

Northbound Powerline Road intersection sight distance is limited for motorists looking to the east by the bridge structure carrying Highway 730 over the Umatilla River. It is necessary for northbound left-turn traffic to advance to the pavement edge of Highway 730 to see approaching westbound Highway 730 traffic. No sight distance obstructions were identified for the vehicles traveling northbound on Powerline Road looking west.

In addition to sight distance concerns, based on observations made during the field reconnaissance, the need for a westbound left-turn lane (as well as the appropriate storage length that would be required to accommodate left-turning traffic) at the Highway 730/Powerline Road intersection was examined under existing conditions. The analysis indicated that left-turn warrants are currently met at this location for the westbound Highway 730 left-turn movement under weekday p.m. peak hour operations. Recent regional growth in the Umatilla area and the probability of future development along Powerline Road suggests that the need for a westbound left-turn lane at this intersection will increase. The left-turn lane analysis further indicated that 75 feet of storage space should be provided for queued left-turn traffic, under existing conditions. Provision of a westbound left-turn lane would enhance both the safety and operational performance of the intersection by separating the westbound left-turn and through movements on Highway 730.

The westbound Highway 730 approach to the Powerline Road/Highway 730 intersection does not currently have adequate room to provide a left-turn bay due to the constrained width of the bridge structure that carries Highway 730 over the Umatilla River and due to the proximity of Powerline Road to the bridge abutment. The location of Powerline Road effectively prohibits provision of a westbound approach left-turn bay without widening the bridge structure itself. There is no current need for an eastbound Highway 730 left-turn lane at Powerline Road as the northern leg of the intersection is an unpaved dead end roadway.

Umatilla River Road/Highway 730 Intersection

Intersection sight distance restrictions were also noted at the Umatilla River Road intersection. Northbound Umatilla River Road traffic intersection sight distance is limited for motorists looking to the east by the viaduct carrying Highway 730 over the Union Pacific Railroad right-of-way. It is necessary for northbound left-turn traffic to advance to the pavement edge of Highway 730 to fully see approaching westbound Highway 730 traffic. Looking to the left from the northbound Umatilla River Road approach, no sight distance obstructions were identified.

Interstate 82 Southbound Ramp Traffic Signal Location

During the field data collection visit to the Umatilla area, members of the local community expressed concern with the location of the traffic signal at the Interstate 82 southbound ramp/Highway 730 intersection. The concern raised involves the visibility of the intersection's traffic signal heads when approaching the intersection traveling westbound on Highway 730. Field reconnaissance verified the combination of the westbound Highway 730 grade and the Interstate 82 bridge deck does partially obstruct motorists' views of the signal heads. Community concerns were also expressed regarding the potential for this sight limitation contributing to certain types of traffic accidents at this location.

Field inspection further determined that a "Traffic Signal Ahead" sign is currently posted for the westbound travel lanes ahead of the Interstate 82 southbound ramp/Highway 730 intersection. According to ODOT, the accident situation was reviewed and the "Traffic Signal Ahead" sign was posted. ODOT further notes that the current location of the traffic signal, in conjunction with the "Traffic Signal Ahead" sign, meets standards.

Highway 730/Columbia Street Intersection

As previously noted, a fatal accident was reported at the Columbia Street/Highway 730 intersection. Although a fatality was involved, this was the only accident reported at the intersection over the three-year review period. During a field inspection of the intersection, it was noted that the one-way nature of the north leg of the intersection might contribute to confusion at the intersection. The northern leg of the intersection has a throat wide enough to accommodate two-way traffic. However, according to ODOT officials, turns on to Columbia Street were prohibited because of queuing concerns on Highway 730. (The signing at the entrance permits emergency vehicles to enter at this location.)

Comments made at TSP committee meetings and an open house suggest that some people disregard the "Do Not Enter" signs, and turn onto Columbia Street through this intersection anyway. Because this intersection offers one of only two access points to the entire McNary Housing Area, it is an attractive way to enter the neighborhood; apparently regardless of the one-way arrangement currently in use.

Highway 730/Willamette Avenue Intersection

A fatal accident also was reported at the Willamette Avenue/Highway 730 intersection. Similar to the Columbia Street/Highway 730 intersection, although a fatality was involved, this was the only accident reported at the intersection over the three year review period. Field inspection of the area suggested that the intersection with Highway 730 appears reasonably adequate but that the adjacent intersection of Lewis Street with Willamette Avenue (immediately north of Highway 730) is not ideal. The two unsignalized intersections are closely spaced and, because of the wide median on Willamette Avenue, the left turn bays that are provided result in a potentially undesirable geometric configuration.

OTHER IDENTIFIED EXISTING TRANSPORTATION DEFICIENCIES

As an extension of the existing conditions analysis, several different locations with existing transportation system deficiencies have been 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 general public.

Powerline Road

Members of the Umatilla community raised several concerns regarding the cross-section and function of Powerline Road. These issues reflect both vehicular and pedestrian/bicycle access concerns.

As previously noted, Powerline Road provides access to the southwestern residential area of the city. Powerline Road is a narrow two-lane roadway (approximately 22 feet wide) with limited to non-existent shoulders and no sidewalk facilities. Several agency staff members and citizens noted that, although there are no sidewalk facilities, children play and people routinely walk along the roadway. Compounding the situation, some side streets are located on curves along the roadway and provide only short sight-distance for vehicles turning from these side roads onto Powerline Road. Additional housing development activity along Powerline Road, including a new 319-unit subdivision, would be expected to further increase traffic on Powerline Road. Local residents have also expressed concern that drivers' speeds along the roadway are too fast given the roadway's geometric limitations.

Highway 730 Between The West City Limits and Interstate 82

As with Powerline Road, several concerns with the cross-section and function of Highway 730--especially between the west city limits and the Interstate 82 interchange--have been raised by members of the Umatilla community. These issues also reflect both vehicular and pedestrian/bicycle access concerns.

Traffic on Highway 730

Community concerns involving Highway 730 between the western city limits and the Interstate 82 interchange predominantly reflect traffic volumes on Highway 730. As previously noted, approximately 7,300 vehicles traverse this segment of Highway 730 on a daily basis.

The combination of traffic volumes and the design of Highway 730 in this area lead to several concerns including:

- A perceived lack of safe places for pedestrians to cross Highway 730 due to few breaks in the traffic stream that allow pedestrians to safely cross the roadway;
- A perceived need for a traffic signal at Switzler Avenue to assist school children and pedestrians in general, cross Highway 730;
- Difficult access to Highway 730 from sidestreets such as Switzler Avenue;
- The use (by some drivers) of the Highway 730 center left-turn lane as a through lane; and
- The need for some form of traffic control to facilitate emergency vehicle's access to Highway 730 from the fire station (Station 1). Currently, the City's emergency vehicles have difficulty entering the traffic stream on Highway 730. This difficulty is due to the relatively steep grade up from their driveway, the lack of a clear line of site owing to the bank building and on-street parking, and the lack of cooperation provided by motorists on Highway 730.

Umatilla River Road

Umatilla River Road is perceived as serving growing traffic demands and also is the subject of community concerns. The Umatilla River Road/Highway 730 intersection has an identified sight distance restriction associated with the bridge structure that carries Highway 730 over the Union Pacific Railroad right-of-way. Currently, northbound left-turn traffic must advance to the pavement edge of Highway 730 to see approaching westbound Highway 730 traffic.

In addition to the sight distance issue at the intersection with Highway 730, Umatilla River Road is perceived by the community as being used by an increasing number of large trucks to avoid the designated truck route up from Hermiston.

Access to the McNary Residential Area

The McNary Residential Area on the east side of town currently is accessible via two intersections connecting with Highway 730, Columbia Street and Willamette Avenue. Each of these intersections has been identified as a potentially problematic location. Safety concerns at the intersections of Columbia Street/Highway 730 and Willamette Avenue/Highway 730 appear to be closely related to the overall character of access to the McNary Residential Area. Under the existing access configuration, all ingress movements to the housing area are focused through Willamette Avenue while egress is served by Willamette Avenue and Columbia Street. The resulting lack of connectivity to other roadway facilities was identified as being undesirable.

CONCLUSION

The City of Umatilla's transportation system is comprised of bicycle, pedestrian, roadway, transit, railway, pipeline, and river transportation facilities located within the UGB. On a typical weekday afternoon, the transportation system experiences its peak roadway traffic demand between 4:45 and 5:45 p.m. During this peak period, the transportation system operates sufficiently well to accommodate the peak demand in most areas of the City.

The bicycle system is currently limited to two striped bike lanes on Columbia Street, a multi-use path traversing the northbound span of the Columbia River Bridge and, a path along the Columbia River. The City of Umatilla has a reasonably well developed pedestrian system in the downtown area as well as along its arterial and collector street system. Most key pedestrian generators are adequately served by the existing sidewalk network; however, sidewalk connections to some key pedestrian generators do not exist. These key missing links in the system should be completed in a timely manner to ensure adequate access to these alternative modes. In addition, improved connections to the pedestrian bridge crossing of the Umatilla River should be provided.

Transit service in the City of Umatilla is relatively limited. Dial-a-Ride services are available in the area through out-of-town providers but they are only offered on a limited basis. Greyhound operates daily inter-city bus service to the area, providing an on-street stop at the intersection of Switzler Avenue and Highway 730.

No airports are located within the City of Umatilla's UGB, though facilities are available in neighboring communities. Union Pacific Railroad operates a freight rail line spur through the City of Umatilla on an as-needed basis, currently three days a week.

Both the West Extension Irrigation District and the Hermiston Irrigation District operate irrigation canals within the City's UGB. High-voltage transmission lines managed by the Bonneville Power Administration originate at the McNary Dam and carry power to and through the Umatilla area. Assuming the timely completion of City water and sewer line expansion projects currently underway, there is no capacity limitation for either pipelines or transmission lines in the Umatilla area that would limit industrial or residential expansion.

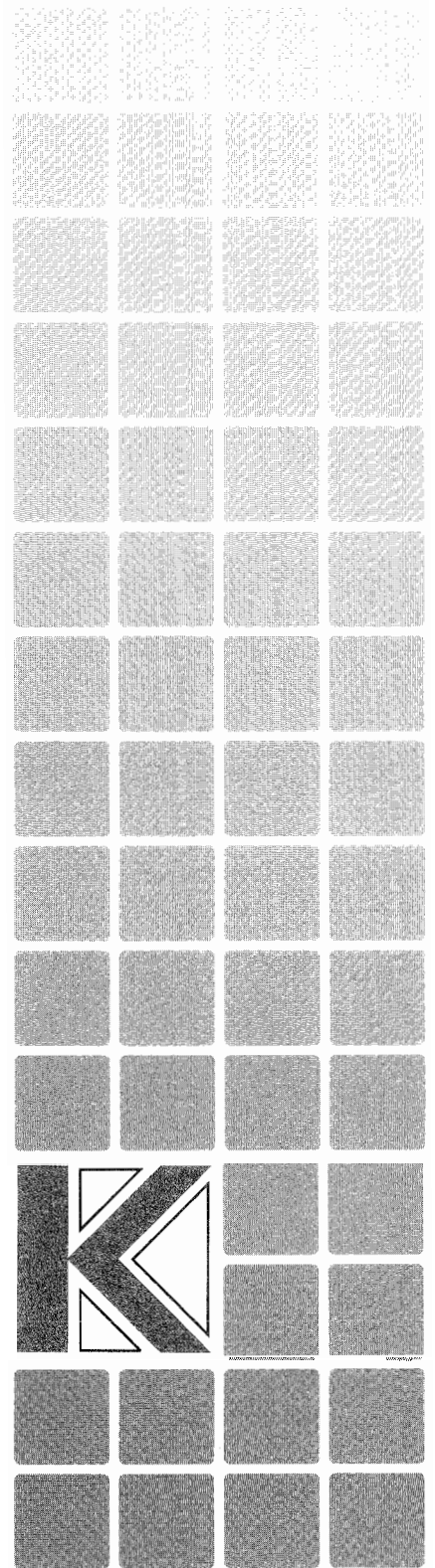
The Columbia River provides marine transportation to the area and two facilities operated and maintained by the Port of Umatilla support recreational and commercial use of the waterway. The McNary Dam is operated by U.S. Army Corps of Engineers and serves both commercial barge traffic and recreational boats traveling along the river.

All of the study intersections currently operate at acceptable levels of service under average weekday p.m. peak hour conditions. The signalized study intersections of Brownell Boulevard/Highway 730 and the southbound Interstate 82 ramp/Highway 730 are located extremely close to each other and ODOT has

coordinated their operations in an effort to improve their performance. Operational concerns within the Interstate 82 interchange have been identified and linked in part to the adjacent Port of Entry truck weigh station.

An evaluation of historical ODOT accident data revealed that accident rates at the study intersections are within generally accepted safety thresholds. Two study area intersections were identified as the location of a fatal accident, Columbia Street (Polluck Lane)/Highway 730 and Willamette Avenue/Highway 730. Both of these intersections had only one accident reported during the review period and both accidents involved a fatality. No obvious deficiencies were identified at the Willamette Avenue/Highway 730 intersection but it was noted that the one-way operation of the northern leg of the Columbia Street/Highway 730 intersection may be a source of confusion. Community concerns have been identified with the cross section and safety of Powerline Road, Highway 730, and Umatilla River Road as well as with the limited access provided to the McNary Residential Area.

8/2/2020



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 Umatilla were examined based on available employment and population forecasts, previously prepared future travel demand 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 Umatilla citizens.

TRANSPORTATION DEMAND

Future transportation demand for the City of Umatilla was estimated based on expected growth in the study area population, employment, and traffic traveling through the study area for the horizon year 2017. The unique trip making characteristics of residential as well as employment-based activities were considered in the development of the future travel demand estimates. Further, the available lands identified in the City's Buildable Lands Inventory were compared with the land use mix proposed in the City's Comprehensive Plan during development of the long-term travel demand forecast.

As part of this analysis, Kittelson & Associates, Inc. reviewed and identified planned developments and transportation improvement projects within the site vicinity. Historic transportation trends were compared with proposed future site-specific growth to arrive at a reasonable forecast condition.

Land Use/Demographics

Year 2017 traffic volumes on the City of Umatilla's transportation system were forecast based on population and employment estimates developed by the State of Oregon for Umatilla County and the City of Umatilla. 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 insure compliance with the TPR.

Population

The population of Umatilla County increased at an annual, compounded rate of 0.97 percent between 1960 (population 44,352) and 1990 (population 59,249). From 1990 to 1995, the County grew at an annual compounded rate of 1.9 percent (from 59,249 to 65,200). In contrast, between 1990 and 1998, the City of Umatilla's population grew at an annual compound rate of 1.8 percent (3,046 to 3,515 population). According to City of Umatilla staff, approximately 7,500 new residents are expected in the region in the near future in conjunction with the identified development activities. The HUES Growth Impact Study for Western Umatilla County (Reference 6) indicates that the City of Umatilla could realize approximately 719 new residents as a result of anticipated development activity. The recent acceleration in regional and local growth has been attributed to several new employment and development activities that are currently in process in the area and are summarized in Table 5.

Planned Developments

Umatilla area planning staff indicate that the region is experiencing unprecedented growth at this time. Conversations with the City's Planning Department and ODOT identified eight potentially significant development projects in the area. Those developments are summarized in Table 5. It should be noted that no significant expansion of the local food processing and stockyard industries were identified (although

an onion dehydration plant located within the Port of Umatilla has been reactivated after a period of dormancy.)

**TABLE 5
 PLANNED DEVELOPMENTS**

Development	Location	Anticipated Size	Completion Date
Residential Housing	Dean Avenue/Carolina Street area	48 Lots	Unavailable
Residential Housing	Naches Avenue	Approximately 14 acres	Unavailable*
Two Rivers Correctional Facility	Port of Umatilla, East of Beach Access Road	1,600 Bed Prison 500 employees	2000
Wal-Mart Distribution Center	1 mile south of southern Hermiston City Limit, west side of U.S. 395	1998: 400 employees 2001: 500 employees	1998-First Phase 2000-Full Buildout
Union Pacific Railcar Repair Facility	Hinkle Railyard (south side of Hermiston)	225 employees	Fall 1998 -1999
Umatilla Army Depot Chemical Weapons Incinerator	Immediately north of Interstate 84 on Army Depot property (southwest of the City of Umatilla)	500-600 additional employees	2001-Full Buildout
Hayden River Estates	Powerline Road, south of Tyler Avenue	Approximately 319 lots	Phased development over five years
Cogeneration Plant	Adjacent to Route 207, south of Hermiston	Unavailable	Unavailable*

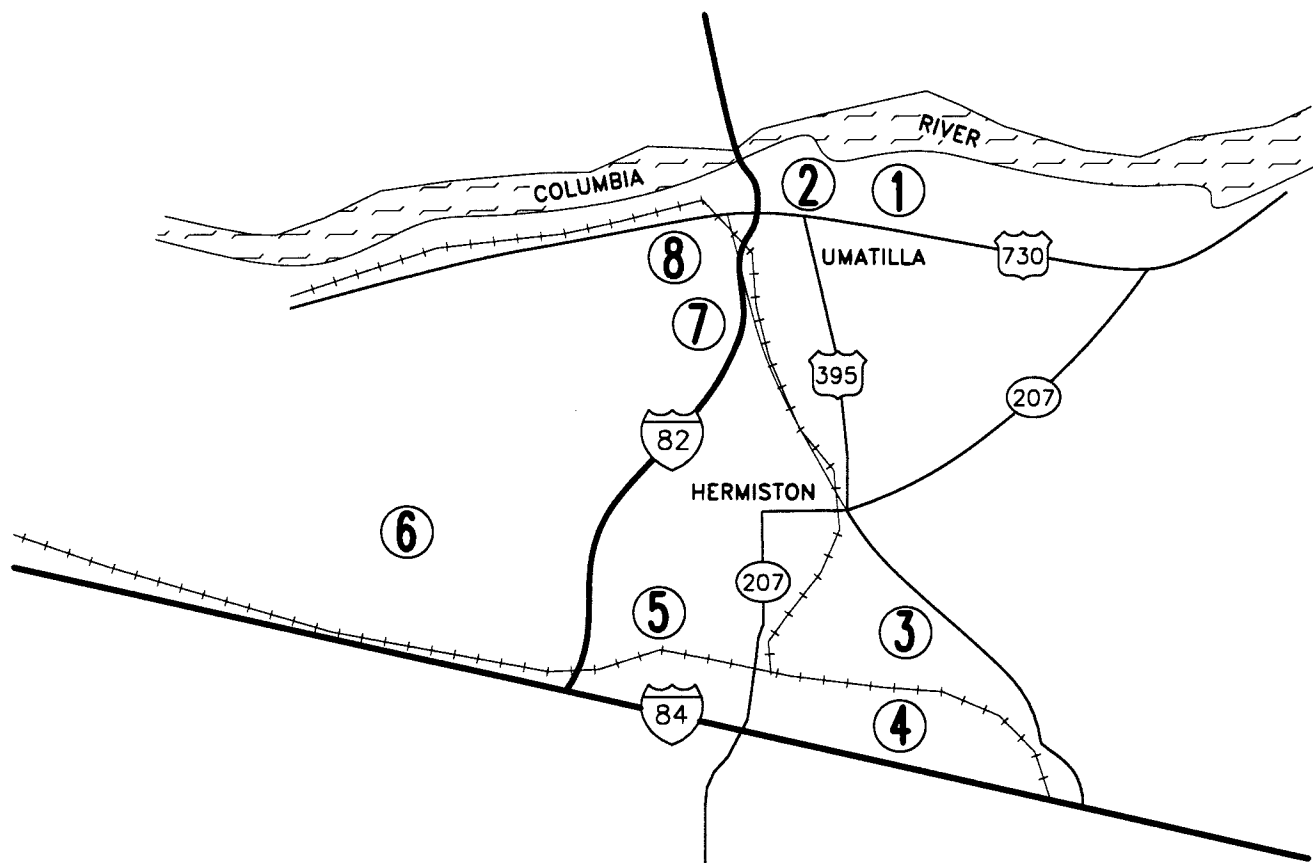
*No formal development applications have been received for these developments.

As indicated in Table 5 and illustrated in Figure 8, three residential housing developments and a state correctional facility are planned within the City of Umatilla and the remaining four developments are located south of Hermiston. With three exceptions, all of the developments identified in Table 5 were approved and/or under construction at the time this report was prepared. The exceptions include the potential new cogeneration plant and the residential housing development near Naches Avenue (neither of which had been specifically proposed for development) and the residential development near Dean Avenue (for which approval was pending from the City.)

Except for the residential developments, the development sites will be accessed primarily via Interstates 84 and 82 as well as Highway 207. According to local planning officials, truck traffic associated with the Wal-Mart Distribution Center has been directed to access the center via routes that avoid U.S. 395. Truck traffic destined to, or originating from, points north and west of the site are to travel on a route linking Interstates 82 to 84, U.S. 207, and Feedville Road. Similarly, traffic associated with the Umatilla Army Depot Chemical Weapons Incinerator and the Union Pacific Railcar Repair Facility will have efficient access to Interstate 84. Based on these plans, the developments are not expected to result in large increases in truck traffic on Highway 730 or the portion of Highway 395 within the Umatilla UGB.

Employment


Local officials anticipate the creation of 2,500 new regional jobs in conjunction with the Two Rivers Correctional Facility, Wal-Mart's Distribution Center, the Union Pacific Railcar Repair Facility, and the Umatilla Army Depot Chemical Weapons Incinerator. Buildout dates of these facilities are summarized in Table 5. With the exception of the Umatilla Army Depot Chemical Weapons Incinerator (which is expected to be constructed, operated, and disassembled in a 12-year time frame), these new facilities are anticipated to be sources of long-term employment.



LEGEND

- | | |
|---|--|
| ① TWO RIVERS CORRECTIONAL FACILITY | ⑥ UMATILLA ARMY DEPOT CHEMICAL WEAPONS INCINERATOR |
| ② POTENTIAL RESIDENTIAL HOUSING | ⑦ HAYDEN RIVER ESTATES |
| ③ WAL-MART DISTRIBUTION CENTER | ⑧ RESIDENTIAL HOUSING |
| ④ UNION PACIFIC RAILCAR REPAIR FACILITY | |
| ⑤ POTENTIAL NEW CONGENERATION PLANT | |

**LOCATIONS OF ANTICIPATED
DEVELOPMENT ACTIVITY**

CITY OF UMATILLA, OREGON TRANSPORTATION SYSTEM PLAN FEBRUARY 1999	FIGURE 8	
---	---	---

HISTORICAL TRAFFIC GROWTH

In an effort to account for the traffic growth associated with the identified development projects (not including the Two Rivers Correctional Facility or the Hayden River Estates projects, for which long-term traffic forecast were available), an annual growth rate was chosen for the year 2017 traffic analysis. This rate was determined based on a review of historical traffic volume trends, anticipated population growth, regional population densities, and local knowledge of planned, near-term development.

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 (Refer to Figure 9). The annual traffic growth rate of 0.6 corresponded to an annual population growth rate of 0.97 percent. Considering only the past five years and using additional data available for Interstate 82, the annual traffic growth rate was 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.

PLANNED TRANSPORTATION IMPROVEMENTS

ODOT is currently implementing a technology-based Commercial Vehicle Operations (CVO) program in conjunction with the Port of Entry weigh station located in the City of Umatilla. The program is expected to result in a reduction in the number of trucks passing through the weigh station. The CVO program is discussed in more detail in the **Alternatives Analysis** section of the TSP.

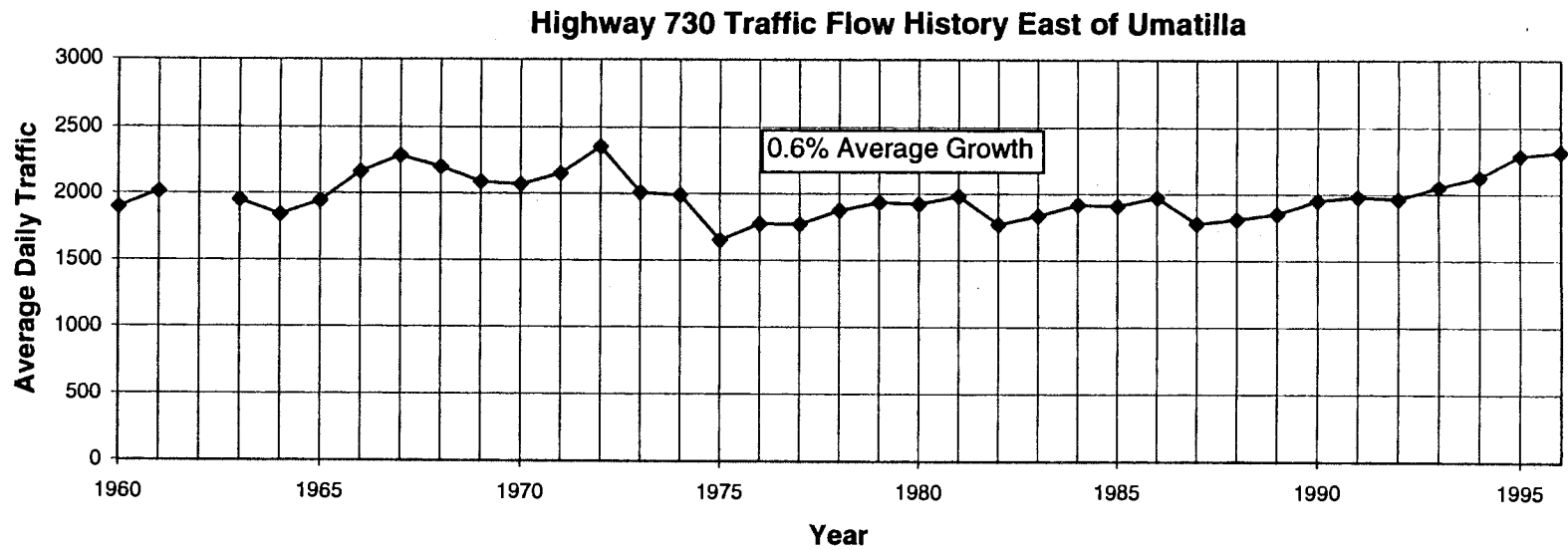
In an unrelated project, left- and right-turn lanes will be constructed on Highway 730 at the intersections of Bud Draper Drive and McNary Beach Access Road in conjunction with the construction of the Two Rivers Correctional Facility. The geometric improvements at these two intersections are scheduled for completion in 1999.

TRAVEL DEMAND FORECASTING METHODOLOGY

The growth rate for the 20-year design horizon was based on a review of historical traffic volume trends, anticipated population growth, regional population densities, and local knowledge of planned development. Given the area's historical 0.6 percent traffic growth rate between 1960 and 1996 (from the ODOT ATR data, refer to Figure 9) and the anticipated influx of development projects, a variable annual growth rate was chosen to model future conditions. The variable growth rate chosen is summarized in Table 6 and reflects the anticipated rapid development activity over the near-term and then a gradual moderation in the growth rate to slightly lower levels, resulting in a more sustainable rate for the long-term.

TABLE 6
20-YEAR TRAFFIC ANNUAL GROWTH PROJECTIONS

Analysis Period	Annual Growth Rate
1997-2002	5%
2002-2007	3%
2007-2012	2%
2012-2017	2%



Source: Oregon Department of Transportation Traffic Volume Tables

HISTORIC GROWTH TRENDS ON HIGHWAY 730

CITY OF UMATILLA, OREGON
TRANSPORTATION SYSTEM PLAN
FEBRUARY 1999

FIGURE

9



2613F009

The growth rates given in Table 6 are conservative and reflect discussions with, and information from, the City of Umatilla and ODOT. The five percent annual growth rate was chosen to represent traffic increases spurred by rapid development activities over the near-term future. The development information and long-term economic forecasts currently available suggest that development will not continue at the rapid pace that will be occurring over the next five years. Thus, it is assumed that the growth rate over the long-term horizon would return to its previous five-year rate of two to three percent per year. The suggested reduction in the long-term pace of development activity is supported by the anticipated closure of the Umatilla Army Depot Chemical Weapons Incinerator in approximately twelve years. This assumption is also consistent with the growth trend identified in Figure 9.

Changing Demand for Transportation Options

Over the next 20 years, travel demand within the City of Umatilla will continue to evolve. Future travel demand is expected to reflect a gradually increasing component of non-automobile traffic and also the City's increasing self-sufficiency.

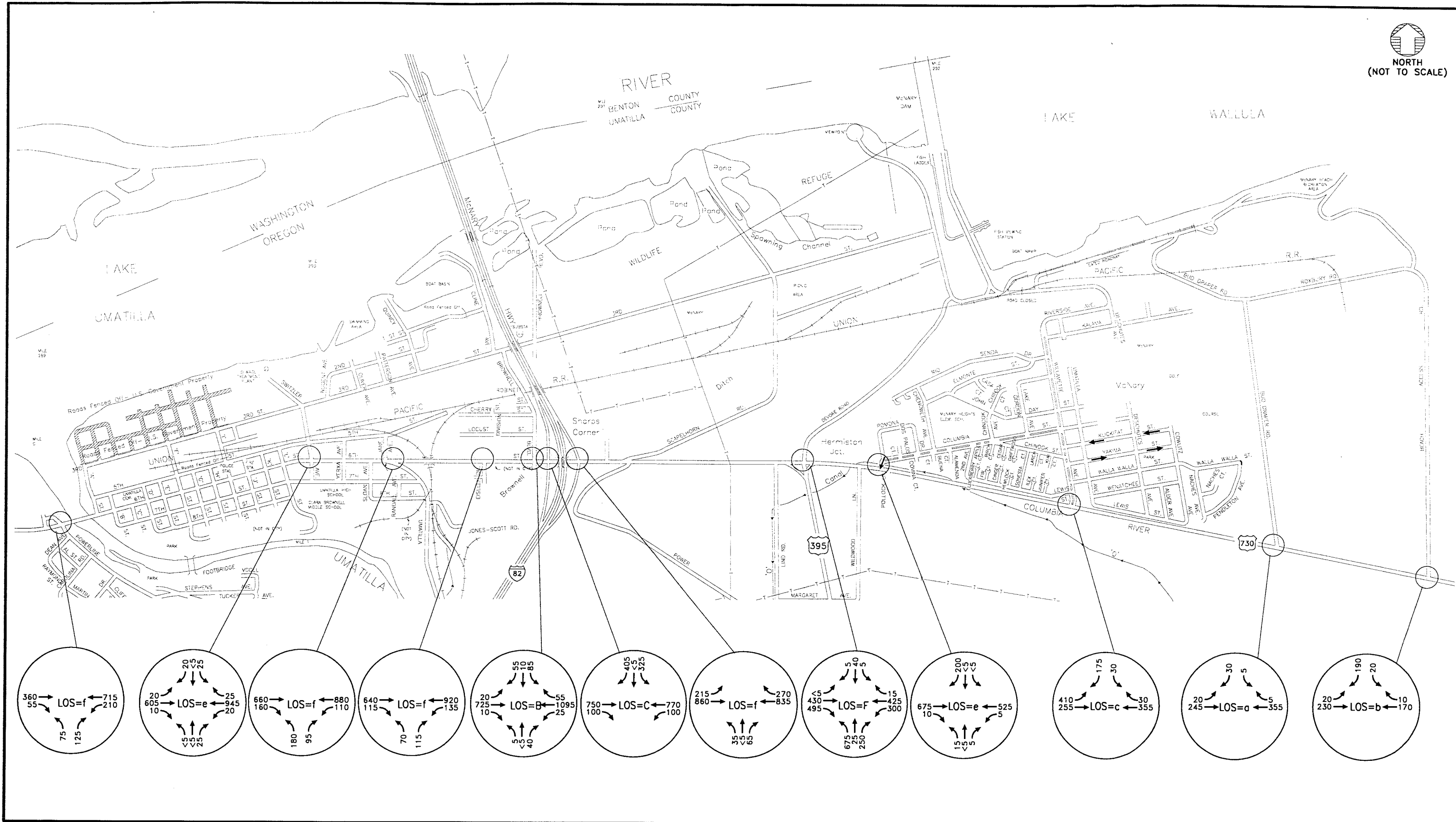
The City of Umatilla's TSP has provided for future facilities that will accommodate pedestrian, bicycle, and other modes of travel within the City. It is also expected that new technologies such as telecommuting will comprise a small but increasing part of the future transportation demand by the year 2017. In addition, technologies such as those associated with the ODOT CVO program are expected to reduce truck traffic within the City. These changes will create multi-modal transportation opportunities that should gradually reduce the existing dependence on automobile travel.

In addition to providing multi-modal transportation opportunities, the needs of the community itself will change travel demand patterns with time. It is generally understood that as smaller rural communities grow in population and employment they become more self-sufficient entities; 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.

Forecast Future Traffic Volumes

Future conditions within the City of Umatilla were considered under a "no-build" condition (i.e., no new roadways would be constructed in the 20-year horizon). Figure 10 illustrates the forecast year 2017 weekday p.m. peak hour traffic volumes under the no-build condition. In reviewing the traffic volumes illustrated in Figure 10, it should be noted that the traffic volumes were balanced between intersections in areas where there are limited access points.



LEGEND
 LOS = INTERSECTION LEVEL OF SERVICE
 X : SIGNALIZED INTERSECTION
 o : UNSIGNALIZED INTERSECTION

**2017 FORECAST TRAFFIC VOLUMES
 WEEKDAY PM PEAK HOUR**

CITY OF UMATILLA, OREGON
 TRANSPORTATION SYSTEM PLAN
 FEBRUARY 1999

FIGURE
10



Level of Service Analysis

Figure 10 summarizes the level of service results for signalized and unsignalized intersections. Signalized intersection level of service results are shown with a capital letter. Unsignalized intersection level of service results are shown with a lower case letter. Table 7 further details the forecast year 2017 traffic levels of service during the weekday p.m. peak hour at the signalized study area intersections.

**TABLE 7
 FORECAST YEAR 2017 PM PEAK HOUR LEVEL OF SERVICE,
 SIGNALIZED STUDY INTERSECTIONS**

Intersection	Highway Capacity Manual ⁽¹⁾			SIGCAP	
	V/C	Average Delay(sec/veh)	LOS	V/C	LOS
Brownell Boulevard/Highway 730	0.50	45.8	E	0.55	B
I-82 Southbound Ramp/Highway 730	0.75	37.3	D	0.64	C
Highway 395/Highway 730	0.89	25.3	D	> 1.0	F

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

(1) Supplemented by use of NETSIM to model the effects of closely spaced signals in coordination.

Based on the forecast year 2017 travel conditions, it is expected that the intersections of Brownell Boulevard/Highway 730 and Highway 395/Highway 730 will require mitigation. Further, in reviewing Table 7, it should again be noted that the SIGCAP analysis methodology reports unrealistic levels of service at the two intersections near the Interstate 82/Highway 730 interchange because it cannot account for the signal coordination necessary to operate the two closely spaced intersections. (For example, because SIGCAP does not account for the interaction between traffic signals at the Interstate 82/Highway 730 interchange, it reports level of service B at the Brownell Boulevard/Highway 730 intersection. More detailed operational modeling with alternative analysis methodologies suggests that the intersection will in fact operate at level of service E.)

Unsignalized Intersections

Table 8 summarizes the forecast level of service results for the unsignalized study intersections.

**TABLE 8
FORECAST YEAR 2017 WEEKDAY PM PEAK HOUR LEVEL OF SERVICE,
UNSIGNALIZED INTERSECTIONS**

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	LOS
Powerline Road/Highway 730	Northbound	> 1.0	> 45	F
Switzler Avenue/Highway 730	Southbound	0.34	36.7	E
Umatilla River Road/Highway 730	Northbound Left	> 1.0	> 45	F
Eiselle Drive/Highway 730	Northbound Left	> 1.0	> 45	F
Interstate 82 Northbound Ramp/Highway 730	Northbound Left	> 1.0	> 45	F
Columbia Street (Polluck Lane)/Highway 730	Southbound Left	0.14	31.7	E
Willamette Avenue/Highway 730	Southbound	0.45	13.2	C
Bud Draper Drive/Highway 730	Southbound	0.05	4.7	A
McNary Beach Access Road/Highway 730	Southbound	0.04	6.7	B

Legend: LOS = Level of Service, V/C = Volume/Capacity Ratio

As Table 8 indicates, the critical movements of four unsignalized study area intersections will operate at “unacceptable” levels of service and two will operate at “marginally acceptable” levels of service, under forecast year 2017 weekday p.m. peak hour conditions. It should be emphasized that the levels of service shown in Table 8 reflect delay to the critical minor street movement, major street levels of service at the unsignalized study intersections are still expected to operate at acceptable levels.

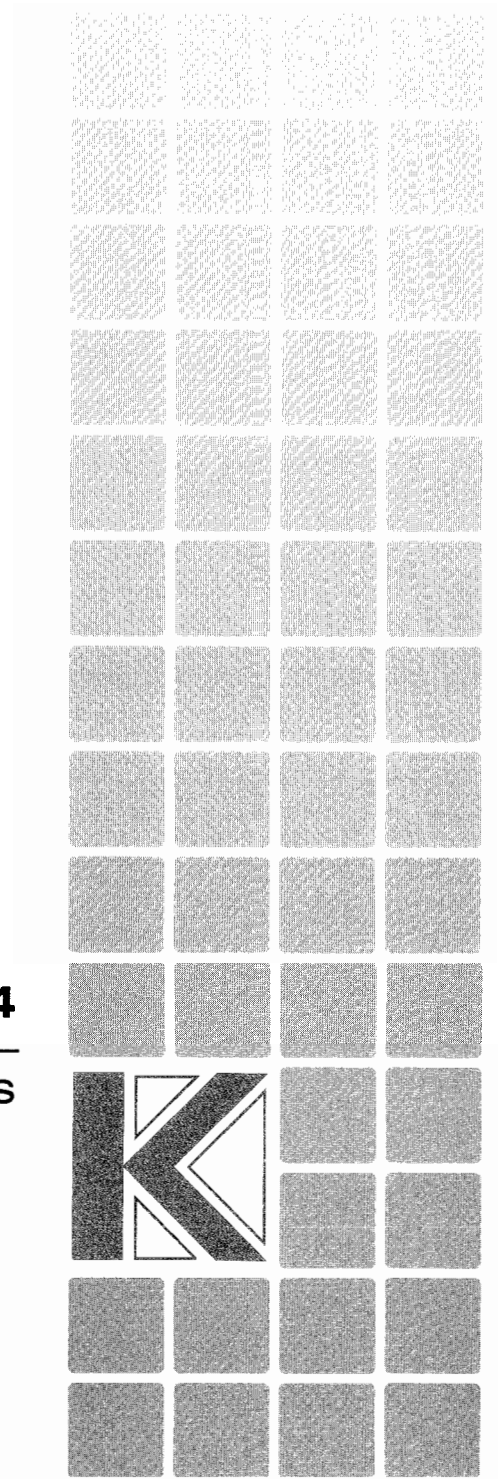
The next section of the TSP presents an analysis of potential mitigation alternatives that address existing and future forecast deficiencies, including mitigation of the study intersections.

SUMMARY

Several significant findings were identified through the future conditions analysis, most notably:

- Traffic volumes are expected to increase approximately 60 percent over the 20-year planning horizon.
- Traffic volumes are expected to increase more rapidly in the near-term due to higher-than-normal growth rates for population and employment during the same period.
- Future travel demand within the City of Umatilla will continue to evolve and is expected to reflect a gradually increasing component of non-automobile traffic and also the City’s increasing self-sufficiency.
- The capacity of the local transportation system is substantial enough to accommodate the forecast increases in demand with only minor operational deficiencies likely to occur at the locations noted below.
- Based on the future traffic volume forecast, the signalized intersections of Highway 395/Highway 730 and Brownell Boulevard/Highway 730 (and because of the current signal interconnection, the Southbound Interstate 82 Ramp/Highway 730 intersection) are anticipated to require mitigation measures. Similarly, the unsignalized intersections of Powerline Road/Highway 730, Umatilla River Road/Highway 730, Eiselle Drive/Highway 730, and the Northbound Interstate 82 Ramp/Highway 730 also are expected to require mitigation.

Section 4
Alternatives Analysis



Section 4

Alternatives Analysis



Alternatives Analysis

INTRODUCTION

This section is 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 complete missing links identified in both the pedestrian and the bicycle systems. This alternative modes 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, rail access, etc., currently exist at a level such that either an entire network needs to be developed (for example, bikeways) or else current services are adequate for existing demand and capacity is unconstrained (for example, rail access). The **Transportation System Plan** section of this report contains the recommended improvements to all of the modal systems.

INTERSECTION IMPROVEMENTS

The need for mitigation of existing and future intersection operations within the study area was documented in the **Existing Conditions** and **Future Conditions** sections of this report. The long-term future forecast for the study intersections under the "No-Build" scenario suggests that several intersection improvements will be necessary. Specifically, five of the study intersections were forecast to operate at unacceptable levels of service during the year 2017 weekday p.m. peak hour and will likely require mitigation.

The following section describes potential intersection improvements and recommended mitigation measures. For organizational purposes, potential mitigation measures associated with intersections along Highway 730 between Eiselle Drive and the Northbound Interstate 82 Ramp are discussed as a separate subtopic.

HIGHWAY 395/HIGHWAY 730 INTERSECTION

Analysis indicates that the Highway 395/Highway 730 intersection will operate at an unacceptable level of service during the year 2017 weekday p.m. peak hour. The forecast northbound left-turn volume of 675 vehicles and the substandard level of service suggest the need to provide northbound dual left-turn lanes at this intersection to minimize queuing and delay (generally, left-turn traffic volumes in excess of 300 vehicles per hour are considered to justify more than one left-turn lane).

Potential Improvements

Two potential improvements were considered that would create additional capacity for the northbound left-turn movement. One option was the creation of a northbound fly-over connection that would allow

northbound left-turn traffic to use a ramp over the existing intersection, effectively avoiding the signalized intersection and thereby reducing delay. The infrastructure cost associated with construction of the necessary fly-over ramp and supporting facilities effectively precludes this improvement option.

A second potential mitigation option would be the construction of an additional northbound left-turn lane. Provision of an additional northbound left-turn lane is expected to improve intersection operations to level of service "C", which is considered to be acceptable by ODOT standards for the 20-year planning horizon. Because Highway 730 already has two westbound travel (receiving) lanes at the intersection and the signal timing uses a split phase on the north-south legs, there should be no significant geometric impediments to the provision of dual left-turn lanes on the northbound approach. Nevertheless, widening of the Highway 395 south approach would be required to accommodate the additional turn lane.

Conclusion

An additional left-turn lane should be provided on the south approach of the Highway 395/Highway 730 intersection in the mid-to-long-term future. The additional northbound left-turn lane is forecast to reduce the intersection's volume/capacity ratio and delay to within acceptable standards.

UMATILLA RIVER ROAD/HIGHWAY 730 INTERSECTION

Umatilla River Road is serving growing traffic demands and is a subject of concern to the community. Analysis of the year 2017 traffic volume forecast suggests that the capacity of the intersection's northbound approach will be exceeded in the long-term future and that the critical northbound movement will operate at level of service "F." Compounding the operational problems at this intersection, the Umatilla River Road/Highway 730 intersection currently exhibits a sight distance restriction associated with the bridge structure that carries Highway 730 over the Union Pacific Railroad right-of-way. As documented in the **Existing Conditions** chapter, northbound left-turn traffic must advance to the pavement edge of Highway 730 to see approaching westbound Highway 730 traffic.

Potential Improvements

Given the forecast over-capacity condition and the sight-distance limitation at the Umatilla River Road/Highway 730 intersection, the intersection was identified as a potential candidate for signalization. Based on the future traffic volume forecasts, the intersection will meet MUTCD signal warrants 1, 2, and 11, indicating that signalization of the intersection will be warranted in the long-term future.

Installation of a traffic signal at the Umatilla River Road/Highway 730 intersection would resolve the existing sight-distance issue by providing the northbound left-turn traffic with a protected movement. Introduction of a traffic signal at this location does not appear to appreciably degrade the carrying capacity of Highway 730. Further, the traffic signal can be coordinated with other traffic signals on the highway (spacing between this signal and the Brownell Boulevard signal would be approximately 1,950 feet). Signalization of the intersection would also include installation of pedestrian signals, thereby enhancing safety for persons crossing Highway 730 to reach Umatilla River Road.

In lieu of signalizing the intersection, the existing sight-distance limitation could be addressed through reconstruction of the intersection. More specifically, the height of the northbound approach leg of the Umatilla River Road/Highway 730 intersection could be raised to increase the available sight distance. While potentially feasible, raising the intersection approach would require a substantial amount of fill and could also have adverse consequences for the private residences located immediately west of the roadway. In addition, this improvement provides little to no benefit for pedestrians and bicyclists.

Conclusion

Introduction of a traffic signal at the Umatilla River Road/Highway 730 intersection would restore intersection operations to an acceptable level of service and would also resolve the existing sight-distance issue, by providing the northbound left-turn traffic with a protected movement. This improvement is viewed as being preferable because it addresses both the intersection's capacity and safety issues (as opposed to simply raising the intersection's northbound approach, which would not resolve the intersection's forecast capacity limitation), while also creating a safer environment for pedestrians and cyclists to cross Highway 730. (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.*)

POWERLINE ROAD/HIGHWAY 730 INTERSECTION

The Powerline Road/Highway 730 intersection exhibits capacity and safety deficiencies under existing conditions that will be exacerbated by future traffic volume growth in the study area. As documented in the **Existing Conditions** section, northbound left-turn traffic at the intersection encounters sight distance restrictions looking to the east caused by the bridge structure that carries Highway 730 over the Umatilla River. The intersection also currently warrants a westbound left-turn lane with at least 75 feet of storage space. Analysis of forecast traffic volumes indicates that a traffic signal will be warranted at the Powerline Road/Highway 730 intersection in the near-term future.

Unfortunately, due to the intersection's location, the westbound Highway 730 approach to the Powerline Road/Highway 730 intersection does not currently have adequate room to provide a left-turn bay. The constrained width of the Umatilla River Bridge structure that carries Highway 730 over the Umatilla River and the proximity of Powerline Road to the bridge abutment effectively prohibit provision of a westbound approach left-turn bay without widening the bridge structure.

In addition to the local physical constraints, it should be recognized that the property located on the southwest quadrant of the Powerline Road/Highway 730 intersection is one of the few large undeveloped commercial properties (approximately 25-30 acres) within the City UGB. Given the large volume of new homes being constructed in the vicinity of Powerline Road south of Highway 730, it is likely that some form of commercial development activity will occur on this parcel of land over the course of the long-term future. Such commercial development has the potential to generate significant traffic volumes that may warrant installation of a traffic signal along Highway 730 to serve the development. The probable need to provide convenient and efficient access to the commercial property should be considered in the development and selection of potential improvement alternatives.

Finally, proximity to the Umatilla River presents several environmental issues that could limit the type and form of improvement that is ultimately realized. These issues include fish, wetlands, and riparian areas.

Potential Improvements

As evidenced by the previous discussion, several issues need to be addressed at the Powerline Road/Highway 730 intersection. These issues include reduction or elimination of existing sight-distance limitations, provision of at least 150 feet of storage length for westbound left-turn vehicles on Highway 730, and provision of separate left- and right-turn bays on the northbound Powerline Road approach. In addition, access for future development of vacant property adjacent to the intersection should be considered in evaluating relocation alternatives.

Given the many issues surrounding the Powerline Road/Highway 730 intersection, several potential mitigation options have been identified at this intersection and are illustrated in Figure 11. The general feasibility and ramifications of the options identified are presented below.

Option 1 - Signalize the Existing Intersection

The first potential mitigation measure considered was the signalization of the existing Powerline Road/Highway 730 intersection. This option offers the most economical solution but is only considered to be a near-term improvement. Signalization of the existing intersection would essentially result in the northbound Powerline Road approach becoming a protected movement. While the sight distance issue would not be geometrically rectified, the sight distance available would be less of a concern because drivers would be moving under protection by the signal.

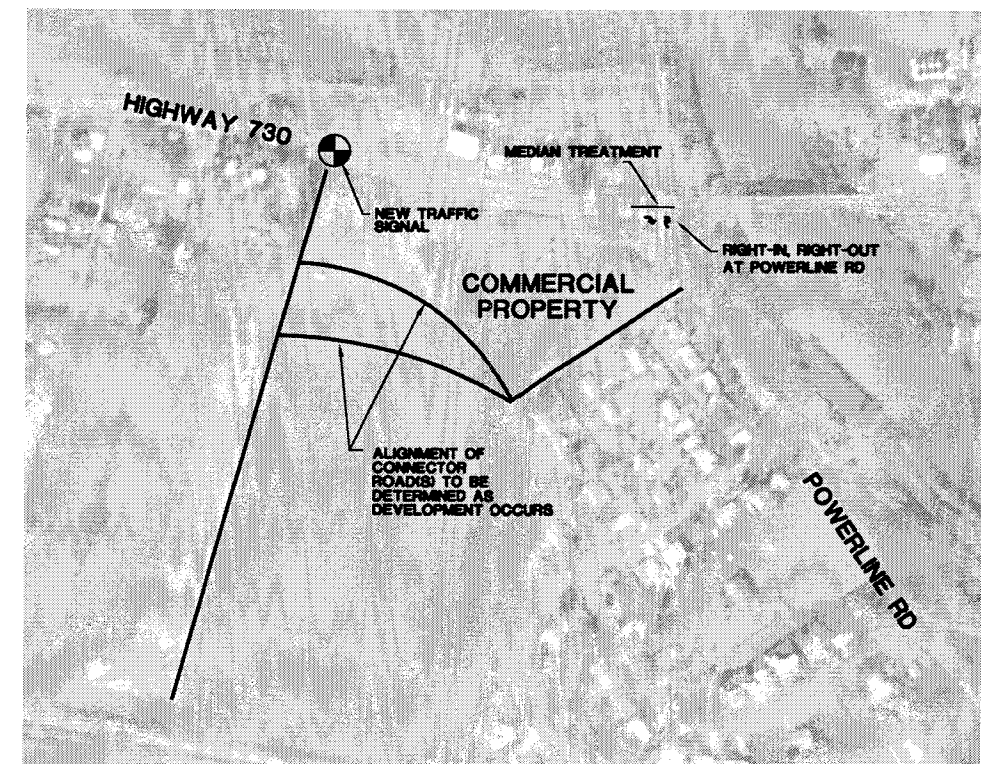
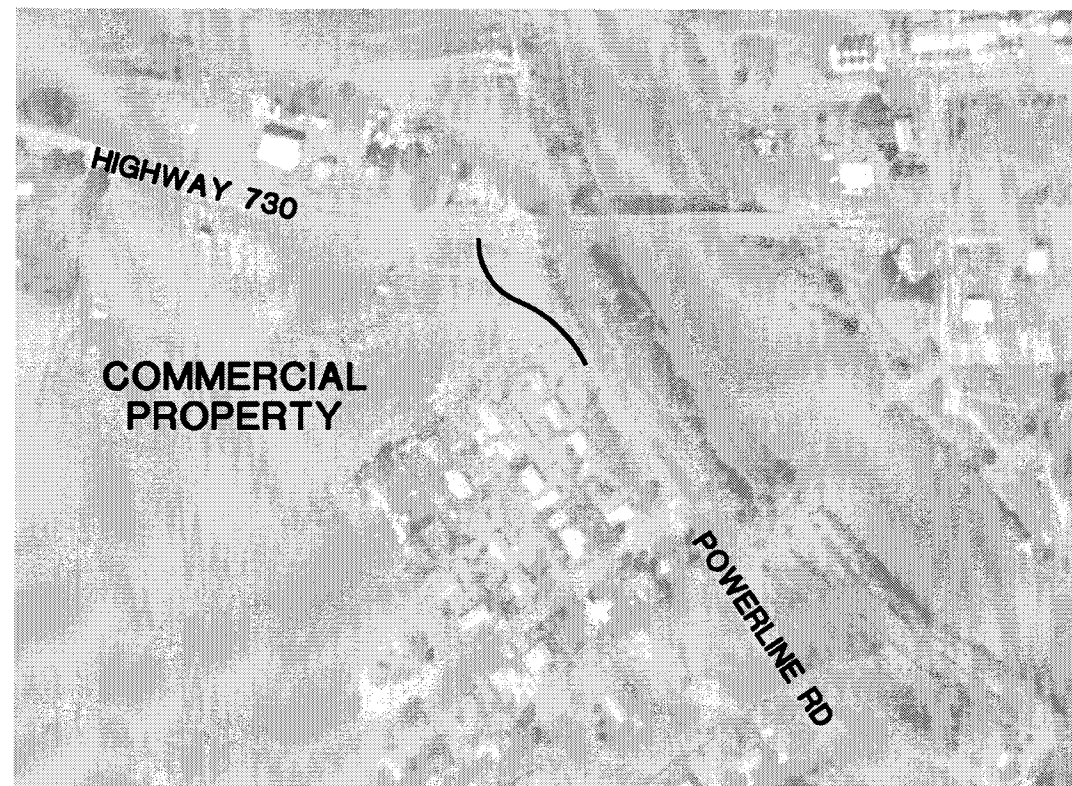
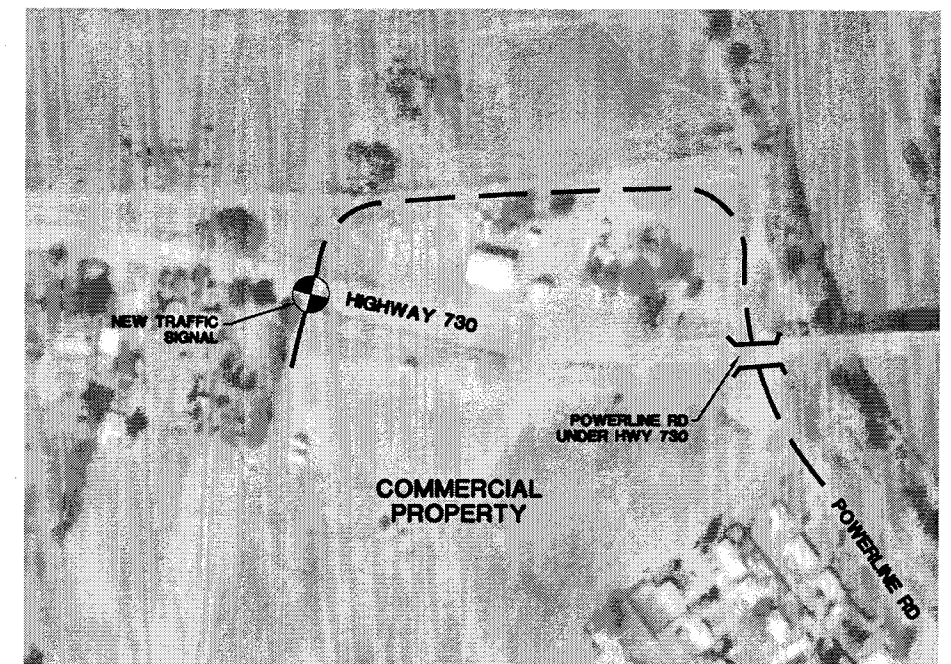
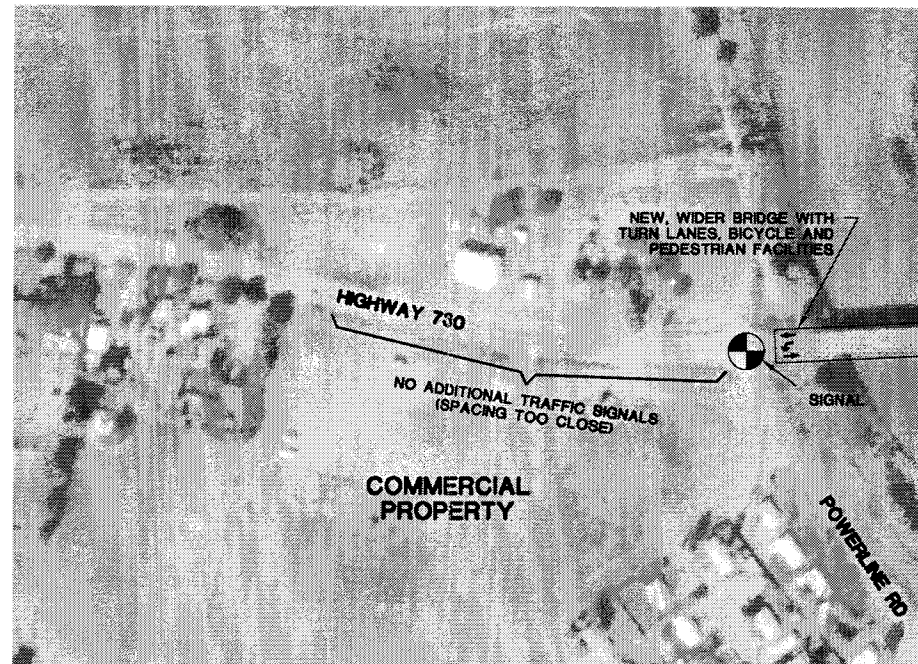
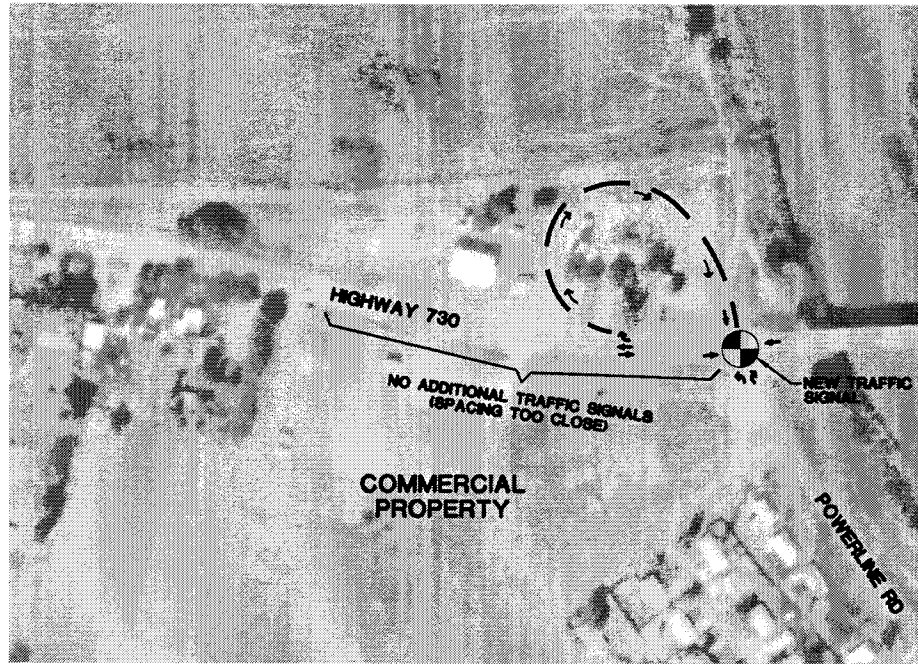
Signalization of the intersection would not address the existing need for a westbound left-turn bay (though signal phasing could be developed to provide some assistance to the westbound left-turn movement), and thus is considered a short-term mitigation measure only. To satisfy the westbound left-turn lane needs, a jughandle could be constructed in the northwest quadrant of the intersection. Construction of a jughandle would likely require land acquisition and regrading. It should be noted that the Powerline Road/Highway 730 intersection does not currently meet signal warrants based on traffic volumes, but is expected to as residential development activities on Powerline Road contribute additional traffic to the intersection. In the interim, signalization may be justifiable as a safety improvement.

Option 2 - Widen/Replace the Highway 730 Bridge Crossing The Umatilla River

A second potential option that was identified involves either widening or replacing the Highway 730 bridge over the Umatilla River. The existing narrow bridge structure, which was constructed in the 1920's and widened in the 1930's, physically precludes the possibility of providing a westbound left-turn lane and is also the source of sight distance limitations for northbound traffic on Powerline Road. This bridge is not currently listed on any known historic registry.

The existing structure has recently been identified by ODOT as exhibiting a marginal load capacity for supporting legal loads. Further, recent bridge inspections by ODOT have revealed cracking and spalling of the concrete, as well as exposed steel reinforcement. Such inspection information suggests that there is a reasonable basis for ultimately replacing the bridge for structural reasons. Because of these recent findings, ODOT is reviewing its sufficiency rating for the bridge. An updated rating was not available at the time this plan was prepared.

To correct these deficiencies, the existing structure could be widened or replaced with a structure that accommodates a westbound left-turn lane, supplementary queue storage space, and adequate sight distance for vehicles on Powerline Road. As an alternative, a new bridge structure could be constructed parallel to the existing structure. The two bridges could then be operated as a couplet with the existing structure providing an eastbound lane (and full bicycle/pedestrian facilities) and the new structure providing westbound travel lanes (a through lane and a left-turn lane). Powerline Road could be connected via an at-grade signalized access or through grade-separation and a jughandle connection as described in Option 3.



**POWERLINE ROAD/HIGHWAY 730
INTERSECTION POTENTIAL
IMPROVEMENT OPTIONS**

CITY OF UMATILLA, OREGON
TRANSPORTATION SYSTEM PLAN
FEBRUARY 1999

Modification of the bridge structure, either through renovation of the existing structure or construction of a new bridge, is likely to be cost prohibitive. Such a project would likely require additional right-of-way, some relocation/regrading of the Powerline Road intersection (to provide adequate sight distance and geometric alignment), potential realignment of the Highway 730 bridge approaches, and additional signing and striping on Highway 730. Further, signalization or relocation of the Powerline Road/Highway 730 intersection would still ultimately be required.

Option 3 – Grade-Separated Jughandle

A third option, identified as a grade-separated jughandle, would provide for a new traffic signal west of Powerline Road that could serve both the commercial property and Powerline Road. This option would require lowering Powerline Road such that it crossed under Highway 730. This option would also require right-of-way acquisition and could involve substantial structural work on the Umatilla River Bridge (potentially including the complete reconstruction of the bridge). This option would allow for a more strategic positioning of a traffic signal along Highway 730 that could serve Powerline Road traffic, the commercial property to the south, and other residential areas.

Option 4 - Relocate the Powerline Road/Highway 730 Intersection

A fourth option identified would involve relocating the existing Powerline Road/Highway intersection to the west. Vacant land (zoned commercial) is located to the west and south of the existing Powerline Road/Highway 730 intersection that potentially could be used in developing a realigned intersection. Sight distance to the west of a realigned Powerline Road/Highway 730 intersection appears to meet requirements. Realigning Powerline Road would require the acquisition of additional right-of-way and potentially could involve realignment of the eastern end of Dean Avenue to properly intersect with the relocated Powerline Road.

Any realignment of Powerline Road would have to be constructed such that the new intersection minimizes skewed approaches on existing roads. Both sight distance and westbound left-turn lane requirements would also need to be addressed in developing the realigned intersection. Provision of a westbound Highway 730 left-turn bay will serve to reduce or eliminate potential problems involving interaction between eastbound through and westbound left-turn traffic, and should provide additional safety in making the left-turn maneuver onto Powerline Road. As previously noted, it is recommended that the westbound left-turn lane provide at least 150 feet of storage length for queued vehicles and that consideration be given to providing separate left- and right-turn bays on the northbound Powerline Road approach.

Option 5 - Develop a New North-South Roadway

Consideration was given to a fifth mitigation option that involves the potential alignment and construction of a new north-south roadway to parallel Powerline Road that would serve an arterial function. Essentially, the thought was to develop a new roadway that could be constructed to form a bypass of the existing Powerline Road alignment. In concept, the new roadway could break off from the existing Powerline Road alignment at a point north of Radar Road and then travel north to intersect with the western ends of the existing roadway network serving local developments. The new roadway might then continue north to intersect with Highway 730 at a point near Buell Lane. While the alignment appeared to have potential, a review of local physical and topographic features in the area revealed that this option would face significant constraints to implementation.

Another alignment option would be to develop a new north-south connection to Highway 730 on the western periphery of the commercial property. Potentially, this new roadway could traverse the commercial property as a frontage road, connect with Dean Avenue, and ultimately link with Powerline

Road. The Powerline Road/Highway 730 intersection could then be operated as an unsignalized right-in, right-out intersection and a traffic signal would be installed at the new north-south roadway's intersection with Highway 730.

Conclusion

Improvements at the intersection of Powerline Road with Highway 730 should address both the existing sight distance and westbound Highway 730 left-turn lane storage limitations. In addition, any improvement of the Powerline Road approach should be constructed such that the intersection minimizes skewed approaches on existing roads and accommodates potential future capacity and access needs on both sides of Highway 730.

Given these concerns, remediation of the Powerline Road/Highway 730 intersection may be best addressed through a number of staged improvements to the intersection that are selected and implemented as development activities and local traffic conditions warrant. A potential strategy for introducing incremental improvements to the intersection is presented below.

Near-Term Improvements

Analysis of forecast traffic volumes indicates that a traffic signal will be warranted at the Powerline Road/Highway 730 intersection in the near-term future. Considering the potential improvement options that have been identified and the recent approval of major residential subdivisions that access Powerline Road, it appears that the intersection should be signalized in the near-term future. Signalization of the intersection will address the existing safety issues involving sight distance limitations and should be implemented as an interim mitigation. The new traffic signal should provide for protected/permitted operation of the westbound Highway 730 approach; thereby minimizing the extent to which westbound left-turning traffic impacts the signalized intersection's operations. In conjunction with the aforementioned improvements, consideration should be given to extending the 25 mph speed limit on Highway 730 further to west to maintain reasonable speeds. (NOTE: *The addition or modification of a traffic signal or change in posted speed 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.*)

Mid-Term Improvements

As traffic volumes on Powerline Road and Highway 730 continue to grow, it is expected that the westbound Highway 730 left-turn movements onto Powerline Road will become increasingly difficult to complete. Westbound Highway 730 left-turn movements will continue to block westbound through traffic on Highway 730; thereby resulting in increased delay and potentially contributing to safety problems at the intersection.

Delay will also increase for drivers on Powerline Road as left-turning vehicles in the single-lane northbound approach block vehicles from turning right-on-red to travel east on Highway 730. As traffic volumes on Powerline Road continue to grow, the northbound queue will lengthen and additional green time will need to be taken from the highway to service the northbound Powerline Road traffic. Under normal circumstances, the northbound approach to the intersection would be reconstructed to provide separate left- and right-turn lanes. In this instance, the long-term improvements necessary at the Powerline Road/Highway 730 intersection will likely require rebuilding the northbound Powerline Road approach, thereby rendering near-term improvements as "throw-away" projects. In all likelihood, it would appear to be in the area's interest to invest in substantial reconstruction of the intersection as opposed to implementing near-term measures that will have to be replaced themselves.

Given these concerns, and in lieu of replacing the bridge in the mid-term, it is recommended that provision of an at-grade jughandle be considered to service the westbound left-turn movement. The actual location of the jughandle is somewhat flexible in terms of operational performance, but will be heavily dependent on the availability of right-of-way on the north side of Highway 730. Location of the jughandle should consider provision for potential connections to future public streets on both the north and south sides of Highway 730. Regardless of the jughandle's location, a median treatment would need to be developed on Highway 730 in conjunction with the jughandle in order to prohibit left-turn movements onto Powerline Road.

Provision of a jughandle in conjunction with an appropriate median treatment would enhance the traffic signal installed as a near-term improvement by eliminating the need for protected/permitted left-turn phasing on Highway 730. The elimination of the westbound Highway 730 left-turn movement is expected to result in a reduction in delay experienced at the intersection. The jughandle does not, however, address the need for separate northbound left- and right-turn lanes on Powerline Road. It is recognized that a jughandle treatment would require all westbound-to-southbound movements to enter the intersection twice to achieve the desired movement.

Mid- To Long-Term Improvements

The introduction of an at-grade jughandle at the Powerline Road/Highway 730 intersection is considered to be a temporary improvement. Construction of this particular roadway improvement will be dependent not only on the availability of adequate right-of-way, but also on the potential development of the commercial property located on the south side of Highway 730. As previously noted, it would be desirable to service both the commercial property and the Powerline Road user needs through development of a mutually beneficial alternative.

As previously indicated, it would be in the area's best interest to invest wisely in improvements at the Powerline Road/Highway 730 intersection such that improvements are not future impediments or "throw-away" projects. That said, it is conceivable that mid- to long-term improvements to the intersection could be developed and staged to address capacity and safety issues surrounding the respective roadways, while also providing convenient access to the commercial property. Although the current lack of specific development plans for the commercial site limits the ability to develop refined mitigation alternatives, a generic plan has been developed as presented below.

Recently completed field inspections by ODOT of the Umatilla River bridge revealed indications of structural degradation. Although a revised bridge sufficiency rating is not yet available at the time of this writing, sources within ODOT who have been actively engaged in this project indicated that replacement of the bridge appears to be within the 20-year planning horizon. Based on advice provided by agency representatives from ODOT, Umatilla County, and the City of Umatilla, the long-term solution of bridge replacement was recommended.

The most feasible long-term option at this point appears to involve reconstruction of the Umatilla River Bridge, including grade-separation from Powerline Road and development of a new north-south connection to Highway 730 on the western periphery of the commercially zoned property. This mitigation option could potentially redevelop portions of the aforementioned jughandle alignment as Powerline Road. Powerline Road would travel under the new bridge and then loop into Highway 730 from the north. The new Powerline Road intersection with Highway 730 would align with the new north-south road to the south, creating a single signalized intersection to serve both Powerline Road traffic and local commercial/residential land uses. The new north-south roadway could traverse the commercial property as a frontage road, connect with Dean Avenue, and ultimately link back with Powerline Road.

The new bridge would be wider than the existing structure, accommodating pedestrian and bicycle facilities. If care is taken in designing the near-term Powerline Road/Highway 730 traffic signal, it is conceivable that large portions of the traffic signal could be retrofitted to the new intersection location. It should be noted that replacement of the bridge, with or without grade separation of Powerline Road, may ultimately be necessary for structural reasons alone.

Such improvements will require a significant amount of coordination with local landowners but appear to hold the most promise for long-term redevelopment of the Powerline Road/Highway 730 intersection and the surrounding property. Implementation of improvements of this magnitude will likely be driven by the pace of development activity on the properties surrounding the Powerline Road/Highway 730 intersection. As a result, the implementation of improvement measures will likely require near-term planning and right-of-way reservations as development opportunities are proposed. Actual construction of the improvements will likely occur either in conjunction with major commercial developments or else in small increments as a consequence of smaller development projects that collectively require improvements in the long-term future.

HIGHWAY 730 INTERSECTIONS BETWEEN EISELLE DRIVE AND THE NORTHOBOUND INTERSTATE 82 INTERCHANGE RAMPS

There are four key study area intersections currently located along Highway 730 between the Eiselle Drive and the northbound Interstate 82 interchange ramps. The roadways intersecting with Highway 730 include Eiselle Drive, Brownell Boulevard, the southbound Interstate 82 interchange ramps, and the northbound Interstate 82 interchange ramps.

Based on the **Future Conditions** section, all four of these study intersections will ultimately require mitigation measures. This stretch of Highway 730 is unique in that each of the four intersections is directly affected by the current and potential future operations of the ODOT Port of Entry Weigh Station and the related truck traffic. Consequently, to develop appropriate mitigations for the intersections, it is first necessary to understand how current and future operations at the ODOT Port of Entry might be improved.

ODOT Port of Entry/Weigh Station Operations

As stated in the **Existing Conditions** section, field observations made during the mid-summer weekday p.m. peak hour at the Brownell Boulevard/Highway 730 intersection and the Southbound Interstate 82 Ramp/Highway 730 intersection identified several signal cycle failures that were a direct consequence of Interstate 82 truck traffic destined to the Umatilla Port of Entry/ODOT truck weigh station. Further, because of the design of the weigh station and the operational characteristics of trucks, truck traffic was constantly queued on the northern Brownell Boulevard approach to Highway 730. This condition was noted to vary by season; a visual inspection of intersection operations made during the fall of 1997 identified no significant truck queuing at the intersections. Seasonal increases in truck traffic were attributed to peaking characteristics experienced by shipping interests and local harvest activities.

In the past, signal timing and phasing improvements have been developed to address congested operational conditions and safety concerns near the interstate interchange. Problems with pavement rutting and traffic signal detector failures have also been associated with the northern approach leg of the Brownell Boulevard/Highway 730 intersection due to the heavy truck traffic using the intersection. The concerns relating to pavement rutting and detection failure will be addressed later this year by the Port of Entry, which intends to reconstruct Brownell Boulevard with a concrete surface between Highway 730 and the weigh station's access driveway on Brownell Boulevard.

Potential Improvements

Although signal timing improvements and geometric improvements may provide marginal benefits to traffic operations along Highway 730 near the weigh station, significant modifications to the operations of the weigh station will likely be necessary in the long-term. Several potential mitigation options have been identified for consideration; the general feasibility and ramifications of these options are presented below.

Option 1 – Implement Intelligent Transportation System Technologies

One area of improvement rests with the promise of emerging technologies that reduce the need for trucks to physically stop at the weigh station for inspection. The Oregon Department of Transportation is currently in the process of implementing Intelligent Transportation System Commercial Vehicle Operation (ITS CVO) strategies through a program dubbed Operation Greenlight. In essence, the Operation Greenlight program seeks to implement new ITS CVO technologies such as weigh-in-motion scales and vehicle transponders capable of electronically relaying truck/cargo data in real time. In the case of the Umatilla Port of Entry, a weigh-in-motion system has been installed on the Interstate 82 bridge that traverses the Columbia River. This real-time scale allows trucks to be weighed on the Interstate at speed rather than requiring trucks to exit the interstate and use the stationary weigh station scales. Currently, the program is based on the voluntary participation of trucking companies.

In a broader sense, the Operation Greenlight program envisions trucks “checking in” at key points on the west coast. With a transponder capable of communicating cargo information and the weigh-in-motion scales measuring a given truck’s weight while it is still on the interstate, there would be no need to route the truck through the weigh station unless some discrepancy was identified (i.e., overweight, missing data from transponder, etc.) or if a random safety check were to be completed. These ITS technologies already are in use at the weigh station on at least a limited basis and have the potential to reduce the percentage of trucks entering the weigh station by as much as 50 percent (according to ODOT personnel).

While ITS strategies may reduce demand, it should be recognized that continuing growth of commerce in general and trucking in particular may result in a large enough increase in overall truck traffic that the reductions offered by ITS technologies are effectively offset by the increase in net truck traffic. Consequently, it may be advisable to consider other supplementary mitigation measures.

It should also be noted that the implementation of ITS technologies at the weigh station has already resulted in a short-term increase in truck traffic using the weigh station as all trucks that are not equipped with the ITS technologies must stop at the weigh station. During the fall of 1998, the requirement of all non-ITS equipped trucks to pass through the weigh station created significant backups at the interchange and apparently resulted in near gridlock. Recognizing the need to allow the weigh station to regulate the number of trucks entering the weigh station at any given time (and thereby avoid repeating the extreme situations encountered in the fall of 1998), additional signing has been placed on Interstate 82. The new programmable signs allow personnel at the weigh station to indicate to truck drivers whether or not they are required to exit the interstate and pass through the weigh station. The weigh station personnel can then avert congestion at the interchange by simply using the signs to indicate that trucks do not have to stop at the weigh station as necessary.

Option 2 – Provide Additional Processing Capability at the Weigh Station

One straightforward improvement option that should be considered at the weigh station is the use of additional processing lanes and/or staffing at the weigh station. At least some of the “worst-case” traffic backups have occurred when only one of the two available processing lanes was open at the weigh station.

Use of the second lane may require additional staffing allocations; however, this additional operational cost is substantially less than other infrastructure-based improvement options being considered.

Option 3 – Develop and Implement Alternative Circulation Plans at the Weigh Station

In an effort to enhance operations at the interstate interchange intersections, the on-site circulation of truck traffic was also evaluated. Based on discussions with ODOT staff, the critical design element of the existing site layout was the requirement for weigh station staff to be able to visually see the Highway 730/Interstate 82 interchange from within the weigh station office for enforcement reasons.

Given the need to improve operations at the Eiselle Street/Highway 730 intersection, it appears that a potential solution would be to reverse the flow of trucks into and out of the weigh station and tie the traffic flow into the Eiselle Street/Highway 730 intersection. Under a redesigned scenario, trucks would be routed into the weigh station via Brownell Boulevard and the existing traffic signal at the Brownell Boulevard/Highway 730 intersection could be eliminated. Truck traffic would circulate internally within the weigh station site in a manner that allows the existing weigh station structures to be retained. Truck traffic would then exit the site via a new traffic signal located at the Eiselle Street/Highway 730 intersection. The revised circulation plan would provide more flexibility in the coordination and operations of the traffic signals at the interstate interchange and would also accommodate any future redevelopment of the property located on the south side of Highway 730 across from the weigh station. It should be noted that the loss of a traffic signal at the Brownell Boulevard/Highway 730 intersection would likely result in longer delays for local traffic (vehicles travelling southbound on Brownell Boulevard desiring to turn left onto Highway 730), but would benefit from traffic signals being located both upstream and downstream on Highway 730. If the weigh station were rerouted, the functional classification of Brownell Boulevard should be changed to reflect a collector status.

Option 4 - New Roadway Connections Linking Interstate 82 Directly With The Weigh Station

It has been suggested that new roadway connections linking Interstate 82 directly with the weigh station should be considered as a means by which to remove or reduce the truck traffic's interaction with Highway 730. Given the grade differential between the interstate and the weigh station and other geographic limitations, it appears that the only way such connections could be developed would be through the construction of ramps directly to and from the interstate. The potential for developing such ramp connections was deemed to be very low due to the existing geographic constraints and the probable costs associated with infrastructure improvements of that magnitude.

Option 5 – Dual Right-Turn Lanes on the Southbound Interstate 82 Exit Ramp

During the final stages of the TSP process, a fifth improvement option was identified. In concept, an additional southbound right-turn lane would be added to the Southbound Interstate 82 Exit Ramp approach to Highway 730. This would allow two lanes of traffic to turn simultaneously from the exit ramp onto Highway 730 westbound. Of the two right-turn lanes, truck traffic would be restricted from using the leftmost lane. In that manner, truck traffic would be limited to one lane and local traffic would then be able to bypass trucks as they slow and/or queue while entering the ODOT weigh station.

The potential need for implementing this mitigation technique may very well be reduced or eliminated as the ODOT weigh station gradually becomes more effective in controlling the quantity of trucks diverted to the weigh station at any given time. Because this alternative was introduced well after the alternatives analysis and cost estimating were completed, no formal engineering operational/safety analysis were conducted. Nevertheless, the concept was considered worthy of noting for potential detailed future consideration.

EISELLE AVENUE/HIGHWAY 730 INTERSECTION

As presented in the **Future Conditions** section, the northbound approach of the unsignalized Eiselle Avenue/Highway 730 intersection is forecast to be operating in an over-capacity condition by the year 2017. Although short in length, Eiselle Avenue serves the Umatilla Post Office, a local gas station, and surrounding properties, making it a relatively heavily traveled roadway. Signal warrant analysis based on the long-term future volume forecasts indicate that the intersection will meet MUTCD signal warrants 1, 2, and 11, indicating that signalization will be warranted in the long-term future. This intersection should be monitored with respect to proposed developments in the area surrounding the intersection and in conjunction with updates to this plan.

INTERSTATE 82 INTERCHANGE

Year 2017 level of service analysis results at the Interstate 82 interchange indicate that the northbound ramp/Highway 730 intersection will operate at level of service "F" during the weekday p.m. peak hour (refer to the **Future Conditions** section). The level of service analysis also indicates that the Highway 730/Brownell Avenue intersection will operate at level of service "E" during the p.m. peak hour due to delays on the eastbound approach. The Oregon Department of Transportation policy for this section of Highway 730 is to maintain level of service "D", or better.

Potential Capacity Improvements

As a result of the forecast substandard levels of service, the northbound ramp of Interstate 82/Highway 730 intersection was analyzed to determine if a traffic signal was warranted. Based on the future traffic volume forecasts, the intersection will meet MUTCD signal warrants 2 and 11. Given that the northbound ramp/Highway 730 intersection represents a critical component of the overall Interstate 82/Highway 730 interchange, the impacts of signalizing this intersection were closely examined for level of service improvements and impacts to the interchange's queue storage.

The interchange's operations are complicated by the Brownell Boulevard/Highway 730 intersection located immediately west of the southbound interstate ramps. Currently, the southbound Interstate 82 ramp/Highway 730 intersection and the Brownell Boulevard/Highway 730 intersection are operated on a single timing plan for coordination purposes. The need to collectively coordinate the signal timing of the three intersections (Brownell Boulevard/Highway 730 intersection, southbound Interstate 82 ramp/Highway 730 intersection, and the northbound Interstate 82 ramp/Highway 730 intersection) was considered in the operational analysis. For analysis purposes, it was assumed that the Interstate 82 ramp intersections were coordinated and that the Brownell Boulevard/Highway 730 signal timing was directly linked with the interchange signals.

The long-term analysis suggests that if the existing arrangement of the intersections of Highway 730 with Brownell Avenue and the southbound Interstate 82 ramps is retained in conjunction with current circulation plans at the ODOT Weigh Station, there may also be a need to improve the capacity of the Highway 730/Brownell Avenue intersection. The intersection's capacity could be enhanced through provision of an additional eastbound through lane. This could be accomplished by adding a through/right-turn lane to the westbound intersection approach. The new through/right lane could be made an exclusive right-turn lane between Brownell Avenue and the southbound on-ramp to Interstate 82.

Storage Lane Length Requirements

In the event that the Northbound Interstate 82 Ramp/Highway 730 intersection is signalized in the future and no other changes to the interchange area are made, vehicle queuing becomes a concern.

Consequently, a vehicle queuing analysis was conducted for the Interstate 82 interchange to ensure that long-term operations would not be constrained by vehicular queuing. The analysis assumed that a traffic signal was installed at the Northbound Interstate 82 Ramp/Highway 730 intersection and that good signal coordination was maintained with the other two interchange traffic signals. The analysis focused on vehicle queue distance between the traffic signals on Highway 730 and at the Highway 730/Northbound and Southbound Interstate 82 exit ramps. It should be noted that the queuing analysis assumed that the truck queuing problem associated with the weigh station is adequately mitigated before year 2017. Table 9 summarizes the results of the queuing stacking-distance analysis for the weekday p.m. peak hour.

**TABLE 9
 INTERSTATE 82 INTERCHANGE YEAR 2017 STACKING DISTANCE ANALYSIS**

Intersection/Movement	Queue Length (feet)	Existing Storage (feet)
Southbound Through/Left-Turn Lane)	490	1000
Southbound Right-Turn Lane	540	1000
Westbound Left-Turn Lane (SB Ramp/Highway 730)	205	85*
Westbound Through Lanes (SB Ramp/Highway 730)	380	435
Northbound Through/Left Lane	130	1000**
Northbound Right-Turn Lane	155	100**
Eastbound Left-Turn Lane (NB Ramp/Highway 730)	280	100*
Eastbound Through Lanes (NB Ramp/Highway 730)	165	435

Queue length represents 95th percentile queue, analysis assumes 120-second cycle, coordinated phasing between the signals located at Brownell Boulevard and the Interstate 82 ramp intersections, and no queue spillback from the ODOT truck weigh station onto Highway 730.

*85 feet of storage space is currently delineated by pavement markings for the westbound Highway 730 left-turn bay (at the southbound ramp/Highway 730 intersection) and 100 feet for the eastbound Highway 730 left-turn bay (at the northbound ramp/Highway 730 intersection). Additional center left-turn space is available between the westbound left-turn lane and the eastbound left-turn lane serving the Interstate 82 northbound ramp section (This space is currently used as the left-turn taper striping area). The total distance between the northbound and southbound ramp intersections is approximately 435 feet; therefore, sufficient stacking distance is available, if proper phasing is used.

**The northbound Interstate 82 exit ramp serving Highway 730 currently begins with a single lane and tapers to two full lanes approximately 100 feet prior to the edge of Highway 730. Right-turn traffic shares the exit ramp with vehicles turning left and/or travelling through the intersection until reaching the additional lane space, of which it has exclusive use of one lane; therefore, sufficient stacking distance is available.

As shown in Table 9, queuing is not expected to present any operational constraints at the interchange, based on the assumptions stated above.

Conclusion

As outlined in the preceding discussion, there are several potential improvements that can be made along Highway 730 between Eiselle Avenue and the Interstate 82 Northbound Ramps. It is essential that any improvements to this segment of the City be made through a systems approach that considers the overall implications of changes to the roadways. Outlined below is a methodical approach for improving the transportation system within this subarea that considers both local impact and system impact.

Near-Term Improvements

As alluded to earlier, the first step in addressing improvement needs along this segment of roadway is to resolve operational issues associated with the ODOT Weigh Station. As a first step in improving

operations, every reasonable effort should be made to ensure that the weigh station is fully staffed during peak shipping periods so that truck traffic can be processed as rapidly as possible.

Expansion of the ITS CVO technologies made available through Operation Greenlight appears to be another avenue on which the weigh station should focus. Experience to date suggests that truckers are not yet embracing the program and mass participation in the program has not been forthcoming. Local shipping interests and farmers should be encouraged to participate in the Operation Greenlight program, thereby allowing the area to capitalize on these emerging technologies to the benefit of local citizens (who should see less truck traffic traveling to the weigh station) and the shippers themselves (who would no longer have to routinely exit Interstate 82 and wait in line at the weigh station). Participation may be increased simply by creating a greater awareness of the system's availability and the potential time and cost savings associated with use of the emerging technologies. The cost to equip a truck with the appropriate vehicle transponder is less than \$50.00 according to officials representing the Port of Entry.

Mid- To Long-Term Improvements

In the mid- to long-term future, if the near-term improvements (ITS technologies and additional staffing) do not result in improved operations at the weigh station, serious consideration should also be given to redesigning the circulation of the weigh station. There are several transportation system needs that could be addressed through a rework of on-site circulation. These issues include the existing problems associated with operating the closely spaced Brownell Boulevard and Southbound Interstate 82 Ramp intersections with Highway 730, the eventual need for a traffic signal to service Eiselle Drive, truck traffic on Brownell Avenue, and potential access improvements for properties along the south side of Highway 730.

As previously alluded to, the existing traffic signal at the Brownell Boulevard/Highway 730 intersection could be eliminated in favor of a new traffic signal at the Eiselle Drive/Highway 730 intersection. The new traffic signal at Eiselle Drive would service both the weigh station and properties to the south of Highway 730. This would offer convenient access to the City's Post Office, as well as commercial activities to the south; potentially including the truck stop adjacent to the southbound Interstate 82 ramps via a frontage road. The relocated traffic signals and new circulation plans would also reduce the need for capacity improvements (i.e. additional travel lanes) at the Brownell Avenue/Highway 730 intersection. Relocating the traffic signal to the Eiselle Drive/Highway 730 intersection would also allow for improved pedestrian access in the area and a safer pedestrian crossing of Highway 730, due to reduced truck/pedestrian conflicts (as compared with the Brownell Boulevard intersection).

Notwithstanding potential improvements to the weigh station, it is anticipated that the Northbound Interstate 82 Ramp/Highway 730 intersection will require signalization in the mid- to long-term future. The signalization project should incorporate continued signal coordination between the Interstate 82 ramp intersections and adjacent signalized intersections. Signal progression in this area would be enhanced if the Brownell Boulevard/Highway 730 intersection traffic signal were eliminated in favor of a signal at the Eiselle Drive/Highway 730 intersection, due to more favorable signal spacing that could be obtained. The desire for adequate signal spacing is further supported when considered in the context of a potential future traffic signal serving the Umatilla River Road/Highway 730 intersection. Regardless of where other traffic signals are ultimately located in relation to the Interstate 82 interchange ramps, signal phasing sequences should be coordinated to minimize queuing.

It should also be noted that the public concern involving the visibility of the traffic signal heads at the Interstate 82 Southbound Ramp/Highway 730 intersection (refer to the **Existing Conditions** section) would be addressed through signalization of the Northbound Interstate 82 Ramp/Highway 730 intersection. Signalization of the Interstate 82 Northbound Ramp/Highway 730 intersection would likely

alleviate the visibility problem as westbound Highway 730 traffic would be exposed to a traffic signal on the east side of the Interstate 82 bridge. This new traffic signal would likely heighten drivers' awareness of the upcoming traffic signals located on the west side of the bridge deck.

Access To McNary Residential Area

The McNary Housing Area located on the eastern side of Umatilla currently is accessible via two intersections connecting with Highway 730; Columbia Street and Willamette Avenue. Each of these intersections has been identified as a potentially problematic location as described in the **Existing Conditions** section.

Safety concerns at the intersections of Columbia Street/Highway 730 and Willamette Avenue/Highway 730 appear to be closely related to the overall character of access to the McNary Housing Area. With the current roadway network and access configuration, all ingress movements to the housing area are focused through Willamette Avenue while egress is served by Willamette Avenue and Columbia Street. The lack of connectivity to other roadway facilities is undesirable.

Potential Improvements

There are several potential alternatives that would enhance access to the McNary Housing Area. These alternatives include:

- extending Chenoweth Avenue or Rio Senda Drive (or another existing local street) west to connect with Devore Road. This would provide the McNary Housing area residents with direct access to a signalized intersection on Highway 730 and Highway 395.
- extending Cowlitz Avenue or Naches Avenue south to intersect with Highway 730 at a new unsignalized intersection. While the potential for such an extension exists, granting another unsignalized access point to Highway 730 is not necessarily desirable.
- extending Walla Walla Street east to Bud Draper Drive. This option would provide McNary residents an alternative access to Highway 730, but more importantly, would provide direct access to a variety of land uses and activity areas to the east, without having to use Highway 730. The roadway would also be provided for a much more direct emergency response to the area for the Umatilla Rural Fire District Station 2, located in the McNary Housing area. City and County staff indicate that this option is not viable due to a long-standing agreement between the two public entities not to connect the two roadways.
- reconfiguring the Columbia Street/Highway 730 intersection to incorporate two-way operations. It should be noted that the reason the Columbia Street/Highway 730 intersection was made one-way was to avoid potential problems with queuing on Highway 730. Accommodating such queuing would potentially require widening of Highway 730.
- improving channelization on Willamette Avenue near the intersection with Highway 730, including the connection to Lewis Street. These improvements could include channelizing Lewis Street to right-in, right-out only access to Willamette Avenue.

Conclusion

Each of the identified potential improvements is considered to be viable; however, one of the identified alternatives is considered to be more preferable. The extension of Chenoweth Avenue west to connect with Devore Road is highly desirable because of the signalized access to both Highway 730 and Highway 395 that would be provided to residents of the McNary area. While desirable, it should be noted that the

final alignment of such a connection will likely require right-of-way acquisition and the full cooperation of the City, the U.S. Army Corp. of Engineers, local property owners, and several other interested parties.

In contrast, the potential extension of Cowlitz Avenue and/or Naches Avenue south to intersect with Highway 730 was discounted by ODOT representatives. Similarly, extending Walla Walla Street east to Bud Draper Drive was eliminated as a potential option due to the City and County's desire to separate the Port of Umatilla industrial area from the McNary Residential area. Improvements to either the Columbia Street/Highway 730 intersection or the Willamette Avenue/Highway 730 intersection appear to remain feasible but were not deemed preferred based on community input.

HIGHWAY 730 FIRE SIGNAL

As part of the TSP process, input was solicited from local community members as to perceived transportation problems. One issue that was discussed several times was the need to provide a traffic signal or some other form of preemption device linked to the Umatilla Rural Fire District Station 1 on the west side of town. The existing fire station is located on the west side of "J" Street, just north of Highway 730. The fire department reports that its personnel have a difficult time accessing Highway 730 when responding to emergency calls. Fire Department staff cited partial obstruction of the view of the emergency vehicles by adjacent buildings and uncooperative drivers on Highway 730 as specific problems. Further, the department staff noted that the road between the fire station and Highway 730 is inclined, making it difficult for heavy emergency vehicles to accelerate from a stopped position.

The fire department has requested that a traffic control device (fire signal) be implemented to provide emergency vehicles with priority treatment, thereby expediting their access to Highway 730.

Conclusion

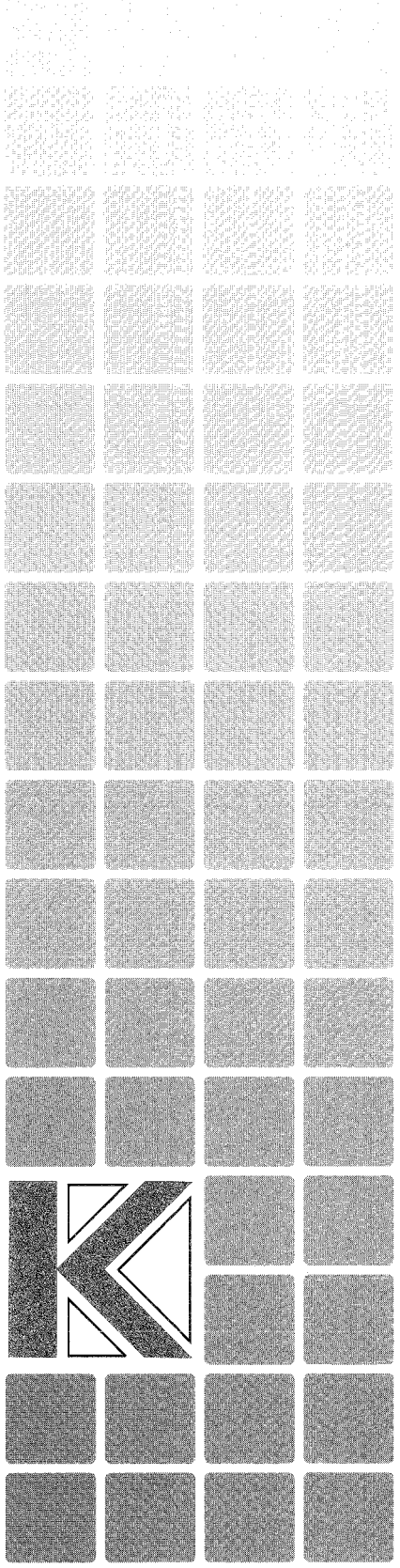
The fire department's request for a traffic control device on Highway 730 that can be preempted to facilitate emergency vehicle access is reasonable. Many communities around the state use such devices to ensure safe access and the timely response of emergency vehicles. (NOTE: *The of a traffic signal 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.*)

SUMMARY

This section has presented the alternatives that have been developed and evaluated to address the near-term and long-range transportation deficiencies with the City of Umatilla urban growth boundary. Section 5, which follows, presents the recommended improvements for each transport mode that comprise the City's transportation system.

Section 5

Transportation System Plan



Transportation System Plan

INTRODUCTION

This section describes the individual elements that will comprise the Transportation System Plan for the City of Umatilla. The preferred alternative presented in this TSP consists of those transportation improvements necessary to support the City of Umatilla's Comprehensive Land Use Plan. The TSP addresses several components for development of the future transportation network including:

- Roadway System Plan
- Pedestrian System Plan
- Bicycle System Plan
- Public Transportation System Plan
- Rail System Plan
- Marine System Plan
- Air/Water/Pipeline System Plan
- Access Management Plan
- Implementation Plan

It should be noted that 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, rail access, etc., currently exist at a level such that either an entire network needs to be developed (for example, bikeways) or else current services are adequate for existing demand and capacity is unconstrained (for example, rail access). The pedestrian and bicycle plans presented in this section were based on the base roadway network, anticipated need, and input provided by City, County, and State staff as well as the general public.

The individual plans 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 Umatilla and the public agencies that serve them.

ROADWAY SYSTEM PLAN

At the commencement of the TSP process, the City of Umatilla had no roadway plan to provide guidance as to how best to facilitate travel within the City. Consequently, a critical component of the City's TSP is a Roadway System Plan that addresses two key issues:

- a roadway functional classification system and corresponding roadway design standards, and
- 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 be 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 City of Umatilla TSP incorporates six functional categories; Freeways, Major Arterials, Minor Arterials, Collectors, Neighborhood Collectors, and Local Streets. The roadway cross-sections and features for classifications within the City of Umatilla are shown in Figure 12 and described below.

Freeways

Freeways are generally considered to be 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, consequently, tend to be high-speed facilities with widely spaced access points and medians and limited or no access for pedestrians and bicyclists.

Major Arterials

Major arterials are roadways that are primarily intended to serve traffic entering and leaving the urban area. Major arterials tend to carry significant intraurban travel between downtown areas and outlying residential areas. While major arterials may provide access to adjacent land, that function is subordinate to the travel service provided to major traffic movements. Next to freeways, major 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 can be associated with the Major Arterial streetscape.

Minor Arterials

Minor arterials are roadways intended to interconnect with and augment the major arterials. These facilities link major arterials and then distribute traffic to smaller geographic areas, thereby accommodating trips of moderate length at a somewhat reduced level of mobility. Minor arterials tend to have more relaxed access control than major arterials and operate at more moderate speeds. As opposed to major arterials, minor arterials would likely not be truck routes. Pedestrian/bicycle treatments tend to increase in scale on Minor Arterials, as compared with Major Arterials.

Collectors

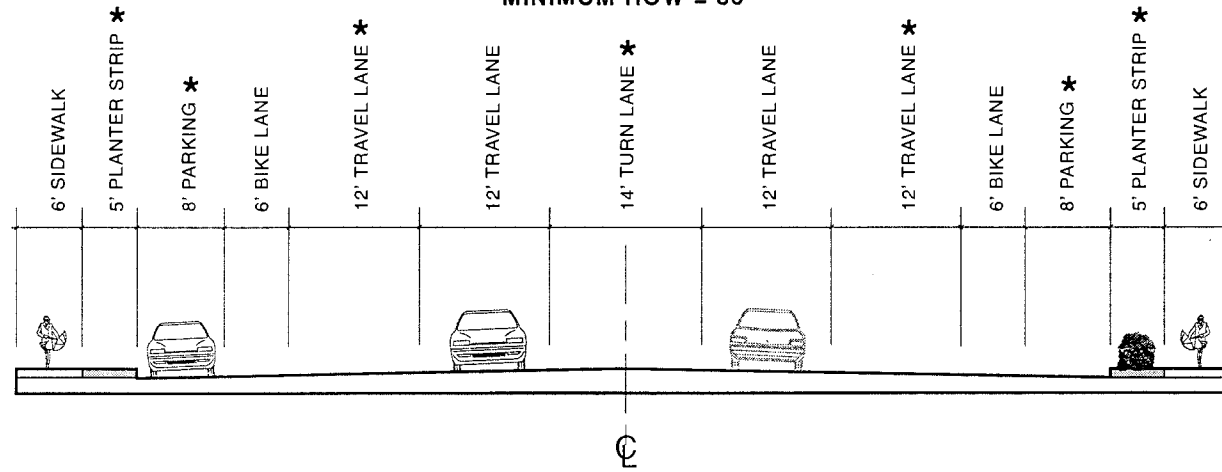
Collector facilities link minor arterials with the local street system. As implied by their name, collectors are intended to collect traffic from local streets and sometimes from direct land access, and channel it to arterial facilities. Collectors are shorter than minor arterials and tend to have moderate speeds. Bicycle facilities are often provided as striped bike lanes and sidewalks can be more generous in width.

Neighborhood Collectors

Neighborhood collector facilities are a subset of collectors serving the objective of penetrating local neighborhoods to provide direct land access service and traffic circulation. These facilities tend to carry lower traffic volumes at slower speeds than typical collectors do. On-street parking is more prevalent and bike facilities may be exclusive or shared roadways.

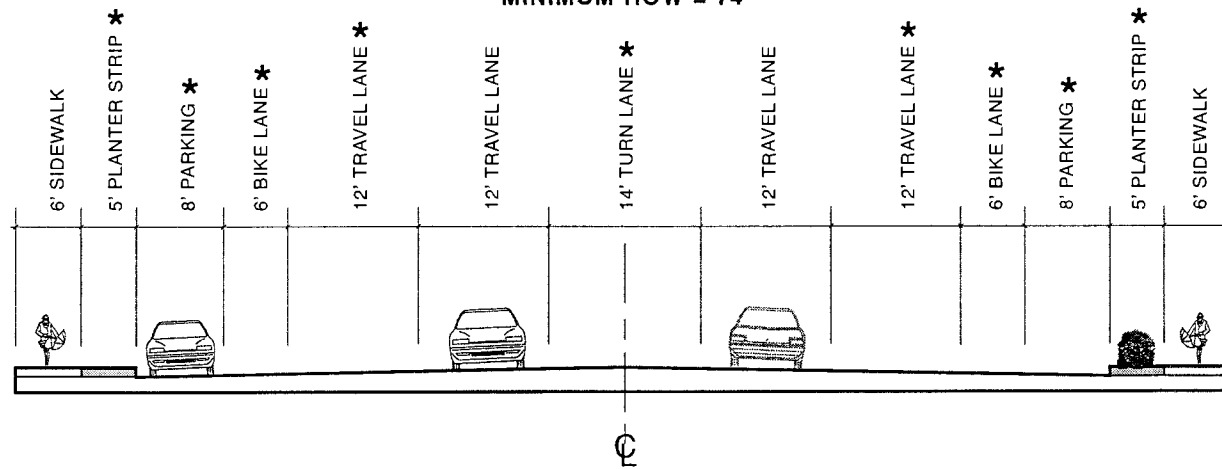
MAJOR ARTERIAL

MINIMUM ROW = 86'



MINOR ARTERIAL

MINIMUM ROW = 74'



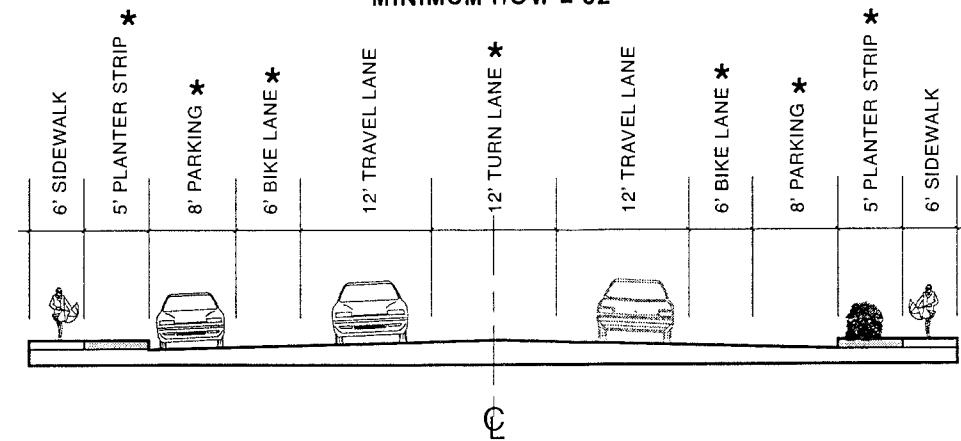
* Optional

Note: 5-foot bike lanes may be provided at locations where an adjacent on-street parking lane is provided.

ROW = Right-of Way

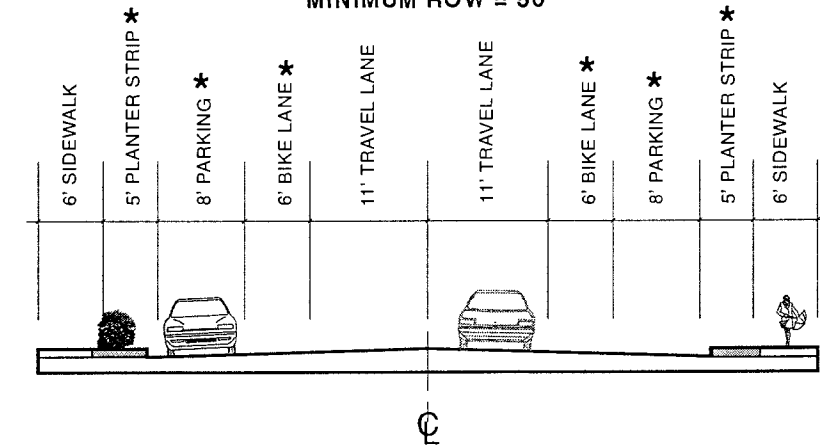
COLLECTOR

MINIMUM ROW = 52'



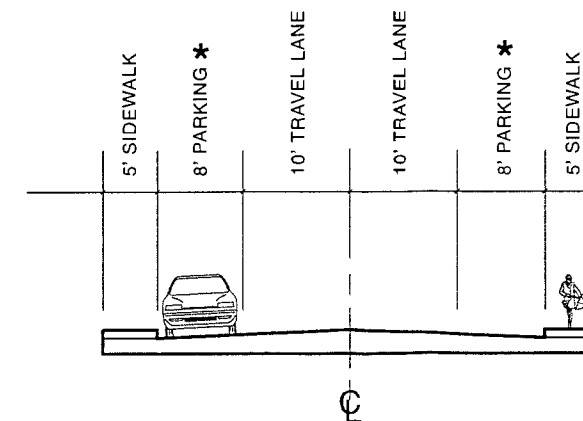
NEIGHBORHOOD COLLECTOR

MINIMUM ROW = 50'



LOCAL STREET

MINIMUM ROW = 40'



Note: Local Street ROW allows for 2' shy distance along curb face.

FUNCTIONAL CLASSIFICATION ROADWAY CROSS-SECTIONS

CITY OF UMATILLA, OREGON
TRANSPORTATION SYSTEM PLAN
FEBRUARY 1999

FIGURE
12



2613/DWGS/2613F000.CDR

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 street should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic should be discouraged. On-street parking is common and sidewalks are present on both sides of the road.

Figure 13 illustrates the functional classification plan for each of the roadways within the City of Umatilla urban growth boundary. The major roadway designations are as follows:

Freeway

- Interstate 82

Major Arterial

- Highway 730
- Highway 395
- Bud Draper Drive
- Roxbury Road

Minor Arterial

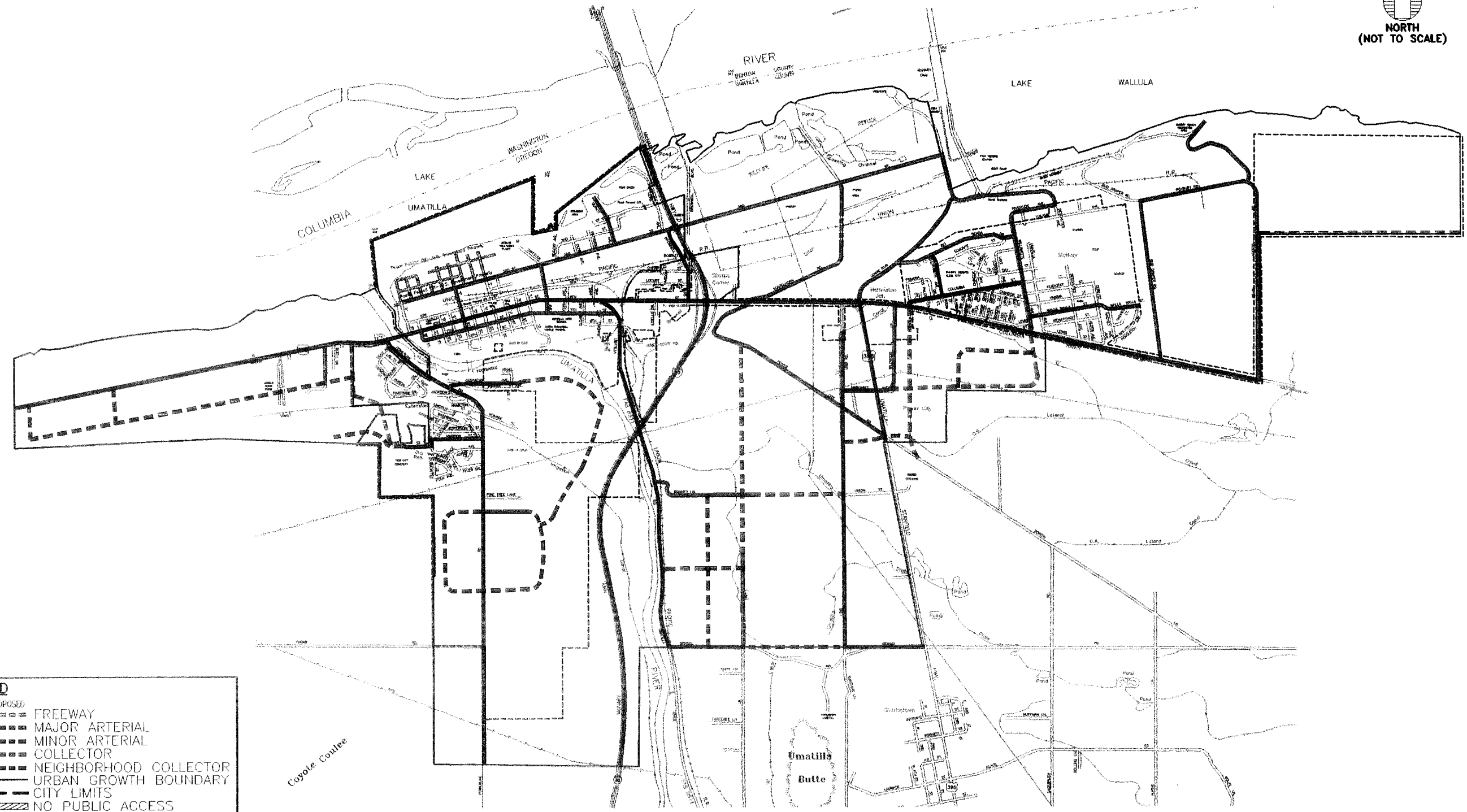
- Powerline Road
- Umatilla River Road
- Brownell Avenue (Highway 730 to Third Avenue)

Collector

- Third Avenue
- I Street
- Switzler Avenue
- Quincy Avenue
- 7th Street
- Scapelhorn Road
- Power City Road
- Devore Road
- Rio Senda Drive
- Willamette Avenue
- McNary Beach Access Road

Neighborhood Collectors

- Madison Avenue



LEGEND		
EXISTING	PROPOSED	
		FREEWAY
		MAJOR ARTERIAL
		MINOR ARTERIAL
		COLLECTOR
		NEIGHBORHOOD COLLECTOR
		URBAN GROWTH BOUNDARY
		CITY LIMITS
		NO PUBLIC ACCESS

NOTE: PROPOSED ROADWAY ALIGNMENTS ARE CONCEPTUAL. FURTHER ENGINEERING IS REQUIRED TO DETERMINE FEASIBLE ALIGNMENT ALTERNATIVES.

RECOMMENDED ROADWAY NETWORK AND FUNCTIONAL CLASSIFICATION SYSTEM

CITY OF UMATILLA, OREGON TRANSPORTATION SYSTEM PLAN FEBRUARY 1999	FIGURE 13	
---	---------------------	--

- Stephens Avenue
- Columbia Street
- Chenoweth Avenue
- Walla Walla Street

Roadway Design Standards

Roadway design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. 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 12 presents recommended 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, in some cases, amenities such as planter strips.

The cross sections illustrated in Figure 12 reflect the desire to develop multi-modal roadway facilities within the City of Umatilla in the future, incorporating sidewalks and bike lanes 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, on-street parking and in some instances, bike lanes.

The City of Umatilla would have the prerogative with city facilities, to allow narrower 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. Every reasonable effort to minimize required roadway widths was taken in development of these roadway standards, while maintaining necessary consistency for safety and driver expectation. Policy and code revisions will enable the City to apply sound engineering judgement to determine the appropriate functional classification designation and roadway width of new streets and extensions.

Table 10 summarizes the standards for the different roadway classifications.

**TABLE 10
 ROADWAY CLASSIFICATIONS AND STANDARDS**

Classification	Cross Section	Minimum ROW	Turn Lanes	Travel Lanes	Bike Lane	Sidewalks	On-Street Parking	Planter Strip
Major Arterial	3-5 lane	86 feet	Option ¹	12 foot	Yes	Yes	Option	Option
Minor Arterial	3-5 lane	74 feet	Option ¹	12 foot	Option	Yes	Option	Option
Collector	2-3 lane	52 feet	Option ¹	12 foot	Option	Yes	Option	Option
Neighborhood Collector	2 lane	50 feet	None	11 foot	Option	Yes	Option	Option
Local Street	2 lane	40 feet	None	10 foot	None	Yes	Option	No

¹ Minimum width = 12 feet
 ROW = Right of way

As indicated in Table 10, Major Arterials will have a minimum right-of-way requirement of 86 feet and will range in cross section from three to five travel lanes (36-60 feet). All Major Arterials will have sidewalks and bike lanes which, in turn, will serve as principal components to the Pedestrian and Bikeway Plans presented later in this section. On-street parking and planter strips will be optional, with final decisions as to whether such amenities are required on a given street made at the discretion of the City of Umatilla (and, in the case of state facilities, appropriate representatives from ODOT).

Minor Arterials will have a minimum right-of-way requirement of 74 feet and will also range in cross section from three to five travel lanes (36-60 feet). Similar to Major Arterials, all Minor Arterials will have sidewalks; however, bike lanes, on-street parking, and planter strips will be optional. Again, final decisions as to whether such amenities are required on a given street should be made at the discretion of the City of Umatilla (and, in the case of state facilities, appropriate representatives from ODOT). Both the Pedestrian Plan and the Bikeway Plan presented later in this section utilize the flexibility inherent to the two plans to develop a comprehensive transportation network beyond the existing auto-oriented infrastructure.

Collector streets will have a minimum right-of-way of 52 feet, a cross section consisting of two to three 12-foot travel lanes, and sidewalks. Bike lanes, on-street parking, and planter strips will be optional and should be required at the discretion of the City of Umatilla and with reference to the Pedestrian and Bikeway Plans.

Neighborhood Collectors will have a cross section consisting of two 11-foot travel lanes and a minimum right-of-way of 50 feet. Although sidewalks will continue to be required, bike lanes, Finally, Local Streets will have a minimum right-of-way of 40 feet and a cross section consisting of two 10-foot travel lanes. Sidewalks will also be required on Local Streets, though bike lanes and planter strips will not be incorporated into their design. On-street parking may be allowed at the discretion of the City of Umatilla.

Access spacing standards for the respective roadway classifications are presented later within this section.

Evacuation Plan

Umatilla County Emergency Management, 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. Emergency Management 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 Emergency Management staff note 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 radios. The directions would then instruct persons to a safe destination, potentially involving reception areas that have been designated in The Dalles, Heppner, and Pendleton.

Proposed New Roadways

As part of the TSP development process, conceptual alignments for future minor arterial, collector, and neighborhood collector roadways have been identified as shown in Figure 13. 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, and
- provide the City with guidelines for roadway alignments as future development occurs.

The need for the proposed facilities identified in Figure 13 will be driven by future development within the City's urban growth boundary. *It should be stressed that the location of the potential new roadways is approximate and that the actual roadway alignment will need to be determined based on identified constraints and specific development plans for individual areas.*

Roadway Improvements

Several roadway system improvements have been identified as part of the TSP process, including capacity improvements, signalization of intersections, and other related techniques as described in the following sections. It should be noted that the implementation portion of this section identifies specific projects as well as associated cost and scheduling.

Capacity/System Management Improvements

It is recommended that an additional northbound left-turn lane be provided at the Highway 730/Highway 395 intersection. In addition, it is recommended that the Powerline Road/Highway 730 intersection be enhanced and that operations at the ODOT weigh station be improved.

Future Intersection Signalization

Several study intersections have been identified for potential signalization by the year 2017. These intersections include:

- Powerline Road/Highway 730;
- Umatilla River Road/Highway 730;
- Eiselle Avenue/Highway 730; and
- Interstate 82 Northbound Ramp/Highway 730.

There are several points worthy of consideration with respect to potential signalization projects along Highway 730. To maintain the function and integrity of Highway 730, any new traffic signal installation must be carefully examined to ensure functional signal timing and coordination. Irregular spacing of traffic signals may make coordination of the signals along the corridor difficult and may result in a higher number of accidents and/or an increase in the severity of accidents. Appropriately located signals provide reasonable progression, while allowing for adequate access. (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.*)

Care should also be exercised when installing traffic signals at isolated intersections with operating speeds above 40 miles per hour (such as west of Powerline Road). The ability of motorists to judge the safe stopping distance, coupled with an unexpected traffic signal at an isolated intersection location, has the potential to reduce the safety expected of a traffic signal installation. Ideally, any new traffic signals near the Interstate 82 interchange should be interconnected with the interchange signals to ensure safety and efficiency for both Interstate 82 and Highway 730.

Street Extensions

The extension of Chenoweth Avenue or Rio Senda Drive to Devore Road is considered to be a critical street extension that is recommended as part of the TSP. This street extension will improve access for local residents, improve neighborhood connectivity, reduce reliance on Highway 730 for local trips, and reduce total vehicle miles traveled on the transportation system.

PEDESTRIAN SYSTEM PLAN

The recommended pedestrian system plan includes both sidewalk facilities and multi-use paths as shown in Figure 14. The key objective in the development of the pedestrian plan was to provide connectivity between major activity centers, such as housing, schools, post office, government buildings, and recreation areas. As shown in Figure 14, it is recommended that sidewalks be provided throughout the City to develop and maintain a comprehensive sidewalk system. Under the pedestrian plan, sidewalks would be provided along all major roadways, and on both sides of a given roadway.

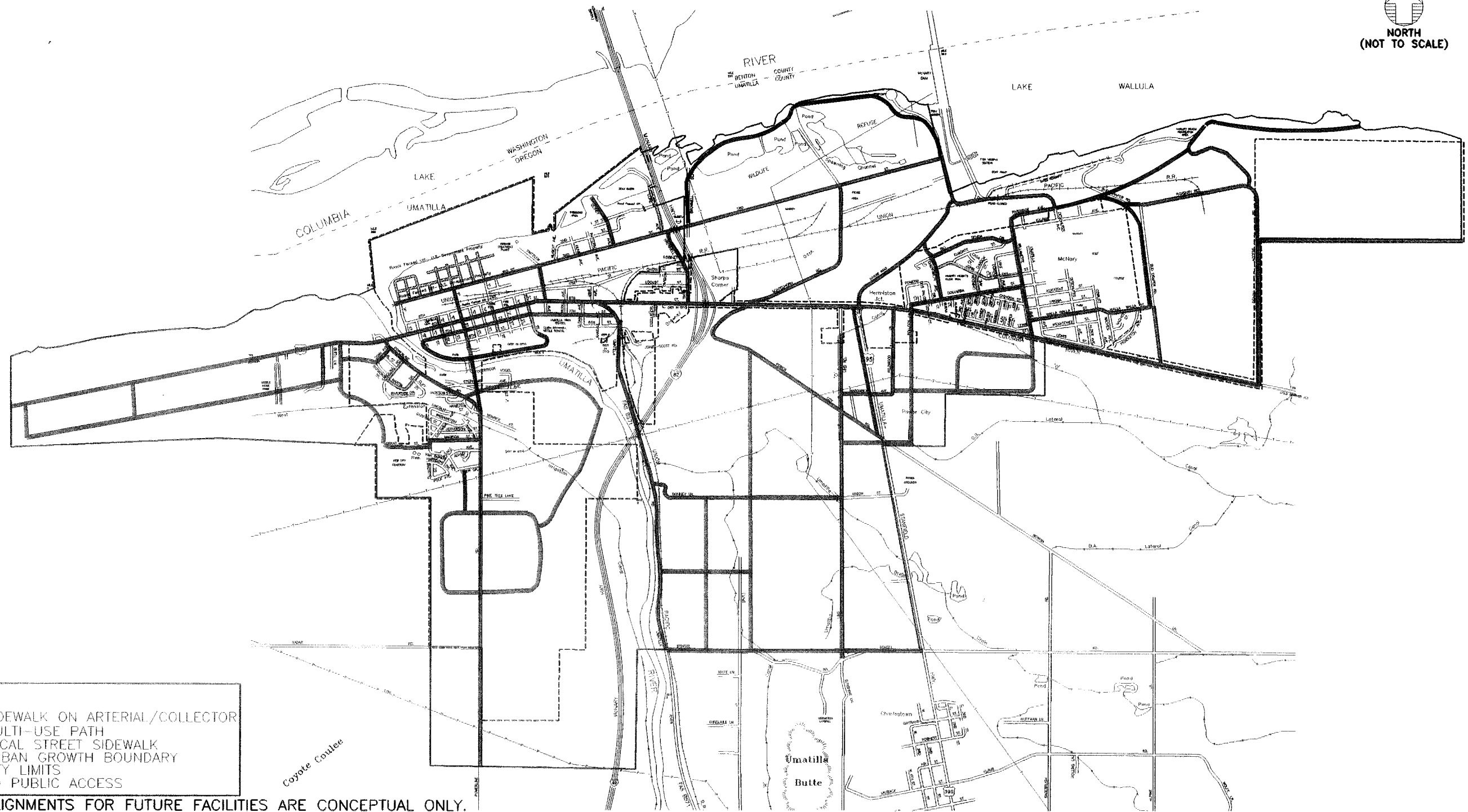
The roadway design standards (refer to Figure 12) would ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed neighborhood collectors and local streets. It is essential that existing sidewalks are connected to new sidewalks as new developments are constructed or as road improvements are made. Sidewalks should be included in any full reconstruction of arterials or collectors. The implementation portion of this section identifies specific pedestrian projects as well as associated cost and scheduling.

Pedestrian Crossings of Highway 730

The public input process of the TSP identified community concerns involving pedestrian crossings along Highway 730 between the western city limits and the Interstate 82 interchange. These concerns predominantly reflect increasing traffic volumes on Highway 730 and the effect those traffic volumes have on pedestrians' ability to safely cross the highway.

The combination of traffic volumes and the commercial orientation of Highway 730 in this area confirm the need for additional pedestrian amenities. In addition to providing a continuous sidewalk system, there are several other potential enhancements that should be considered along Highway 730 including:

- provision of additional street lighting to provide clear visibility of pedestrians at night,
- provision of curb extensions that provide for the existing on-street parallel parking while reducing the exposed crossing distance pedestrians must walk, and
- use of median treatments that provide pedestrians with a "safe-haven" at a mid-crossing.



- LEGEND**
- SIDEWALK ON ARTERIAL/COLLECTOR
 - MULTI-USE PATH
 - LOCAL STREET SIDEWALK
 - URBAN GROWTH BOUNDARY
 - - - CITY LIMITS
 - ▨ NO PUBLIC ACCESS

NOTE: ALIGNMENTS FOR FUTURE FACILITIES ARE CONCEPTUAL ONLY.
SIDEWALKS MAY BE SUBSTITUTED FOR THE MULTI-USE PATH ON HIGHWAY 395.

It should also be noted that pedestrian crosswalks and signals will be provided in conjunction with potential future intersection signalization projects along Highway 730. The new traffic signals will create an opportunity for pedestrians to safely cross Highway 730 at the signalized intersections and will also create gaps in the traffic stream that should enhance the ability of pedestrians to safely cross Highway 730 at unsignalized intersections. (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.*)

BIKEWAY SYSTEM PLAN

Figure 15 illustrates the recommended bikeway plan. As with the pedestrian plan, the key objective in the development of the bikeway plan was to provide connectivity between major activity centers, such as housing, schools, post office, government buildings, and recreation areas. Because of the varying roadway design standards the bikeway plan incorporates exclusive bike lanes on major roadways (e.g. arterials), whereas minor roadways (e.g., collectors and local street) would allow for shared use of roadway facilities. For some bike routes, additional facilities would be provided to enhance the safety of bicyclists.

Multi-Use Pathways

In addition to sidewalks and bike lanes, the TSP seeks to make use of shared pedestrian/bicycle facilities in key locations where it is desirable to provide connections in an environment free of vehicular traffic. The cross sections of these multi-use pathways would consist of 10-foot wide paved paths.

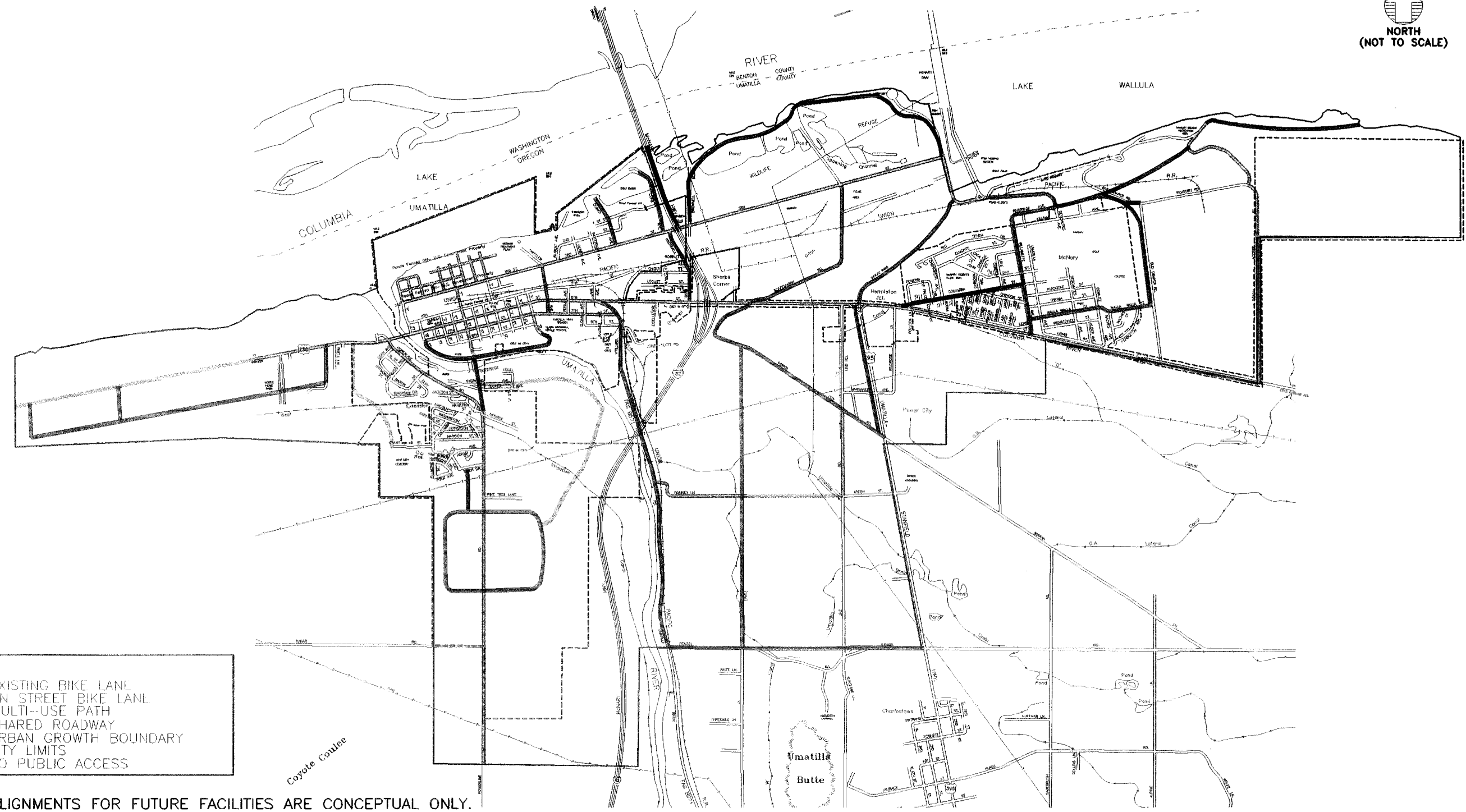
One of the multi-use pathways is located to make use of the existing pedestrian foot bridge crossing the Umatilla River, near the community's school facilities located along 7th Street, on the north side of the river. The bikeway plan incorporates an existing dirt path traversing down the east side of the "South Hill" residential area and across the Umatilla River as a multi-use path. It should be recognized that the elevation difference along the trail may be too great to meet current American's with Disability Act (ADA) design requirements. Consequently, a "switch back" route may need to be designed, if this requirement is applicable.

Another multi-use pathway is designated along the Columbia River between the McNary Beach Recreation Area and McNary Dam. This facility is intended to provide convenient access to recreational areas while ensuring the separation of bike/pedestrian traffic from industrial truck traffic traveling to the port area. Final alignment of this facility will require cooperation with the Port of Umatilla to ensure that a safe travel environment is provided.

Portions of the Highway 395 corridor (primarily south of Hermiston) currently have a multi-use path that is potentially available for further extension. The provision of multi-use paths and/or bicycle facilities along Highway 395 will be addressed through the ongoing Highway 395 corridor study. Findings and recommendations from the Highway 395 corridor study should be incorporated into the City of Umatilla Comprehensive Plan upon completion and adoption of the corridor study.

Finally, an opportunity exists to create a multi-use pathway along an existing trail that follows the Columbia River shore from the McNary Beach Recreational Area east for approximately six miles. Although this trail is not currently paved and is not entirely within the City of Umatilla urban growth boundary, it should be considered for future use as a recreational bicycle and pedestrian facility.

The implementation portion of this section further identifies specific multi-use path projects as well as associated cost and scheduling.



LEGEND

- EXISTING BIKE LANE
- ON STREET BIKE LANE
- MULTI-USE PATH
- SHARED ROADWAY
- URBAN GROWTH BOUNDARY
- CITY LIMITS
- NO PUBLIC ACCESS

NOTE: ALIGNMENTS FOR FUTURE FACILITIES ARE CONCEPTUAL ONLY.
 ON-STREET BIKE LANES MAY BE SUBSTITUTED FOR THE MULTI-USE PATH ON HIGHWAY 395.

RECOMMENDED BIKEWAY PLAN

CITY OF UMATILLA, OREGON
 TRANSPORTATION SYSTEM PLAN
 FEBRUARY 1999

FIGURE
 15



PUBLIC TRANSPORTATION SYSTEM PLAN

As detailed in the **Existing Conditions** section, public transportation within the City of Umatilla is limited to demand-responsive transit service and Greyhound Bus service. While increased usage of these services is desirable, there are no current or pending plans to expand public transportation services to the area.

Discussions with staff from the participating agencies and meetings with the public confirmed the adequacy of the current demand-responsive transit service facilitated by Umatilla County; although it was noted that the public's awareness of these services is lacking. No segment of the City's population was specifically identified as being without transportation service. Nonetheless, improvements can be made that will benefit the community as it grows.

The City of Umatilla should continue to monitor the adequacy of the transit service provided to the community and work with the County to extend service as necessary. Both the City and County should also promote a greater public awareness of the available public transit services. With the exception of available Greyhound Bus service, the population under the driving age is particularly under served and as the community grows in geographic size, their overall accessibility will be diminished.

Subsidized taxi transportation is an efficient method of public transportation for smaller communities such as the City of Umatilla, while still being cost effective. Such a service, while not currently available, can be provided at relatively low cost and supported by state grants and local funding.

RAILROAD SYSTEM PLAN

Freight rail service will continue to be a prominent component of the City's transportation system. Union Pacific's Hinkle Rail Yard located to the south in Hermiston is expected to serve as a major western freight hub for the foreseeable future. Further, there is adequate rail capacity to increase the frequency of trains that travel north from Hinkle Rail Yard to the Port of Umatilla. It is recommended that future development in the Port of Umatilla's industrial area be planned to interface with the adjacent rail system to promote the safe and efficient transportation of freight.

MARINE SYSTEM PLAN

As previously noted in the **Existing Conditions** section, the Columbia River borders the City of Umatilla to the north and serves as a means of transportation for both commercial and recreational traffic. The Port of Umatilla's two marine facilities are capable of accommodating future expansion and are expected to continue to grow with the surrounding community, though no formal expansion plans have been identified to date.

It is recommended that future development in the port's industrial area also be planned to interface with the Columbia River to allow for continued marine transportation service. In addition, the City of Umatilla should actively support the continued presence and operation of the Port as an effective means of transportation. Finally, the creation of multi-use paths and other facilities that promote the multi-modal use of marine recreational areas along the shore of the Columbia River should be encouraged.

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 Hermiston Municipal Airport. The City of Umatilla 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.

IRRIGATION CANALS/WATER SYSTEM PLAN

The irrigation canals operated by the West Extension Irrigation District and the Hermiston Irrigation District have adequate capacity to serve minor expansion of lateral lines to serve new customers. The continued use of these facilities is recommended.

PIPELINE SYSTEM PLAN

The four-inch diesel line owned and operated by the Kaneb Corporation and servicing Union Pacific Railroad's Hinkle Railyard is the only identified pipeline facility within the City's UGB. The continued use of this pipeline is recommended.

ACCESS MANAGEMENT STRATEGIES

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.

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 have more relaxed standards.

From a policy perspective, the Oregon Department of Transportation has legal authority to regulate access points along Highway 730 and Highway 395 within the City's urban growth boundary. The City of Umatilla will manage access on other arterial and collector streets within its jurisdiction, to ensure the efficient movement of traffic and enhance safety.

ODOT Standards

The 1991 *Oregon Highway Plan* has classified Highway 730 as being of a *Regional Level of Importance* and Highway 395 as a highway of a *District Level of Importance*. As noted in the **Existing Conditions** section, a recent study of the Highway 395 corridor indicated that the classification of the study area segment of Highway 395 should be re-designated to reflect a *Regional Level of Importance*.

The pending revisions to the *Oregon Highway Plan* are expected to reclassify Highway 395 to a *Regional Level of Importance*. Specific access spacing standards related to Highway 395 will be addressed through the final designation of the highway and the ongoing Highway 395 Corridor Study. Consequently, findings and recommendations from the Highway 395 Corridor Study should be incorporated into the City of Umatilla Comprehensive Plan upon completion and adoption of the corridor study.

As for Highway 730, 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. Such locations are identified as Special Transportation Areas (STAs). It is recommended that a STA be designated along Highway 730 between the Umatilla River Bridge and the northbound ramp of the Interstate 82 interchange in recognition of the highway's local "main street" function to this commercial area of the City. Accordingly, the primary function of Highway 730 in this area would be to provide local access and pedestrian safety while allowing for reasonable throughput at low speeds.

East of the Interstate 82 interchange, existing intersections with the highway have been reasonably regulated. There is no apparent reason to provide further access to Highway 730 east of the interchange except in such instances as Scapelhorn Road, Margaret Avenue, Willamette Avenue, Bud Draper Drive, and McNary Beach Access Road where it may be desirable to provide access south of Highway 730 in the future. At each of the above referenced locations, a southerly access road could be aligned with an existing intersection along Highway 730. Beyond the cited potential future roads to the south, there is no apparent reason to connect future public access roads to Highway 730 and the same access spacing standards in use today should continue to apply. Private driveways should be allowed to access the highway only as a last resort.

Table 11 summarizes access spacing standards for Highway 730.

**TABLE 11
 HIGHWAY 730 MINIMUM INTERSECTION SPACING STANDARDS**

Roadway Segment	Public Street	Private Access Drive	Signal Spacing
Umatilla River Bridge to I-82 northbound ramp	500 feet	150 feet	¼ mile
I-82 Northbound ramp to east city limits	½ mile	500 feet	½ mile

The following text was provided by the Oregon Department of Transportation for inclusion in the City of Umatilla’s transportation system plan document. This text has been edited to be appropriate to the state facilities within the Urban Growth Boundary of the City of Umatilla and is presented in *italics*.

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 through vehicles and vehicles seeking ingress/egress at driveways on the arterial streets. This not only leads to increased vehicle delay and a deterioration in the level of service on the arterial, but also leads to 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-managed access plan for a street system can minimize local cost for transportation improvements needed to provide 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 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.

As the City of Umatilla continues to develop, the arterial/collector/local street system will become more heavily used and 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. One objective of the Umatilla TSP is to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the City’s streets. Too many access points along a street can contribute to a deterioration of its safety, and on some streets, can interfere with efficient traffic flow.

Access Management Techniques

The number of access points to an arterial can be restricted through the following techniques:

- *restricting spacing between access points (driveways) based on the type of development and the speed along the arterial;*
- *sharing of access points between adjacent properties;*
- *providing access via collector or local streets where possible;*
- *constructing frontage roads to separate local traffic from through traffic;*
- *providing service drives to prevent spill-over of vehicle queues onto the adjoining roadways;*
- *providing acceleration, deceleration, and right-turn only lanes;*
- *offsetting driveways to produce T-intersections to minimize the number of conflict points between traffic using the driveways and through traffic;*
- *installing median barriers to control conflicts associated with left-turn movements;*
- *installing side barriers to the property along the arterial to restrict access width to a minimum; and,*
- *developing and applying recommended Access Management Standards.*

Access management is hierarchical, ranging from complete access control on freeways to increasing use of streets for access purposes, parking, and loading at the local and minor collector level. The table below describes recommended general access management guidelines by roadway functional classification.

RECOMMENDED ACCESS MANAGEMENT STANDARDS				
Functional Classification	Intersections			
	Public Road		Private Drive ⁽²⁾	
	Type ⁽¹⁾	Spacing	Type	Spacing
Arterial				
Interstate 82: Interstate (Category 1)	Interchange	2-3 mile	None	Not Applicable
Highway 730: Regional (Category 4)	at-grade/interchange	¼ mile	L/R Turns	500 ft.
Highway 395: District*	at-grade	¼ mile	L/R Turns	300 ft.
Other Arterials within UGB	at-grade	250 ft.	L/R Turns	100 ft.
Collector	at-grade	250 ft.	L/R Turns	100 ft.
Residential Street	at-grade	250 ft.	L/R Turns	Access to Each Lot
Alley (Urban)	at-grade	100 ft.	L/R Turns	Access to Each Lot

Notes:

- (1) For most roadways, at-grade crossings are appropriate.
- (2) 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 ODOT District Office. Access will generally not be granted where there is a reasonable alternative access.
- *The Classification of Highway 395 is under review and a change is pending in the revised Oregon Highway Plan.

It should be noted that existing developments and legal accesses on the transportation network will not be affected by the recommended access management techniques until either a land use action is proposed, a safety or capacity deficiency is identified that requires specific mitigation, a specific access management strategy/plan is developed, redevelopment of existing properties along the highway occurs, or a major construction project is begun on the street.

Application

These access management restrictions are generally not intended to eliminate existing intersections or driveways. Rather, they should be applied as new development occurs. Over time, as land is developed and redeveloped, the access to roadways will meet these guidelines. However, where there is a recognized problem, such as an unusual number of collisions, these techniques and standards can be applied to retrofit existing roadways.

To summarize, access management strategies consist of managing the number of access points and providing traffic and facility improvements. The solution is a balanced, comprehensive program that provides reasonable access while maintaining the safety and efficiency of traffic movement.

State Highways

Access management is important to promoting safe and efficient travel for both local and long distance users along US 395 and State Highway 730 in Umatilla. The 1991 Oregon Highway Plan (OHP) specifies an access management classification system for state facilities. The Draft 1998 Highway Plan (OHP) updates the access management standards and establishes guidelines and criteria to be applied when making access management assignments (also see Highway 395 Corridor Plan). Future developments on state highways (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the 1991 OHP Level of Importance (LOI) and Access Management policies and standards until the 1998 Highway Plan is adopted. Although Umatilla 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. This section of the Transportation System Plan describes the state highway access categories and specific roadway segments where special access areas may apply.

Future developments on state highways (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the 1991 Oregon Highway Plan Level of Importance (LOI) and Access Management policies and standards. Within urban or urbanizing areas, a new development will need to maintain an 500-foot (Category 4 highways) or 300-foot (Category 5 highways and other arterials) spacing (centerline-to-centerline) between either existing private or public 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. 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 Umatilla and/or ODOT. In addition, according to the 1991 OHP, the impact in traffic generation from proposed land uses must allow a Level Of Service (LOS) "C" to be maintained for Category 4 segments within the development's influence area along the highway and a LOS "D" for Category 5 segments. 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). Suggested construction standards for access on all roadways within the City of Umatilla roadway system are listed in the previous table.

The existing legal driveway connections, public street intersection spacings, 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.

A conditional access permit may be issued by ODOT and the City of Umatilla for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards (shown in the previous table). These conditions typically apply to properties that either have no reasonable access or cannot obtain reasonable alternate access to the public road system. The permit should carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. 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.

General

Highway 730 through Umatilla is a state highway of a regional level of importance. Within the Umatilla UGB, Oregon Highway Plan Category 4, "Partial Control" applies. This classification permits at-grade intersections or interchanges at a minimum spacing of one-quarter mile. Private driveways should have a minimum spacing of 500 feet from each other and from intersections. Traffic signals are permitted at a minimum of one-half mile spacing. These requirements are similar to the general access management guidelines specified for major arterial roadways.

Highway 395 through Umatilla is currently a state highway of district level of importance, though revisions to the Oregon Highway Plan may change the highway to a statewide significance. Within the Umatilla UGB, Oregon Highway Plan Category 5, "Partial Control" applies. This classification permits at-grade intersections at a minimum spacing of one-quarter mile, private driveway spacing at a minimum of 300 feet, and signals at a minimum of one-quarter mile spacing.

Special Transportation Area

While the access management guidelines can be applied to some portions of US 395 and Highway 730, the City has a grid system through the downtown area, with intersections spaced as closely as 200 feet apart. Neither the general access category for major arterial roadways nor the OHP Category 4 and 6 classifications can be met on these sections of the roadways.

Indeed, the highway standards are too restrictive for areas with centralized commercial development, such as downtown Umatilla. 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.

To address this issue, the Oregon Highway Plan allows for the designation of Special Transportation Areas (STA) for compact areas in which growth management considerations outweigh the need to limit access. Designation as a STA allows for redevelopment with exception to the proposed access management standards. STAs can include central business districts, however, they do not apply to whole cities or strip development areas along individual highway corridors.

ODOT and the City will work together with the business community and citizens of Umatilla to discuss the 1998 Highway Plan proposal for the designation of a STA. Specific access management conditions for the designating a STA in Umatilla include:

- *The minimum spacing for public road approaches in the STA is the current city block spacing. Public road connections are preferred over private driveways, and driveways are discouraged in STAs.*

- *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 alternate access, and the designated spacing cannot be accomplished. Where possible, other options should be considered, such as joint access.*
- *Where the right to access exists, the number of approach roads (driveways) to a single property shall be limited to one. More than one approach road may be considered if, in the judgement of the ODOT District Manager, additional approach roads are necessary to accommodate and service projected traffic volumes, and do not create a safety hazard to the traveling public.*
- *Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Minimum sight distance to achieve stopping sight distance on wet pavements as defined by AASHTO is required for all approach roads. Additionally, approach roads are not allowed at points that interfere with the placement and proper function of traffic control signs, signals, lighting, or other devices that affect traffic operations.*
- *For a landlocked property (no reasonable alternate access exists) where an approach road cannot be safely constructed and operated, and if no other alternatives are feasible, ODOT will acquire the property. However, if an access hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT would not be responsible for purchasing the property.*

City Standards

Table 12 identifies proposed minimum public street intersection and private access spacing standards for the City of Umatilla roadway network as they relate to new development and redevelopment. Table 13 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 12 and 13 to be met, the City of Umatilla should retain the right to grant an access spacing variance. County facilities within the City's UGB should be planned and constructed in accordance with these street design standards.

**TABLE 12
 MINIMUM INTERSECTION SPACING STANDARDS**

Functional Classification	Public Street (feet)	Private Access Drive (feet)
Major Arterial	1000	400
Minor Arterial	800	300
Collector	600	150
Neighborhood Collector	400	100
Local	200	50

TABLE 13
PRIVATE ACCESS DRIVEWAY WIDTH STANDARDS

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	12	25
Multi-Family Residential	20	35
Commercial	20	35
Industrial	20	40

Management Techniques

From an operational perspective, the City of Umatilla should consider implementing the following access management measures:

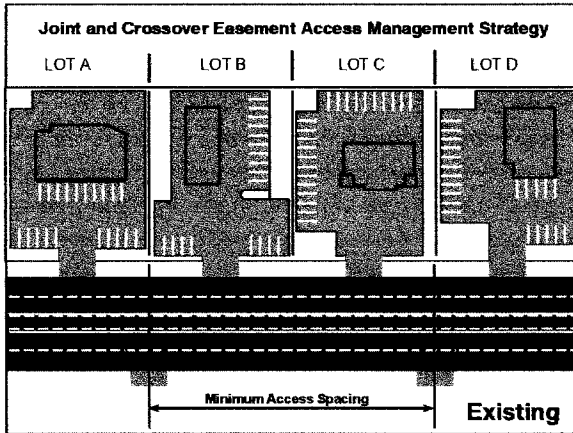
- planning for and developing intersection improvement programs in order to regularly monitor intersection operations and safety problems;
- purchasing right-of-way and closing driveways; and
- installing positive channelization and driveway access controls as necessary.

It should be noted that purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously effect the viability of the businesses impacted. Thus, if this approach is taken, either a parallel road system or shared access needs to be developed prior to “land-locking” a business.

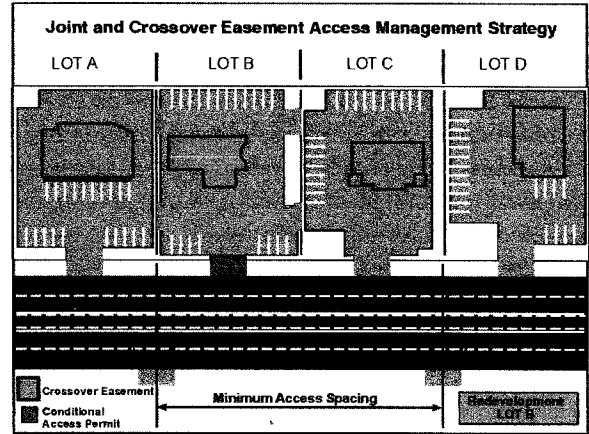
As part of every land use action, the City of Umatilla should evaluate the potential need for conditioning a given development proposal with the following items, in order to maintain and/or improve traffic operations and safety along the arterial and collector roadways:

- Crossover easements should be provided on all compatible parcels (topography, access, and land use) to facilitate future access between adjoining parcels. Figure 16 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.

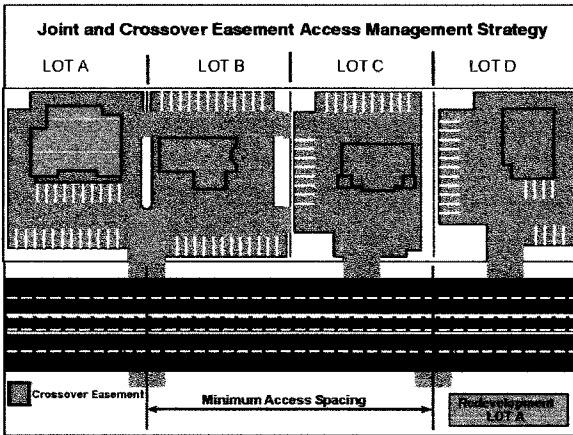
Proposed Access Management Strategy



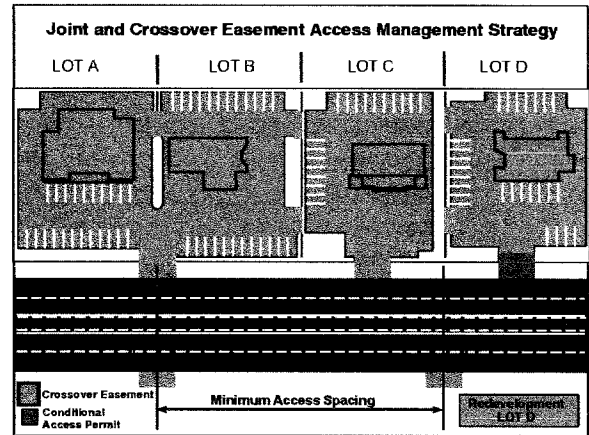
Step 1



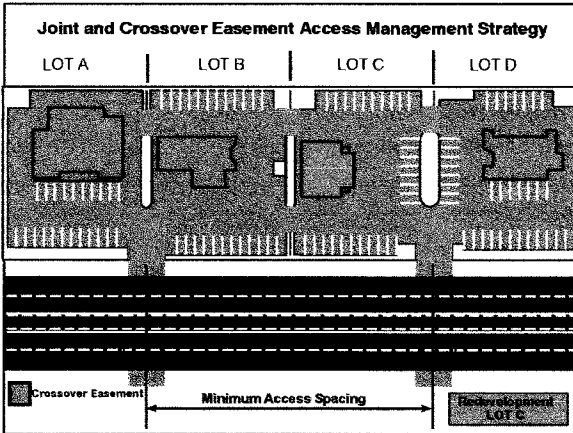
Step 2



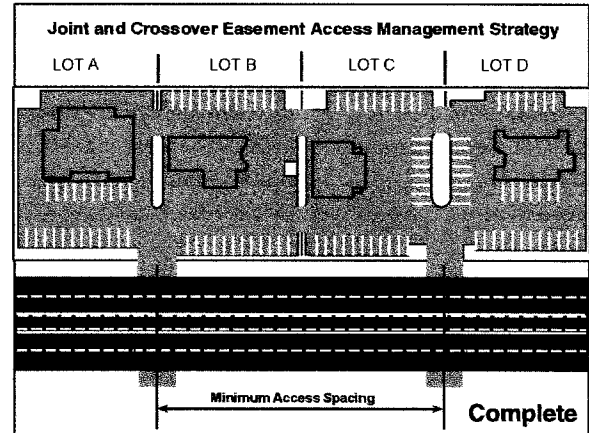
Step 3



Step 4



Step 5



Step 6

EXAMPLE OF CROSS-OVER EASEMENTS AND CONDITIONAL ACCESS POLICY/PROCESS



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.

IMPLEMENTATION PLAN

The implementation of the transportation system improvements detailed in Section 6 is a summary of improvement projects and a timeline for making appropriate infrastructure investments. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather ranks areas to be developed over a 10-year, near-term horizon and an 11 to 20-year, long-term horizon.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the City of Umatilla 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.

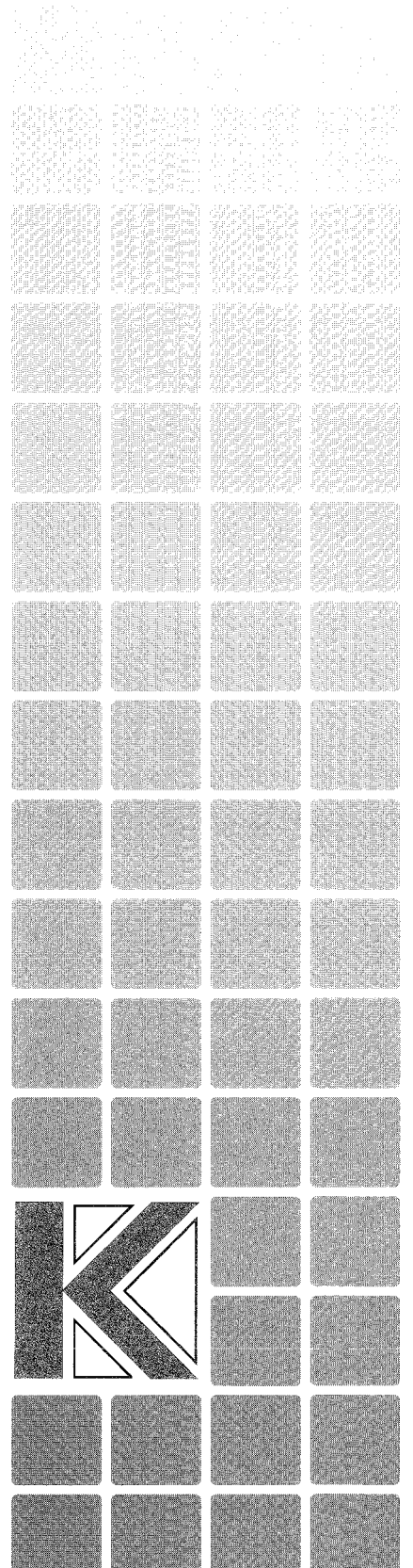
Implementation of roadway improvements, the Pedestrian System Plan, and the Bikeway System Plan has been staged to spread investment in this infrastructure over the 20-year life of the plan.

SUMMARY

The adoption and implementation of this Draft Transportation System Plan will enable the City of Umatilla 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 Umatilla 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).

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 UMATILLA FUNDING HISTORY

Composition of the Street Fund

The Street Fund for the City of Umatilla provides an annual budget of approximately \$250,000 that is dedicated entirely to the operation and maintenance of the City's transportation facilities. Maintenance and preservation are the major work activities performed on the local street system by the City's Public Works Department. 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.

Rarely have capital improvement projects been accomplished in the City and when realized, they have been funded by Local Improvement Districts or by the 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.

On the expenditure side, a steady stream of about \$250,000 per year is anticipated to be spent on City street capital projects. It is expected that for the foreseeable future whatever funding is made available to the City through state and county resources, is and 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 herein, should be the primary source for future projects to be implemented.

The City of Umatilla 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 Umatilla 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

In 1992, Oregon received \$704 million, or 67 percent of its highway revenues, from the collection of user taxes and fees. The second largest source of these revenues is almost entirely comprised of fees resulting from National Forest timber sales. In 1992, these timber receipts raised roughly \$115 million. The remaining revenue sources - road and crossing tolls, general fund appropriations, property taxes, miscellaneous receipts, and bond receipts - accounted for \$223.5 million or roughly 21 percent of total transportation revenues.

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. 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.

Oregon Highway Trust Fund revenues are distributed among State (60.22 percent), County (24.38 percent) and City (15.40 percent) governments to fund their priority road needs. In 1995-96, the state estimated it would collect \$575 million in state highway funds. Counties and cities would then receive about \$140 and \$90 million, respectively.

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 basic vehicle registration fee is \$15 per year, regardless of the type of private, personal-use vehicle being registered. 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 1992. The school portion of the measure was phased in over a five-year period beginning in FY 1992. In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which will further impact the ability of cities and counties to pay for needed infrastructure through historic or traditional means.

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 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. Unfortunately, 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, stripper well 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.

Freight Rail Funding

The vast majority of rail freight spending is funded by privately-owned railroads. The Federal Local Rail Freight Assistance program is a small program that funds the rehabilitation of both publicly- and privately-owned rail lines, primarily branch lines. Congress is considering proposals to eliminate the program. If this occurs, there will be no program to provide ongoing railroad rehabilitation. Occasional support might be obtained through State lottery-funded economic development programs.

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 A (Table A-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 A (Table A-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.

A similar list of transportation funding sources for transit projects is included in Appendix A (Table A-3). This is summarized with the general status of each funding source in Table A-4.

PROPOSED TRANSPORTATION IMPROVEMENT PROGRAM

The required transportation improvements in the City of Umatilla over the next 20 years, to meet both short- and long-term needs, are listed below. Projects are divided into two time periods, 0-10 years and 11-20 years. For each of the time periods, projects are packaged into the following categories:

1. Roadway Projects (includes widenings, extensions, and intersection improvements)

2. Pedestrian Projects
3. Multi-Use Pathway Projects

Nearly \$15 million in transportation improvements is included in the 20-year improvement program. This total is comprised of approximately \$3.69 million in roadway improvements, \$9.35 million in pedestrian improvements, and \$1.33 million in multi-use pathway improvements. On an average annual basis, this translates to approximately \$185,000 for auto-related improvements and \$535,000 for non-auto-related improvements. The following is a summary of the projects by type, in each of the transportation program intervals.

First Ten-Year Program

The first ten-year program totals approximately \$1.45 million and consists of two roadway projects totaling approximately \$0.29 million, and 13 sidewalk projects totaling approximately \$1.16 million (in 1998 dollars). Due to the safety aspects associated with the roadway projects, it is recommended that these two improvement projects receive priority over the remaining projects listed in the first ten-year program. The remaining projects are not listed in a priority, but rather, by general geographic area. The projects recommended for completion within the first ten-year program include:

Roadway Projects

1. Install a full traffic signal at the existing Powerline Road/Highway 730 intersection. (*Construction Cost Estimate: \$150,000; Primary Funding Agency: ODOT*)
2. Install a "Fire Signal" at the "J" Street/Highway 730 intersection for the Fire Station. (*Construction Cost Estimate: \$140,000; Primary Funding Agency: ODOT*) (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.*)

Pedestrian Projects

1. Install sidewalk on Highway 730, between Switzler Avenue and Brownell Boulevard. (*Construction Cost Estimate: \$131,000; Primary Funding Agency: ODOT*)
2. Install sidewalk on "D" Street, between 5th Street and 8th Street. (*Construction Cost Estimate: \$47,000; Primary Funding Agency: City of Umatilla*)
3. Install sidewalk on "F" Street, between 3rd Street and the park. (*Construction Cost Estimate: \$117,000; Primary Funding Agency: City of Umatilla*)
4. Install sidewalk on "I" Street, between 5th Street and 8th Street. (*Construction Cost Estimate: \$47,000; Primary Funding Agency: City of Umatilla*)
5. Install sidewalk on "L" Street, between 7th Street and 8th Street. (*Construction Cost Estimate: \$8,000; Primary Funding Agency: City of Umatilla*)
6. Install sidewalk on 7th Street, between "B" Street and Umatilla River Road. (*Construction Cost Estimate: \$72,000; Primary Funding Agency: City of Umatilla*)
7. Install sidewalk on Brownell Boulevard, between 3rd Street and Highway 730. (*Construction Cost Estimate: \$134,000; Primary Funding Agency: City of Umatilla*)
8. Install sidewalk on Willamette Avenue, between Riverside Avenue and Hwy 730. (*Construction Cost Estimate: \$207,000; Primary Funding Agency: City of Umatilla*)

9. Install sidewalk on Columbia Street, between Highway 730 and Willamette Avenue. (*Construction Cost Estimate: \$139,000; Primary Funding Agency: City of Umatilla*)
10. Install sidewalk on John Day Street, between Chenoweth Ave. and Willamette Ave. (*Construction Cost Estimate: \$137,000; Primary Funding Agency: City of Umatilla*)
11. Install sidewalk on Chinook Avenue, between John Day Street and Columbia Street. (*Construction Cost Estimate: \$30,000; Primary Funding Agency: City of Umatilla*)
12. Install sidewalk on Lake Gordon Avenue, between John Day St. and Columbia St. (*Construction Cost Estimate: \$17,000; Primary Funding Agency: City of Umatilla*)
13. Install sidewalk on Chenoweth Avenue, between Rio Senda Dr. and Willamette Ave. (*Construction Cost Estimate: \$70,000; Primary Funding Agency: City of Umatilla*)

The summary of planning-level, construction cost estimates by primary funding agency, reveals that ODOT would be responsible for approximately \$0.42 million in improvements and the City of Umatilla would be responsible for approximately \$1.03 million during the first ten-year program. This is an annual average expenditure of approximately \$103,000 (in constant 1998 dollars) for the City of Umatilla, to accomplish the first ten-year program.

The entire first ten-year program of improvements, for which the City is identified as the primary funding agency, consists of pedestrian-related improvements. These improvements have been identified to improve pedestrian safety, provide access to key pedestrian generators within the City, and begin to complete a primary network of pedestrian facilities throughout the community.

Second Ten-Year Program

During the second ten-year program, a total of 39 projects totaling over \$12.92 million are identified. This includes 24 sidewalk projects (\$8.19 million), 8 multi-use pathway projects (\$1.33 million), and 7 roadway-related projects (\$3.40 million). Significant elements of the second program include replacing the Umatilla River bridge (\$2 million), completing a continuous sidewalk on Highway 730 (two projects totaling \$1.92 million), and building a new street connection from the McNary Housing Area to DeVore Road (\$0.42 million).

Although the second ten-year program is not prioritized, emphasis is placed on the need to reconstruct the Umatilla River bridge, grade separate the Highway 730/Powerline Road intersection, and provide additional northbound left-turn capacity at the Highway 395/Highway 730 intersection. The overall safety and capacity of the transportation system is most substantially impacted by the future deficiencies that will occur at these locations. The remaining street extensions, intersection improvements, and pedestrian/bicycle improvements will complete a transportation system that is safe, balanced, and less dependent on the state highway system for local trip-making activities. The projects recommended for completion within the second ten-year program include:

Roadway Projects

1. Reconstruct the Umatilla River bridge and grade separate the Highway 730/Powerline Road intersection. (*Construction Cost Estimate: \$2,000,000; Primary Funding Agency: ODOT*)
2. Construct a second northbound left-turn lane at the Hwy 395/Hwy 730 intersection. (*Construction Cost Estimate: \$270,000; Primary Funding Agency: ODOT*)
3. Signalize the Interstate 82 Northbound Ramp terminal/Highway 730 intersection. (*Construction Cost Estimate: \$150,000; Primary Funding Agency: ODOT*) (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.)

4. Signalize the Umatilla River Road/Highway 730 intersection. *(Construction Cost Estimate: \$130,000; Primary Funding Agency: ODOT) (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.)*
5. Modify the ODOT Weigh Station internal circulation and relocate the Brownell Boulevard/Highway 730 intersection signal to the Eisselle Drive/Weigh Station entrance intersection. *(Construction Cost Estimate: \$350,000; Primary Funding Agency: ODOT)*
6. Construct a street connection from the McNary Housing Area to DeVore Road. *(Construction Cost Estimate: \$415,000; Primary Funding Agency: City of Umatilla)*
7. Extend Walla Walla Street to Bud Draper Drive. *(Construction Cost Estimate: \$87,000; Primary Funding Agency: City of Umatilla)*

Pedestrian Projects

1. Install sidewalk on Highway 730, from the west Urban Growth Boundary to "D" Street. *(Construction Cost Estimate: \$795,000; Primary Funding Agency: ODOT)*
2. Install sidewalk on Highway 730, between Brownell Boulevard and Beach Access Road. *(Construction Cost Estimate: \$1,120,000; Primary Funding Agency: ODOT)*
3. Install sidewalk on Bensel Road, from Umatilla River Road to Highway 395. *(Construction Cost Estimate: \$442,000; Primary Funding Agency: Umatilla County)*
4. Install sidewalk on Bud Draper Road, from Roxbury Road to Highway 730. *(Construction Cost Estimate: \$67,000; Primary Funding Agency: Umatilla County)*
5. Install sidewalk on Roxbury Lane, from Bud Draper Road to Beach Access Road. *(Construction Cost Estimate: \$181,000; Primary Funding Agency: Umatilla County)*
6. Install sidewalk on Beach Access Road, from McNary Beach Recreation Area to Highway 730. *(Construction Cost Estimate: \$522,000; Primary Funding Agency: Umatilla County)*
7. Install sidewalk on Powerline Road, from Highway 730 to south Urban Growth Boundary. *(Construction Cost Estimate: \$823,000; Primary Funding Agency: Umatilla County)*
8. Install sidewalk on Umatilla River Road, from Highway 730 to Bensel Road. *(Construction Cost Estimate: \$642,000; Primary Funding Agency: Umatilla County)*
9. Install sidewalk on Ford Road, from "O" Canal to Bensel Road. *(Construction Cost Estimate: \$522,000; Primary Funding Agency: Umatilla County)*
10. Install sidewalk on 3rd Street, between "A" Street and DeVore Road. *(Construction Cost Estimate: \$963,000; Primary Funding Agency: City of Umatilla/Umatilla County)*
11. Install sidewalk on Scapelhorn Road, from 3rd Street to Highway 730. *(Construction Cost Estimate: \$302,000; Primary Funding Agency: City of Umatilla/Umatilla County)*
12. Install sidewalk on Power City Road, from Highway 730 to Highway 395. *(Construction Cost Estimate: \$415,000; Primary Funding Agency: Umatilla County/City of Umatilla)*
13. Install sidewalk on DeVore Road, from 3rd Street to Highway 730. *(Construction Cost Estimate: \$335,000; Primary Funding Agency: City of Umatilla)*

14. Install sidewalk on Quincy Avenue, from Lake Umatilla to 3rd Street. (*Construction Cost Estimate: \$94,000; Primary Funding Agency: City of Umatilla*)
15. Install sidewalk on Wildwood Lane, from Highway 730 to Margaret Avenue. (*Construction Cost Estimate: \$147,000; Primary Funding Agency: City of Umatilla*)
16. Install sidewalk on Walla Walla Street, from Willamette Avenue to Pendleton Avenue. (*Construction Cost Estimate: \$94,000; Primary Funding Agency: City of Umatilla*)
17. Install sidewalk on Riverside Avenue, from Willamette Avenue to Deschutes Avenue. (*Construction Cost Estimate: \$70,000; Primary Funding Agency: City of Umatilla*)
18. Install sidewalk on Deschutes Avenue, from DeVore Road to Riverside Avenue. (*Construction Cost Estimate: \$184,000; Primary Funding Agency: City of Umatilla*)
19. Install sidewalk on Dean Avenue, from Raymond Street to Powerline Road. (*Construction Cost Estimate: \$30,000; Primary Funding Agency: City of Umatilla*)
20. Install sidewalk on Grant Street-Madison Street, west UGB to Powerline Road. (*Construction Cost Estimate: \$132,000; Primary Funding Agency: City of Umatilla*)
21. Install sidewalk on Margaret Avenue, from Ford Road to Wildwood Lane. (*Construction Cost Estimate: \$90,000; Primary Funding Agency: City of Umatilla*)
22. Install sidewalk on Carolina Road, from Martin Drive to Powerline Road. (*Construction Cost Estimate: \$37,000; Primary Funding Agency: City of Umatilla*)
23. Install sidewalk on Martin Drive, from Carolina Road to Powerline Road. (*Construction Cost Estimate: \$74,000; Primary Funding Agency: City of Umatilla*)
24. Install sidewalk on Cline Avenue, from 1st Street to 3rd Street. (*Construction Cost Estimate: \$47,000; Primary Funding Agency: City of Umatilla*)

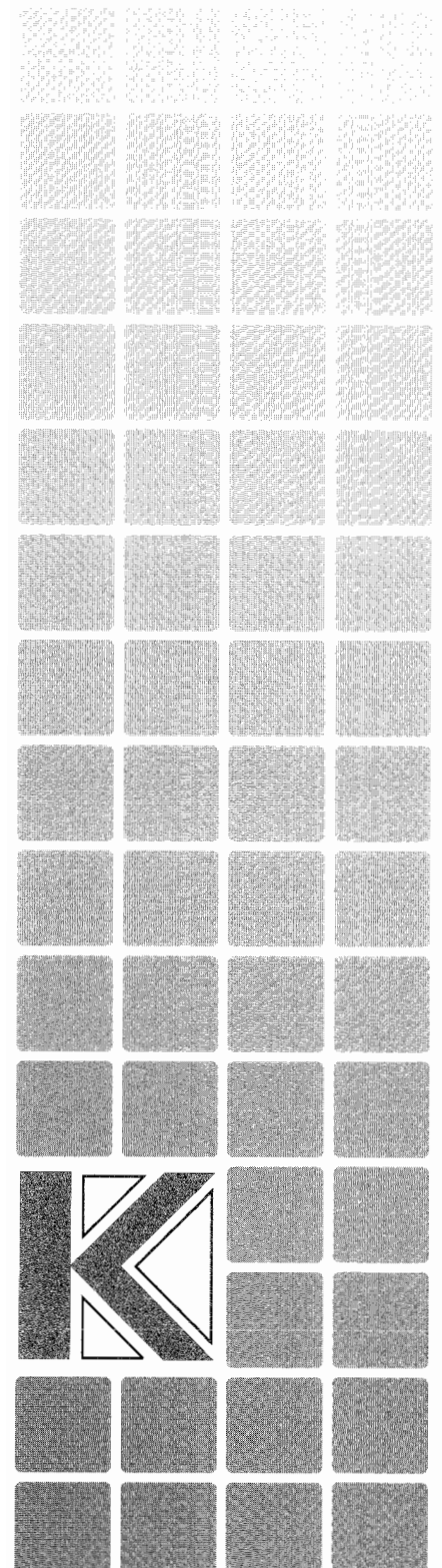
Multi-Use Pathway Projects

1. Highway 395 Pathway (*Construction Cost Estimate: \$235,000; Primary Funding Agency: ODOT*)
2. Umatilla Refuge Pathway (*Construction Cost Estimate: \$510,000; Primary Funding Agency: US Army Corps of Engineers*)
3. Bud Draper Pathway (*Construction Cost Estimate: \$180,000; Primary Funding Agency: Umatilla County*)
4. McNary Beach Recreation Area Pathway (*Construction Cost Estimate: \$200,000; Primary Funding Agency: Umatilla County*)
5. Powerline Road to "F" Street Pathway (*Construction Cost Estimate: \$83,000; Primary Funding Agency: Umatilla County*)
6. Powerline Road Pathway (*Construction Cost Estimate: \$50,000; Primary Funding Agency: Umatilla County*)
7. Riverfront/Park Pathway (*Construction Cost Estimate: \$180,000; Primary Funding Agency: City of Umatilla*)
8. McNary Pathway (*Construction Cost Estimate: \$180,000; Primary Funding Agency: City of Umatilla*)

The summary of planning-level, construction cost estimates by primary funding agency, reveals that ODOT would be responsible for approximately \$2.90 million in roadway improvements, \$1.92 million in pedestrian improvements, and has no obligation for multi-use pathway improvements; or a total of approximately \$4.82 million during the second ten-year program. The City of Umatilla would be responsible for approximately \$0.50 million in roadway improvements, \$2.18 million in pedestrian improvements, and \$0.36 million in multi-use pathway improvements; or a total of approximately \$3.04 million during the second ten-year program. This is an annual average expenditure of approximately \$304,000 (in constant 1998 dollars) for the City of Umatilla, to accomplish the second ten-year program.

POTENTIAL FUNDING SOURCES

Potential funding sources in the 20-year program are grouped into general categories. This includes potential federal, state, and local funding, where local funding will require institution of a major, new funding source to supplement funds from a potential transportation system development charge. This could include added street bonding, local improvement districts, a local gas tax, hotel/motel tax, and/or a street utility fee. A combination of these funding sources could very easily produce the revenue stream necessary to accommodate the 20-year capital improvement needs of the community.



Section 7

Policies and Land Use Ordinance Modifications

Policies and Land Use Ordinance Modifications

REVIEW OF PLANS & POLICIES OF THE CITY OF UMATILLA & RECOMMENDATIONS FOR COMPLIANCE WITH THE TRANSPORTATION PLANNING RULE

The purpose of this section is to summarize the City of Umatilla's land use regulations, requirements of the Oregon Transportation Planning Rule (TPR), and recommended amendments to the City's Codes to implement the TPR. Specific amendments to the Comprehensive Plan and Municipal Code are attached in the form of a proposed ordinance.

BACKGROUND

The City of Umatilla manages land use and transportation through its Comprehensive Plan and zoning and land division chapters in the Umatilla Municipal Code.

Municipal Code: Title 9 COMPREHENSIVE PLAN

The City's Comprehensive Plan was adopted on December 19, 1977, with a periodic review in 1987 (note: only the "policies" portion of the Comprehensive Plan is included in the Municipal Code). The City is presently engaged in completing another periodic review, of which the Transportation System Plan is an important element.

Municipal Code: TITLE 10 ZONING

The zoning chapter of the Municipal Code was adopted in 1989 and has been amended several times.

Municipal Code: TITLE 11 LAND DIVISIONS

The land division chapter of the Municipal Code was adopted in June, 1998.

Simply due to the age of the Comprehensive Plan, changes will be needed to comply with Statewide Planning Goal 12 and the TPR (OAR 660-12). This chapter of the City of Umatilla's TSP outlines requirements of the TPR and recommends amendments necessary to achieve TPR compliance.

Oregon Transportation Planning Rule Requirements

The Transportation Planning Rule (TPR) requires cities and counties to adopt Transportation System Plans (TSPs) as part of their comprehensive plans. A TSP establishes a system of transportation facilities and services to meet regional transportation needs and must also be consistent with the plans of adjacent agencies and the State. Land use regulations are required to be consistent with the TSP. The TPR sections that apply to small jurisdictions are included in the Technical Appendix.

Land Use Regulations

The TSP includes recommended amendments to land use regulations to implement the TPR by protecting transportation facilities, corridors, and sites for their identified function, including:

- access control measures consistent with the functional classification of the street and adjacent uses;
- standards to protect the future operation of roads, transitways, and major transit corridors;

- a process for coordinated review of land use actions with ODOT, Umatilla County, and Morrow County;
- a process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors, or sites;
- regulations to provide notice to public agencies of land use and land division applications and any other applications that affect private access to roads; and,
- regulations ensuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities, and levels of service of facilities identified in the TSP.

The TSP also includes recommended amendments to land use regulations to require the following:

- bicycle parking facilities as part of new multi-family residential developments of four or more units; for new retail, office, and institutional developments; and for all transit transfer stations and park and ride lots;
- on-site facilities to accommodate safe and convenient pedestrian and bicycle access from within new subdivisions, multi-family developments, planned developments, shopping centers, and commercial districts, to adjacent residential areas and transit stops and to neighborhood activity centers within one-half mile of the development;
- where off site road improvements are otherwise required as a condition of development approval, they shall include facilities accommodating convenient pedestrian and bicycle travel, including bicycle ways along arterials and major collectors;
- internal pedestrian circulation within new office parks and commercial developments shall be provided through clustering of buildings and construction of accessways, walkways, and similar techniques;
- improvements to facilitate bicycle and pedestrian trips to meet local travel needs in developed areas, such as walkways between cul de sacs and adjacent roads, providing walkways between buildings, and providing direct access between adjacent uses; and,
- design standards for local streets and accessways that minimize pavement width and total right of way consistent with the operational needs of the facility.

COMPREHENSIVE PLAN

The City's Comprehensive Plan was adopted before the I-82/182 link was completed.² The City of Umatilla now has an interstate connection that strengthens its' unique location as a state port of entry at a major crossing of the Columbia River and intersection of several major highways.

The Comprehensive Plan identifies a Transportation Goal: "To develop and encourage a safe, convenient, and economic transportation system."³

Policies are very general but follow the basic intent of the TPR, which is to protect the public street system and promote alternative transportation modes.

² The connection between the Columbia River Bridge and I-84 was completed in the spring of 1988. The new freeway bridge was opened to traffic in late 1988.

³ Umatilla Municipal Code Title 9, 9-1-2 (11).

Policies

The City will promote a balanced, safe, and efficient transportation system. In evaluating parts of the system, the City will support proposals that:

- protect the qualities of neighborhoods and the community and*
- provide for adequate street capacity, optimum efficiency, and effectiveness.*

The City will maintain a street classification system identifying principal arterials, collectors, and local streets. The following streets are designated as:

a. Interstate:

Proposed I-82

b. Principal Arterials:

US 730 (Sixth Street)

c. Minor Arterials:

US 395 (Umatilla-Stanfield Hwy.)

d. Major Collectors:

County Road 848 (River Road)

Switzler Avenue (from Sixth St. (sic) to Third St.)

Third Street (from Switzler Ave. to Brownell Blvd.)

Brownell Blvd. (from Third St. south to principal arterial section of Brownell Blvd.)

The City will require uses fronting on principal arterials to limit the points of access consistent with the traffic needs of the proposed use and physical features of the subject site.

The City will promote the construction of a second bridge as part of the I-82 Interstate highway project. The second bridge should be located east of the existing bridge between "B" Street and River Road.

The City will review pedestrian circulation problems in the CBD and in regard to the north/south division created by US 730 along with bikeway and pathway systems.

The City will promote adequate transportation linkages between residential, commercial, and industrial use areas. This will be done through street improvements, new streets, well marked turning lanes, warning signs and/or speed reduction. Problems identified in the Plan element are considered to have first priority.

Bensel Road between Powerline Road and US 395 will be completed.

The City will support efforts to secure a regional mass transit system.

The City will use that portion (at least 1%) of its State of Oregon Tax Revenue for bicycle and footpath development as required by ORS 366.514. Funds will be placed in a fund to be used as stated, within a ten-year period.

The Comprehensive Plan's transportation policies are general but cover the basic concerns of the TPR. The following changes should be made in the plan to assure compliance:

- Add a policy in the Land Use section that requires coordinated review of land use actions and land divisions with ODOT, Umatilla County, and Morrow County, as well as the Umatilla School*

District 6R, the Umatilla Rural Fire Protection District, the irrigation district, and any other public agency or utility as appropriate, and that establishes a process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors, or sites as identified by service providers.

- Add a policy in the Transportation section that adopts the Transportation System Plan as the transportation element of the Comprehensive Plan, including the street classification system, street functional identification plan, conceptual future street plan, pedestrian system plan, and bicycle system plan.
- Add a policy in the Transportation section that requires development proposals, plan amendments, or zone changes to conform to the adopted Transportation System Plan.
- Add a policy in the Transportation section that requires an applicant to demonstrate that a proposed comprehensive plan amendment or zoning change significantly affects a transportation facility if:
 - a. it changes the functional classification of an existing or planned transportation facility;
 - b. changes the standards implementing a functional classification system;
 - c. allows types or levels of land use that would result in levels of travel or access that 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.
- Add a policy in the Transportation section that requires amendments to the comprehensive plan, zoning map, and land use regulations that significantly affect a transportation facility to assure that allowed 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 proposed land uses that are 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.
- Add a policy in the Transportation section to indicate that it is the City's intention to promote safe, convenient, and direct bicycle and pedestrian circulation within the community.
- Add a policy in the Transportation section that states it is the City's policy to include bikeways on all new arterials and collectors within the Urban Growth Boundary, except on limited access freeways, and that retrofitting of existing arterials and collectors with bike lanes shall proceed on a prioritized schedule as practical and appropriate.
- Add a policy in the Transportation section that states it is the City's policy to promote safe, direct, and convenient pedestrian circulation by including sidewalks on all new streets within the Urban Growth Boundary, except on limited access freeways, and by retrofitting existing streets with sidewalks 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, neighborhood commercial centers, and community centers.

- Add a policy in the Transportation section that requires bicycle parking facilities be provided for all new multi-family developments of four units or more, commercial, industrial, recreational, and institutional facilities.
- Delete the list of street classifications in the Comprehensive Plan; refer to the list of streets and classifications that will be included in the TSP.

Other measures to implement the TSP and TPR can be adopted through zoning and land division regulations.

MUNICIPAL CODE TITLE 10: ZONING REGULATIONS

Title 10 of the Municipal Code sets forth zoning requirements. This Title was adopted as Ordinance 554 in April, 1989.

Amendments recommended to Title 10 to comply with the TPR include standards for bicycle and automobile parking.

The TPR requires access management. This is a subject not dealt with in the Municipal Code. The TSP recommends that a new ordinance be adopted for access management.

LAND DIVISION REGULATIONS

Title 11 of the Municipal Code contains the regulations for land divisions. This Title was adopted in June, 1998 (Ordinance 673), replacing Ordinance 412, which was adopted in December, 1977.

The new land division requirements cover most of the provisions required by the TPR. However, the TSP requires that new developments minimize roadway width when possible. An amendment is proposed to the land division regulations that identifies circumstances when narrower street widths or private streets are appropriate within land divisions.

PUBLIC FACILITIES PLAN

The City does not have a public facilities plan that addresses transportation needs. The TSP will become the City's plan for transportation.

SUMMARY

The City's current policy framework is inadequate to the task of dealing with pressures of growth within the City and developments beyond the City's boundaries. In addition, the policy framework does not comply with the Transportation Planning Rule. The TSP recommendations provide the City with urgently needed regulatory tools to manage its growth.

ORDINANCE NO. _____

AN ORDINANCE ADOPTING A TRANSPORTATION SYSTEM PLAN FOR THE CITY OF UMATILLA AND AMENDING THE COMPREHENSIVE PLAN AND ZONING ORDINANCE TO IMPLEMENT RECOMMENDATIONS OF THE TRANSPORTATION SYSTEM PLAN.

WHEREAS, the City Council of the City of Umatilla finds that it is in the best interest of the City to adopt a Transportation System Plan that identifies transportation facilities and both current and future transportation needs, and

WHEREAS, the State of Oregon requires jurisdictions to adopt a Transportation System Plan with implementing measures,

THE CITY OF UMATILLA DOES ORDAIN AS FOLLOWS:

(Note: Additions shall be underlined, deletions shall be in [].)

Section 1. Title 9, Chapter 1 of the Municipal Code for the City of Umatilla shall be amended to read as follows:

9-1-2: GOALS, OBJECTIVES, AND POLICIES:

(2) Land Use.

Goal: To provide a process and basis for decisions and actions related to the existing and future uses of the land, and insure the orderly development of the City of Umatilla.

Objectives: Land uses should be located to take advantage of existing systems and physical features, and to minimize development costs.

Land uses should be situated so as to achieve compatibility and to avoid conflicts between adjoining uses.

Development should occur in a manner that will encourage qualities of neighborhood identity.

Opportunities for a variety of land uses should be provided commensurate with population growth.

Uses of land that have an adverse effect on the environment should be regulated consistent with State and Federal guidelines.

Policies: The City will maintain a Comprehensive Plan that designates a range of land use areas based on findings with respect to:

- natural resource capacity;
- projected population and economic growth;
- location and capacity of services;
- existing land use patterns; and,
- projected land use needs.

The City and the Planing Commission will review the Comprehensive Plan on an annual basis and update or amend the plan as required.

[Through the City's ongoing planning process, proposals that are of a mutual concern to Umatilla County and ECOAC will be coordinated with these agencies. Specific procedures will be established by formal agreement between the City and County.]

Review of land use actions and land divisions shall be coordinated with the Oregon Department of Transportation, Umatilla County, and Morrow County, as well as with the Umatilla School District 6R, the Umatilla Rural Fire Protection District, the Westland Irrigation District, and any other public agency or utility, as appropriate. The review process shall incorporate reasonable and appropriate conditions to approval of development proposals that are intended to minimize impacts and protect public facilities or transportation corridors, as recommended by service providers.

The Comprehensive Plan will designate types of developable areas that will be derived from primary and secondary categories of "development suitability". These categories will not incorporate any areas designated as hazards [on] or natural resources unless they comply with policy statements of the City's agricultural and areas subject to natural disasters and hazards goals.

The City will review the Developable Area criteria when the soil conservation service updates its soil mapping and soil interpretation data to be made available in mid 1978. This will be especially critical as to:

- (A) Agricultural suitability - the first "land capability classifications" will be available for the area.
- (B) Development suitability - more detailed soil characteristics will be available.

The current data used is based on the *Soil Survey, Umatilla Area, Oregon (1948)*.

(11) Transportation.

Goal: To develop and encourage a safe, convenient, and economic transportation system.

Objectives: Routes should be provided that separate regional through-traffic from local intra-city traffic.

Development should occur in such a manner as to encourage and facilitate pedestrian movements.

Alternative modes of transportation in addition to the automobile should be encouraged and promoted.

Policies: The City [will] shall promote a balanced, safe, and efficient transportation system. In evaluating parts of the system, the City will support proposals that:

- protect the qualities of neighborhoods and the community and
- provide for adequate street capacity, optimum efficiency and effectiveness.

The City [will] shall maintain a street classification system identifying principal arterials, collectors, and local streets and a plan for the vehicle, pedestrian, and bicycle circulation system in the Transportation System Plan. [The following streets are designated as:

- a. Interstate:
Proposed I-82
- b. Principal arterials:
US 730 (Sixth Street)
- c. Minor arterials:

US 395 (Umatilla-Stanfield Hwy.)

d. Major Collectors:

County Road 848. (River Road)

Switzler Avenue (from Sixth st.(sic) to Third St.)

Third Street (from Switzler Ave. to Brownell Blvd.)

Brownell Blvd. (from Third St. south to principal arterial section of Brownell Blvd.)]

The City will require uses fronting on [principal] arterial[s] and collector streets to limit the points of access consistent with the traffic needs of the proposed use and physical features of the subject site.

[The City will promote the construction of a second bridge as part of the I-82 Interstate highway project. The second bridge should be located east of the existing bridge between "B" Street and River Road.]

The City will review pedestrian circulation problems in the [CBD] Central Business District and in regard to the north/south division created by US 730, along with bikeway and pathway systems.

The City will promote adequate transportation linkages between residential, commercial, and industrial use areas. This will be done through street improvements, new streets, well marked turning lanes, warning signs, and/or speed reduction. Problems identified in the Plan element are considered to have first priority.

[Bensel Road] The City will support efforts to construct a street connection between Powerline Road and US 395 [will be completed].

The City will support efforts to secure a regional mass transit system.

The City will use that portion (at least 1%) of its State of Oregon Tax Revenue for bicycle and footpath development as required by ORS 366.514. Funds will be placed in a fund to be used as stated, within a ten year period.

Development proposals, plan amendments, or zone changes shall conform to the adopted Transportation System Plan.

Amendments to the comprehensive plan, zoning map, and land use regulations that significantly affect a transportation facility shall assure that allowed 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.

A proposed comprehensive plan amendment or zoning change significantly affects a transportation facility if:

- a. it changes the functional classification of an existing or planned transportation facility;
- b. changes the standards implementing a functional classification system;

c. allows types or levels of land use that would result in levels of travel or access that 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.

It is the City's intention to promote safe, convenient, and direct bicycle and pedestrian circulation within the community consistent with the pedestrian and bicycle circulation plans in the Transportation System Plan.

Bikeways shall be included on all new arterials and collectors within the Urban Growth Boundary, except on limited access freeways. Retrofitting of existing arterials and collectors with bike lanes shall proceed on a prioritized schedule as practical and appropriate.

The City will promote safe, direct, and convenient pedestrian circulation by including sidewalks 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 sidewalks and accessways to major activity centers within the Urban Growth Boundary such as the downtown commercial center, schools, neighborhood commercial centers, and community centers.

Bicycle parking facilities shall be provided for all new multi-family developments of four or more dwelling units, commercial, industrial, recreational, and institutional facilities.

Section 2. Title 10, Chapter 9 OFF-STREET PARKING AND LOADING of the Municipal Code for the City of Umatilla shall be amended as follows:

10-9-1: OFF-STREET PARKING AND LOADING:

A. Scope: At the time a structure is erected or floor area is enlarged by 10%, or the use of a structure or parcel of land is changed within any zone, off-street parking spaces for motor vehicles and bicycles shall be provided in accordance with the requirements of this Chapter, unless greater requirements are otherwise established.

B. Compliance: Occupancy of a building or use will not be permitted without complying with this Chapter. If parking space has been provided in connection with an existing use, the parking space shall not be eliminated if it would result in less than is required by this Chapter. A permit for the use of property is contingent upon the unqualified continuance and availability of the amount of parking space required by this Title. Reduction of the amount of required off-street parking shall be considered a violation of this Title.

C. General Requirements:

1. Where square feet are specified, the area measured shall be the gross floor area primary to the functioning of the particular use of property[, but shall exclude space devoted to off-street parking or loading].
2. Where employees are specified, persons counted shall be those working on the premises, including proprietors, during the largest shift at peak season. [Fractional space requirements shall be counted as a whole space.]
3. Required vehicle parking shall be available for the parking of operable automobiles and bicycles of residents, customers, and employees and shall not be used for the storage of vehicles, materials, or for the parking of trucks used in conducting business or use. A required loading space shall not be used for any other purpose than the immediate loading or unloading of goods.

4. For purposes of calculating the required number of vehicle or bicycle parking spaces, a fractional space shall be counted as a whole space.

D. Accessible [Handicapped] Parking Spaces: Accessible [Handicapped] parking spaces shall be provided as required under State and/or Federal laws, and shall be clearly marked in a manner to be approved by the building official. Accessible spaces shall be located on the shortest practical accessible route to an accessible building entry. Whenever practical, the accessible route shall not cross lanes of vehicular traffic. Accessible parking spaces shall be a minimum of 9 feet wide with a 6 foot wide access aisle between each two spaces. Accessible parking shall be provided according to the following requirements:

<u>Minimum Required Number Of Total Parking Spaces</u>	<u>Accessible Spaces</u>
<u>1-25</u>	<u>1</u>
<u>26-50</u>	<u>2</u>
<u>51-75</u>	<u>3</u>
<u>76-100</u>	<u>4</u>
<u>101-151</u>	<u>5</u>
<u>151-200</u>	<u>6</u>
<u>Over 200</u>	<u>7 plus 1 per 100 or fraction thereof</u>

One in eight accessible parking spaces, but no less than one space, shall be a van accessible parking space. A van accessible parking space shall be 9 feet wide with an 8 foot wide aisle that can be shared between another 9 foot accessible space. An appropriate sign designating the space as "van accessible" shall be provided.

E. Joint Use: Owners of two (2) or more uses, structures 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 City [Recorder] Administrator in the form of deeds, leases or contracts to establish joint ownership.

10-9-2: DESIGN STANDARDS FOR OFF-STREET PARKING FACILITIES:

A. Surfacing: All off-street parking spaces and driveways[, except those for single-family residences,] shall be hard surfaced with concrete, asphaltic cement, [oil mat,] or similar surface which is resistant to dust and mud. Type and thickness of this hard surface must be approved by the City [Engineer] Administrator.

B. Bumper Rails: All required off-street parking spaces, except those for single-family residences, must be equipped with bumper rails located in such a manner as to prevent vehicles from striking landscaping, fences, buildings, or walls or from overhanging their spaces in a manner which might obstruct aisles, walks, streets, or other spaces or property.

C. Access:

1. Groups of more than four (4) off-street parking spaces shall be served by a driveway or aisle so that no backing movements or other maneuvering within a street other than an alley will be required.
2. Service drives or aisles to off-street parking areas shall be designed and constructed to facilitate the flow of traffic and to provide maximum safety to pedestrians and vehicular traffic on the site.
3. Service drives or aisles shall be clearly and permanently marked and defined through the use of bumper rails, fences, buildings, walls, painting or other appropriate markers and shall not be considered as parking spaces.

D. Landscaping:

1. All parking lots [designed, to accommodate twenty one (21) or more vehicles] shall be developed with at least [two percent (2%)] ten percent (10%) of any uncovered parking area in plantings or other landscaping as approved by the City Council. Single family detached and attached residences and two family residences are exempt from this requirement. Parking areas for three to five dwelling structures may be exempt from this requirement if landscaping is provided around the perimeter of the parking area.
2. [Such landscaping or plantings shall be located in defined planting areas evenly distributed throughout the parking area.] Landscaping shall be located in planter areas that separate parking spaces into groups of ten or less spaces. Each planter area shall include at least one tree with a caliper of 2.0 inches at time of planting and ground cover.
3. Required planting areas shall have a [width] minimum dimension of not less than [three feet (3')] five feet (5').
4. Required landscaping shall be continuously maintained and shall be provided with an automatic underground sprinkler system or a certification from a landscape architect that plant materials can survive without an automatic sprinkling system.
5. Screening shall be provided where a parking area abuts a public right of way. Screening may consist of a decorative fence or wall, evergreen hedge, or berm, or any combination of these elements that results in a visual screen with a height of thirty to forty-two inches (30" to 42").
6. Screening shall be provided where a parking area abuts a residentially zoned property. Screening may be composed of trees, a decorative fence or wall, evergreen hedge, or berm, or combination of these elements that creates a visual barrier, with a height of six feet for the fence and five to six feet at maturity for plants (trees may exceed six feet in height).
7. Minimum standards for plant materials when installed are as follows: trees, 2.0 inch caliper; shrubs, 1 gallon containers; ground cover, sufficient to cover the intended area.

E. Setbacks:

1. A parking area shall comply with required minimum setbacks for a structure for the district in which it is located, or at least 5 feet from any public right of way and property line if no setback is otherwise required.
2. The setback area bordering a public right of way shall be landscaped and provided with screening as specified in 10-9-2.D.
3. Vehicle parking areas, including spaces, aisles, and turnaround and maneuvering areas shall not occupy the required setback yards for multi-dwelling structures containing three or more units, community service uses, commercial, and industrial developments.

F. Walkways:

1. A protected, raised, and accessible route, walk, or circulation path a minimum of five feet (5') wide, shall be installed through parking areas of fifty (50) or more spaces.
2. For parking lots with less than fifty (50) spaces, walkways shall be identified with painted stripes or alternate materials within parking areas that provide direct and safe routes through the parking area to the primary building entrance or to a walk adjacent to the building.

G. Bicycle Parking:

1. Unless otherwise specified, the bicycle parking requirement is 10% of the automobile parking requirement for any use. At least one bicycle parking space shall be provided for all new, enlarged, or altered uses, or when a building or site changes use.
2. Bicycle parking shall be provided in the form of a rack or other facility that allows the bicycle to be securely locked in place. Bicycle parking for residential uses may be provided within an enclosed garage.
3. A bicycle parking space shall be at least two and one half feet (2-1/2') wide by six feet (6') long, with an aisle access of at least five feet (5') wide between or beside each row of bicycle parking.
4. Each bicycle parking space must be accessible without moving another bicycle.
5. Areas set aside for required bicycle parking must be clearly reserved for bicycle parking only.
6. Outdoor bicycle parking spaces shall be hard surfaced.
7. Bicycle parking shall be located closer to the primary building entrance than automobile parking and shall be visible from on-site buildings and/or the street.

10-9-3: NUMBER OF REQUIRED AUTOMOBILE AND BICYCLE PARKING SPACES: Required off-street parking spaces (where alternative standards prevail, the greater applies in conflicting computations) are [as follows:] listed in the following table. For uses not listed, the required vehicle and bicycle parking shall be the same as for the most similar use, as determined by the City Administrator.

<u>Use</u>	<u>Vehicle Parking Spaces</u>	<u>Bicycle Parking Spaces</u>
Auto court, motel, hotel, tourist home	One space for each sleeping unit, guestroom, or suite plus one space for the manager	<u>One space per 10 guest rooms</u>
<u>Automobile service station</u>	<u>Three spaces plus two spaces per service bay, if any</u>	<u>Two spaces or 0.2 per 1,000 sq. ft. of gross floor area, whichever is greater</u>
<u>Automobile service station with convenience market</u>	<u>One space per 400 sq. ft. of gross floor area</u>	<u>Two spaces or 0.2 per 1,000 sq. ft. of gross floor area, whichever is greater</u>

<u>Use</u>	<u>Vehicle Parking Spaces</u>	<u>Bicycle Parking Spaces</u>
Bank, business or professional office with on-site customer service	One space for each 400 sq. ft. of gross floor area	
Beauty/barber shops	One space for each chair and 1 space for each 2 employees	
Bowling alley	3 spaces for each lane or alley[, plus 1 space for each 2 employees]	
Dance hall, skating rink	One space for each 50 sq. ft. of dance floor or skating area[, plus 1 space for each employee]	
Food and beverage place with sale and consumption on the premises (no drive through)	One space for each [200] 150 sq. ft. of gross floor area[, plus 1 space for each 2 employees. Establishments with dancing shall comply with dance hall, skating rink requirements as listed herein.]	<u>One space per 1,000 sq. ft. of gross floor area</u>
<u>Food and beverage place with drive through)</u>	<u>One space for each 200 sq. ft. of gross floor area</u>	<u>One space per 1,000 sq. ft. of gross floor area</u>
Hospital, nursing home, or institution	One space for each [3] 2 beds[, plus one additional space for each 2 employees]	
Library	One space for each 300 sq. ft. of gross floor area	<u>1.5 spaces per 1,000 sq. ft. of gross floor area</u>
Manufacturing uses, testing research, processing, or assembly uses	[One space for each 2 employees on the largest shift] <u>1.6 spaces per 1,000 sq. ft. of gross floor area</u>	
Medical or dental clinic	One space for each 300 sq. ft. of gross floor area	
Mortuary	One space for each 4 seats in the Chapel	

<u>Use</u>	<u>Vehicle Parking Spaces</u>	<u>Bicycle Parking Spaces</u>
Multi-plex and apartment structures	Two spaces for each dwelling unit <u>for the first four units; 1.5 spaces for each additional dwelling in the same structure</u>	<u>One space per dwelling unit</u>
Office not providing customer services <u>on premises</u>	One space [for each 2 employees] <u>for each 600 sq. ft. of gross floor area</u>	
Retail store, supermarket, department store, and personal service shop	One space for each 400 sq. ft. of gross floor area[, plus 1 space for each 2 employees]	
Roadside stands	Minimum of 4 spaces	
<u>Pre-school, child care facility, or kindergarten</u>	<u>One space per 300 sq. ft. of gross floor area</u>	<u>One space per classroom</u>
Schools, primary and elementary	One space per employee, plus 1 space for each bus kept on the premises	<u>Eight spaces per classroom</u>
Schools, [grades 10 to 12] middle or high school	One space per employee, plus 1 space for each 6 students	<u>Eight spaces per classroom</u>
<u>Schools, commercial</u>	<u>One space per 300 sq. ft. of gross floor area</u>	
Service and repair shop and retail store handling bulky merchandise such as automobiles and furniture	One space for each 1,000 sq. ft. of gross floor area[, plus 1 space for each 2 employees]	
Single-family <u>detached</u> residential structures	[One space for each dwelling unit, plus one space in the driveway] Two spaces, one of which may be in a driveway	<u>None required</u>
<u>Single-family attached residential structures</u>	<u>One space for each dwelling unit</u>	<u>One space (may be located within a garage)</u>
Stadium, sports arena, or similar enclosed place of assembly	One space for each 4 seats	

<u>Use</u>	<u>Vehicle Parking Spaces</u>	<u>Bicycle Parking Spaces</u>
Theater, auditorium, church, or similar enclosed place of assembly	One space for each 4 seats or 1 for each 72 sq. ft. of floor or assembly area not containing fixed seating	
Warehouse, storage, and wholesale business	One space for each [2 employees on the largest shift] <u>2,000 sq. ft. of gross floor area</u>	

10-9-4: DESIGN STANDARDS:

A. Space Size: Each off-street parking space shall have a net area of not less than one hundred eighty (180) square feet, exclusive of access drives or aisles, and shall be [of usable shape and condition] designed to the dimensional requirements of Figure 1. If determined on a gross area basis, two hundred eighty (280) square feet shall be allowed per vehicle. Parking spaces shall be identified with painted stripes or other permanent markings.

B. Space Plans: No building permit shall be issued until plans are presented that show property that is and will remain available exclusively for off-street parking. [The subsequent use of property for which the permit is issued shall be conditional upon the unqualified continuance and availability of the amount of parking space required by this Title. Reduction of the amount of required off-street parking shall be considered a violation of this Title.] Parking plans shall be drawn to scale and shall delineate parking spaces, aisle and maneuvering areas, and landscaped areas.

C. Space Location: Off-street parking facilities shall be located as herein specified. Where a distance is specified, such distance shall be the distance measured from the nearest point of the parking facility to the nearest point of the building said facility is required to serve.

1. For all Dwelling Structures and Motels: On the same lot with the building they are to serve.
2. For Rooming Houses and Apartment Houses: Within one hundred feet (100') of the building they are required to serve, including recreational vehicle storage as may be required.
3. For Uses other than Specified Above: Within two hundred feet (200') of the building they are required to serve.

10-9-5: OFF-STREET LOADING; PASSENGERS: A driveway designed for continuous forward flow of passenger vehicles for the purpose of loading and unloading children shall be located on the site of any school having a capacity greater than twenty five (25) students.

10-9-6: OFF-STREET PARKING; MERCHANDISE: Any use which requires supply or delivery of goods or merchandise shall provide off-street loading area which shall not interfere with traffic or block any street, alley or required parking spaces.

Section 3. Title 11 LAND DIVISIONS of the Municipal Code for the City of Umatilla shall be amended as follows:

11-4-2 STREETS: The location, width, and grade of streets shall be considered in their relation to existing and planned streets, to topographical conditions, to public utilities, services, convenience, and safety, and to the proposed use of the land to be served by the streets.

A. Street Arrangement. The arrangement of streets in and serving land divisions shall:

1. Maximize public safety, access, and to minimize out of direction travel by utilizing a grid system or comparable design.
2. Cul de sacs shall be avoided, except where there is no other practical alternative to serve a portion of the land area to be divided, due to topographical conditions, existing development, or similar circumstances.
3. Provide for the continuation of existing streets in surrounding areas.
4. Conform to any future street plan, neighborhood plan, or other street plan adopted by the City.

B. [Future Street Extensions] Street Layout and Design.

1. All streets, alleys, bicycle, and pedestrian pathways shall connect to other streets within the land division and to existing and planned streets outside the land division. Streets shall terminate at other streets or at parks, schools, or other public uses within a neighborhood.
2. Local streets shall align and connect with other streets when crossing streets with higher level classifications.
3. Cul de sacs and flag lots shall only be permitted when the following conditions are demonstrated:
 - a. Existing conditions, such as topographic features, water features, an irrigation canal, a railroad, a freeway, or other condition, that cannot be bridged or crossed prevents the extension of a street.
 - b. The existing development pattern on adjacent properties prevents a street connection.
 - c. An access way is provided consistent with the standards for access ways.
 - d. A minor street is not a suitable alternative to multiple flag lots (more than two adjacent flags) due to size of the site, topographic features, or other physical constraint.
4. Cul de sacs shall not exceed 400 feet in length.
5. Where a land division includes or is adjacent to land that can be divided and developed in the future, streets, bicycle paths, and pedestrian ways shall continue through the full length of the land division to provide connections for the adjacent land.
6. Where proposed lots or parcels in a proposed land division exceed double the minimum lot size and can be re-divided, the location of lot and parcel lines and other layout details shall be such that future land divisions may readily occur without interfering with the orderly extension of adjacent streets, bicycle paths, or pedestrian ways. Any building restrictions within future transportation locations, such as future street rights of way or future street setbacks, shall be made a mater of record for the purpose of future land divisions.
7. Where there is a reasonable relationship between the impacts of the proposed development and the public need for accessways, such as direct connections to public schools or parks, the land divider shall be required to publicly dedicate access ways to:

- a. connect to cul de sacs;
 - b. pass through oddly shaped or unusually long blocks; or
 - c. provide for networks of public pedestrian and bicycle paths, or
 - d. provide access to other transportation routes, businesses, residential, or public uses.
8. New construction or reconstruction of collector and arterial streets shall include bicycle facilities and pedestrian sidewalks as required by applicable City plans.
 9. Sidewalks shall be installed along the street frontage of arterial and collector streets and for any street within a multi-family, commercial, or industrial land division by the land divider. Sidewalks on local streets within a subdivision for single family residential lots shall be provided with the construction of a structure on the lot and shall be completed prior to occupancy of the structure.
 10. An easement may be required to provide for all or part of sidewalks along one or both sides of a public right of way that lacks width to include sidewalks within the public right of way.
 11. When a sidewalk in good repair does not exist, all applicants for building permits for a new structure or remodeling of more than a minor nature of an existing structure shall, in conjunction with the issuance of a building permit, obtain a permit to construct a sidewalk for the full frontage of the site. No final inspection or certificate of occupancy shall be issued for the building permit until a sidewalk has been constructed in accordance with the permit requirements.
 12. Off site pedestrian improvements may be required concurrent with a land division to ensure access between the land division and an existing developed facility such as a commercial center, school, park, or trail system. The approval authority must show a reasonable relationship between the impacts of the land division and the required improvement.
 13. Structures are not allowed in any dedicated sidewalk areas that will obstruct movements on the sidewalk. The minimum widths of sidewalks shall conform to ADA standards.
 14. Sidewalks generally shall be parallel to adjacent streets in line and grade, except where existing features or topographical conditions warrant an alternative design.
 15. All sidewalks shall be adjacent to the curb as specified in the Public Works Standards, unless impractical due to special circumstances of the site or adjacent street.
 16. Street trees are required along both sides of new public streets, at a minimum of 30 feet on center, with at least one tree for each new lot or parcel. Street tree locations shall be shown on construction plans and shall generally be located at the edge of the right of way. Street trees shall be required with building permits for structures on approved lots and shall be installed prior to approval of occupancy.

C. Right of Way and Roadway Widths. Generally, right of way and roadway widths for state highways and county roads shall be determined by these entities. Unless otherwise determined by the City Administrator based on the recommendation of the City Engineer and Public Works Director, the widths of streets and roadways shall meet the following standards:

Type of Street	Right of Way	Sidewalks	Pavement Width	Bicycle Lane
<u>Major Arterial Street</u>	State or County standards or [80] <u>86'</u> minimum	6' both sides	[64' minimum] <u>36' to 90'</u>	6' both sides
<u>Minor Arterial Street</u>	State or County standards or [80] <u>74'</u> minimum	<u>6' both sides</u>	<u>24' to 90'</u>	[N/A] <u>See Bikeway Plan</u>
Collector Street	[60] <u>52'</u> minimum or County standard	6' both sides	[40' minimum] <u>24' to 64'</u>	[6' both sides] <u>See Bikeway Plan</u>
<u>Neighborhood Collector Street</u>	<u>50' minimum or County standard</u>	<u>6' both sides</u>	<u>22' to 50'</u>	<u>See Bikeway Plan</u>
Local Streets: Commercial or Industrial	60' minimum	6' both sides	36' minimum	N/A
Cul de sacs: Commercial or Industrial	55' radius	5' around	45' radius	N/A
Local Streets: Residential	60' minimum	5' both sides	36' minimum	N/A
Cul de sacs: Residential	50' radius	5' around	40' radius	N/A
<u>Local Street: Low Volume Residential*</u>	<u>40' minimum</u>	<u>5' both sides</u>	<u>28' to 36'</u>	N/A
<u>Local Street: Minor Street**</u>	<u>26' minimum</u>	<u>5' one side</u>	<u>20'</u>	N/A
Pedestrian Connections	20' minimum	6' walkway	N/A	6' wide in addition to walkway
Alleys	24' commercial or industrial; 20' residential	N/A	20' minimum	N/A

*Handles less than 500 vehicle trips per day for low density developments in the R-1 and R-2 zones.

**Serves five or fewer dwellings; is not a through street, does not exceed 150 feet in length, and may be terminated with a hammer-head type turnaround. A minor access street may be public or privately owned. If private, provisions for maintenance shall be recorded with the deeds of properties served by the street.

1. The City Administrator may modify the width of a planter strip to accommodate drainage and public utilities.
2. Curbside sidewalks shall be required.
3. Bike lanes and shoulder bikeways along arterial and collector streets shall be six feet wide and shall be provided for each direction of travel allowed on the street.
4. Sidewalk and bicycle path lighting shall be provided in conjunction with new road construction and new development.
5. Wheelchair ramps and other facilities shall be provided as required by the Americans with Disabilities Act (ADA).
6. Bike ways shall be designed and constructed consistent with the design standards in the Oregon Bicycle Plan, 1992, and AASHTO's "Guide for the Development of Bicycle Facilities, 1991."

D. Reserve strips. Public reserve strips or street plugs controlling access to streets may be approved where necessary for the protection of the public welfare or of substantial property rights.

E. Alignment. Streets other than minor streets shall be in alignment with existing streets by continuations of the center lines. Staggered street alignment resulting in "T" intersections shall be avoided and in no case shall the distance between centerlines of off-set streets be less than 200 feet.

F. Future Extension of Streets. Streets shall be extended to the boundary of the land division. A temporary turn around may be required for emergency vehicle access if a dead end street results.

G. Intersection Angles. Streets shall be laid out to intersect at right angles as nearly as practical. In no case shall the intersection angle be less than 75 degrees. The intersection of arterial or collector streets with other arterial or collector streets shall have at least 100 feet of tangent adjacent to the intersection. Other streets, except alleys, shall have at least 60 feet of tangent adjacent to the intersection.

H. Existing Streets. When existing streets adjacent to or within a site have widths less than City standards, additional right of way shall be provided with the land division.

I. Partial Street Dedication and Improvements. Half streets shall be avoided wherever possible. A partial street dedication may be permitted when a land division abuts undeveloped property that is likely to dedicate the remainder of the street. At minimum, two thirds of the street dedication and improvement shall be required for any partial street to accommodate two travel lanes, one parking lane, and sidewalk on one side. Reserve strips and street plugs may be required to preserve the objectives of the partial street.

J. Street names. Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of existing streets. Street names and numbers shall conform to the established pattern in the City, applicable requirements, and shall be approved by the City.

K. Grades and Curves. Center line radii of curves shall not be less than 300 feet on arterial streets, 200 feet on collector streets, or 100 feet on local streets. Grades shall not exceed 6% on arterials, 10% on collector streets, or 12% on any other street.

L. Streets Adjacent to Railroad Rights of Way. Wherever the proposed land division includes or is adjacent to a railroad right of way, provisions 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 the land between the streets and the 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 vegetative or other screening to be placed along the railroad right of way.

M. Marginal Access Streets. Where a land division abuts or contains an existing or proposed arterial street, the City may require marginal access streets, reverse frontage lots with additional depth, screen planting or other screening 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. Alleys are acceptable as a means of providing access to lots or parcels fronting state highways or county roads.

N. Alleys.

1. 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 City.
2. Alleys are encouraged to serve residential development that front along state highways or county roads to minimize congestion and traffic hazards.
3. The corners of alley intersections shall have a radius of not less than 2 feet.

O. Blocks. The length, width, and shape of blocks shall take into account the need for adequate lot size and street width. No block shall be more than 800 feet in length between street corner lines, unless it is adjacent to an arterial street or unless justified by the location of adjoining streets. The recommended minimum length of blocks along an arterial street is 1,600 feet. Any block over 800 feet in length may be required to provide pedestrian connections through the block and crosswalks dedicated and improved to City standards.

Enacted by the Council on the _____ day of _____, 1999, and signed by the
Mayor this _____ day of _____, 1999.

George Hash, Mayor

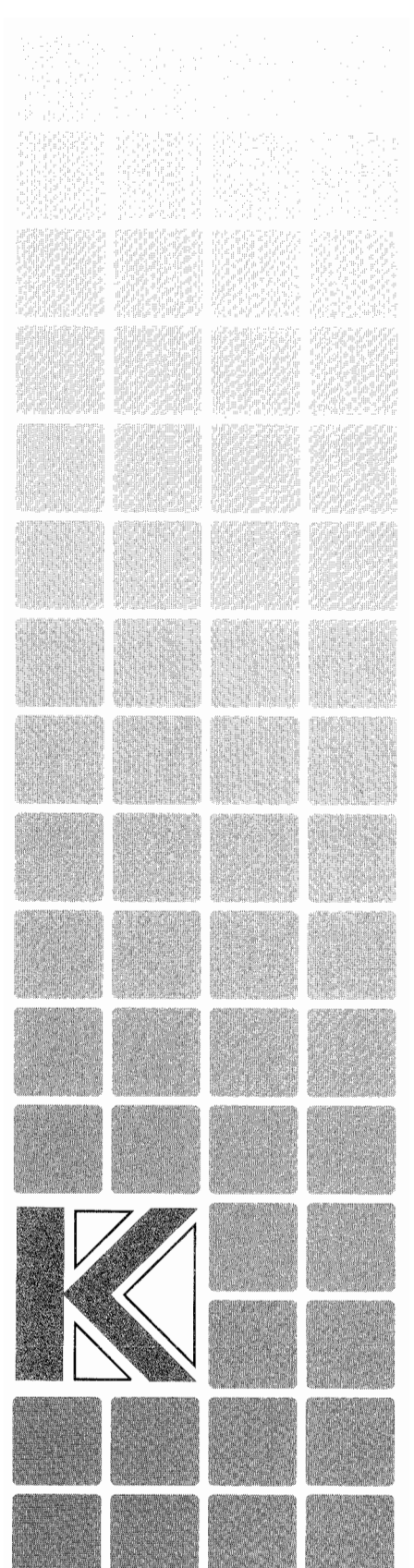
ATTEST:

Linda Gettmann, City Recorder

SIGNED: _____

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 Umatilla TSP. The comparison demonstrates that the City of Umatilla TSP is in compliance with the provisions of the TPR.

DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

TPR Recommendations/Requirements

City of Umatilla TSP Compliance

Public and Interagency Involvement

- Establish Advisory Committees. Technical and Citizen Advisory Committees were established at the outset of the project. Membership on the TAC included members of the City, County, and ODOT staff. Membership on the Citizen 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 each 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. Two public informational meetings and three TAC/CAC meetings were held through the planning process. The meetings were advertised by distribution of a project newsletter. All CAC meetings were advertised and open to the public.
- Coordinate Plan with other agencies. Coordination with local government agencies was accomplished by including them on the project mailing list, individual project briefings/meetings, and participation on the both the TAC and CAC.

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 Umatilla Comprehensive Plan, (1987); Draft Statewide Transportation Improvement Program (1998-2001).
- *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 2017 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. A separate project provided an inventory of vacant buildable lands within the City of Umatilla's UGB.
- *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 Umatilla TSP.
- *Review existing significant transportation studies.*

Significant transportation studies reviewed as part of the City of Umatilla TSP include the above mentioned comprehensive plans and their associated transportation elements, the draft Umatilla County TSP, the draft Highway 395 Corridor Study, local transportation impact studies, as well as those documents previously listed.
- *Review existing capital improvements programs/public facilities plans.*

The City of Umatilla CIP, Umatilla County CIP, and the State TIP were reviewed as part of City of Umatilla TSP development.
- *Americans with Disabilities Act requirements.*

The ADA requirements were reviewed and acknowledged as part of the City of Umatilla 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).
A summary of the existing bicycle route system is given in Section 2: Existing Conditions.
- Pedestrian ways (location, width, condition, ownership/jurisdiction).
An inventory of pedestrian facilities along streets in City of Umatilla is listed in Section 2 and shown in Figure 5.
- 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 Umatilla. Umatilla County is currently preparing a study of Public Transportation Service needs throughout the County, including the City of Umatilla.
- 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.
A summary of freight rail transportation services is provided in Section 2, Existing Conditions.
- 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.*
The Columbia River, Umatilla River, and local wildlife refuges present significant environmental constraints for transportation facilities, particularly to east-west movements within City of Umatilla. These features have been addressed in the preparation of the City of Umatilla TSP.
- Existing population and employment.
As outlined Section 1: Introduction, the 1998 City of Umatilla population is approximately 3,515 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 2017 that reflect regional growth prospects and City of Umatilla'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, rail, and marine services.
- Public transportation needs (special transportation needs, general public transit needs).
A county-wide transit needs assessment is currently being prepared by Umatilla County, which is expected to be completed in 1999.
- 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 Umatilla'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: Funding Alternatives Analysis includes a summary of the land use and transportation alternatives considered and analyzed for City of Umatilla's TSP. 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: 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 14. Section 6: Transportation Funding Plan, lists recommended pedestrian improvements.
- 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

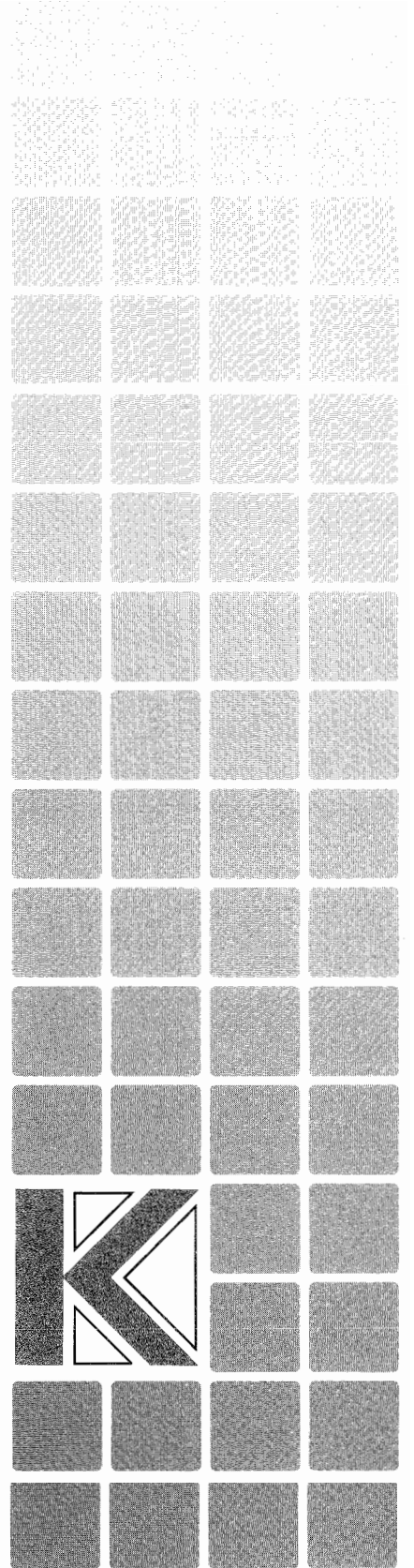
- Is it adopted? *To follow.*

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.
2. Kittelson & Associates, Inc. *Hermiston-Umatilla Highway 395 Corridor Land Use/Transportation Plan*. June 1995.
3. Oregon Department of Transportation. *1998 Draft Oregon Highway Plan*. January 1999.
4. Transportation Research Board. *Highway Capacity Manual*, Special Report No. 209. 1994.
5. American Association of State Highway and Transportation Officials. *Policy on Geometric Design of Highways and Streets*. 1994.
6. The Benkendorf Associates Corporation. *HUES Growth Impact Study Western Umatilla County*. February 1998.