

# City of Ione Transportation System Plan

Ione, Oregon

**June 1999**

# City of Ione Transportation System Plan

## Ione, Oregon

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## Preface

This project is partially funded by a grant from the Transportation Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. TGM grants rely on federal Intermodal Surface Transportation Efficiency Act and Oregon Lottery funds. The contents of this document do not necessarily reflect the views or policies of the state of Oregon.

The progress of this plan was guided by the Management Team, Transportation Advisory Committee, and Consultant Team identified below.

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### Transportation Advisory Committee

Advisory Committee members devoted a substantial amount of voluntary time and effort to the development of the Transportation System Plan, and their participation was instrumental in the development of the recommendations that are presented in this report. The Consultant Team and Management Team believe that the City of Ione's future transportation system will be better because of their commitment.

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## **Section 1**

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Introduction

## Introduction

The City of Ione, in conjunction with Morrow County and the Oregon Department of Transportation (ODOT), initiated a study of the city's transportation system during the summer of 1998. The purpose of this study was two-fold: to guide the management and development of appropriate transportation facilities; and to incorporate the vision of the community into a land use and transportation system that addresses both the potential for infill and redevelopment strategies and the multimodal needs of the community.

Since 1990, Ione has experienced a modest growth rate as well as an economic restructuring as it has become less resource dependent. This economic restructuring will likely continue to produce new growth pressures and community needs. To address these changing needs, Ione needs to develop land use and transportation strategies that continue to plan for the economic development associated with the existing agriculture and timber industries. Care should also be taken to continue to foster economic development associated with recreation and tourism.

This study was prepared as part of a Transportation Growth Management Grant and is formatted to provide the necessary elements for the City of Ione to assemble its Comprehensive Plan. In addition, this document provides Morrow County and ODOT with recommendations for incorporation with their respective planning efforts.

State of Oregon guidelines stipulate that the TSP must be based on the current comprehensive plan land use map and must provide a transportation system that accommodates the expected 20-year growth in population and employment that will result from implementation of the land use plan. Oregon Revised Statute 197.712 and the Land Conservation and Development Commission (LCDC) administrative rule known as the Transportation Planning Rule (TPR) require that all jurisdictions develop the following:

- a road plan for a network of arterial and collector streets;
- a public transit plan;
- a bicycle and pedestrian plan;
- an air, rail, water, and pipeline plan;
- a transportation finance plan; and,
- policies and ordinances for implementing the transportation system plan.

The TPR requires that alternative travel modes be given equal consideration and that reasonable effort be applied to the development and enhancement of the alternative modes in providing the future transportation system. In addition, the TPR requires that local jurisdictions adopt land use and subdivision ordinance amendments to protect transportation facilities and to provide bicycle and pedestrian facilities between residential, commercial, and employment/institutional areas. It is further stipulated that local communities coordinate their respective plans with county and state transportation plans.

### STUDY AREA

The City of Ione is located along Highway 74 in Morrow County, Oregon, as shown in Figure 1. Home to an estimated population of 310 persons (1997 census estimate), Ione's development pattern reflects its agricultural heritage and remote location in eastern Oregon. The Main Street downtown area contains

Figure 1  
Study Area Map

a mix of commercial, industrial, residential, and public land uses. Most of the commercial and industrial uses along Main Street and Highway 74 are auto-oriented and of relatively low intensity.

Residential land uses are located along the southern portion of the city, with local zoning identifying a mix of commercial and industrial land uses between Second Street and Highway 74. Land north of Highway 74 is zoned as a mix of public and residential. Reflecting the area's rural nature, Ione's residential development is all of low-density design. Single family homes on modest lots are located throughout the city. Figure 2 illustrates the current zoning within the City of Ione.

## **PUBLIC INVOLVEMENT AND STUDY GOALS**

The TSP planning process provided the citizens of Ione with the opportunity to identify their priorities for future growth and development. Expressing their vision for the future in terms of goals and objectives for the TSP was a central element of the public involvement process. The goals and objectives identified by the community were used as guidelines for developing and evaluating alternatives, selecting a preferred transportation plan, and prioritizing improvements.

Two committees were formed to guide the planning process: the Management Team and the Transportation Advisory Group (TAC). The Management Team was composed of representatives of the City of Ione, Morrow County, ODOT, and the consultant team. The two committees convened at several key junctures of the project including: project inception and completion of the existing conditions analysis, presentation of the future conditions and alternatives analysis findings, and presentation of the draft TSP.

Given the city's Comprehensive Plan, and through the direction provided by both the two TSP committees and the public hearing process, a series of transportation system goals and objectives evolved that provided the planning process with direction as well as evaluation criteria. Those goals and objectives are listed below.

### **Goal 1**

Promote a balanced, safe, and efficient transportation system.

#### *Objectives*

1. Develop a multi-modal transportation system that avoids reliance upon one form of transportation as well as minimizes energy consumption and air quality impacts.
2. Protect the qualities of neighborhoods and the community.
3. Provide for adequate street capacity and optimum efficiency.
4. Promote adequate transportation linkages between residential, commercial, public, and industrial land uses.

Figure 2  
Existing Zoning Map

## **Goal 2**

Ensure the adequacy of the roadway network in terms of function, capacity, level of service, and safety.

### *Objectives*

1. Develop a functional classification system that addresses all roadways within the study area.
2. In conjunction with the functional classification system, identify corresponding street standards that recognize the unique attributes of the local area.
3. Identify existing and potential future capacity constraints and develop strategies to address those constraints, including potential intersection improvements, future roadway needs, and future street connections.
4. Evaluate the need for modifications to and/or the addition of traffic control devices.
5. Identify access spacing standards on Highway 74 that conform to the Oregon Highway Plan.
6. Provide an acceptable level of service at all intersections in the city, recognizing the rural character of the area. Intersection operations on Highway 74 should conform to the level of service and volume/capacity ratio requirements identified in the Oregon Highway Plan.
7. Identify existing and potential future safety concerns as well as strategies to address those concerns.

## **Goal 3**

Promote alternative modes of transportation.

### *Objectives*

1. Develop a comprehensive system of pedestrian and bicycle routes that link major activity centers within the study area.
2. Encourage the continued use of public transportation services.

## **Goal 4**

Identify and prioritize transportation improvement needs in the City of Ione, and identify a set of reliable funding sources that can be applied to these improvements.

### *Objectives*

1. Develop a prioritized list of transportation improvement needs in the study area.
2. Develop construction cost estimates for the identified projects.
3. Evaluate the adequacy of existing funding sources to serve projected improvement needs.
4. Evaluate new innovative funding sources for transportation improvements.

## **TRANSPORTATION SYSTEM PLAN STUDY METHODOLOGY AND ORGANIZATION**

The development of the City of Ione's Transportation System Plan began with an inventory of the existing transportation system and a review of the local, regional, and statewide plans and policies that guide land use and transportation planning in the city (Appendix "A" contains the plans and policies review). The inventory included documentation of all transportation-related facilities within the study area and allowed for an objective assessment of the current system's physical characteristics, operational performance,

safety, deficiencies, and general function. A description of the inventory process, as well as documentation of the existing conditions analyses and their implications, is presented in **Section 2** of this report. The findings of the existing conditions analysis were presented to and verified by the two TSP committees.

Upon completion of the existing conditions analysis, the focus of the project shifted to forecasting future travel demand and the corresponding long-term future transportation system needs. Development of long-term (year 2020) transportation system forecasts relied heavily on population and employment growth projections for the study area and review of historical growth in the area. Through the City's Comprehensive Plan and land use projections provided by the consultant team, reasonable assumptions could be drawn as to the potential for and location of future development activities. **Section 3** of this report, *Future Conditions Analysis*, details the development of anticipated long-term future transportation needs within the study area.

**Section 4** of this report, *Alternatives Analysis*, documents the development and prioritization of alternative measures to mitigate identified safety and capacity deficiencies, as well as projects that would enhance the multi-modal features of the local transportation system. The process by which future transportation system projects were identified and prioritized included extensive cooperation with both TSP committees. The impact of each of the identified alternatives was considered on the basis of individual merits, conformance with the existing transportation and land use system, as well as potential conflicts to implementation and integration with the surrounding transportation and land use system components. Ultimately, a preferred plan was developed that reflected a consensus as to which elements should be incorporated into the city's long-term transportation system.

Having identified a preferred set of alternatives, the next phase of the TSP planning process involved presenting and refining the individual elements of the transportation system plan through a series of decisions and recommendations. The recommendations identified in **Section 5**, *Transportation System Plan*, include a Roadway Network and Functional Classification Plan, a Pedestrian Plan, a Bikeway Plan, a Public Transportation Plan, and other multi-modal plans.

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

The city's existing comprehensive plan and zoning ordinances were limited and did not allow the city to develop the type of transportation system desired. In an effort to rectify this situation and ensure compliance with the TPR, several comprehensive plan and zoning ordinance modifications have been developed. Development review guidelines were also drafted. The recommended modifications presented in **Section 7**, *Policies and Land Use Ordinance Modifications*, address major land use and transportation issues identified through development of the TSP and reflect the desire to enhance all modes of the transportation system.

Finally, **Section 8**, *Transportation Planning Rule Compliance*, lists the requirements and recommendations of the Oregon Transportation Planning Rule (OAR 660 Division 12) and identifies how the City of Ione TSP satisfies that criterion.



## **Section 2**

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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 trucks, cars, bicycles, pedestrians, transit, air, marine, and pipeline facilities. The purpose of this section is to provide an inventory description of existing facilities while setting the stage for a basis of comparison to future conditions.

### LAND USE HISTORY

Ione's remote location in eastern Oregon and dependence on the local agricultural industry has shaped the community. Residential land uses are located along the southern portion of the city, with local zoning identifying a mix of commercial and industrial land uses between Second Street and Highway 74. Land north of Highway 74 is zoned as a mix of public and residential. Reflecting the area's rural nature, Ione's residential development is all of low-density design. Single family homes on modest lots are located throughout the city.

In the last ten years, Ione has experienced relatively modest population growth, with little new commercial development. Recent residential expansion has been concentrated in the newly annexed Emert Addition, located on a hill in the northeastern section of town. The subdivision includes 27 platted lots; about 15 have been developed to date. There is the potential to develop additional housing further northeast of the Emert Addition development.

The Main Street downtown area contains a mix of commercial, industrial, residential, and public land uses. Most of the commercial and industrial uses along Main Street and Highway 74 are auto-oriented and of relatively low intensity. A portion of the existing commercial land along the highway is located adjacent to the Reaping Grade. The Reaping Grade drains near Beechers and then travels southwest through the center of town, constraining development of land that is currently zoned commercial. Seasonal flooding of this area currently leaves debris on Highway 74.

An ongoing study is examining ways to address the drainage problem associated with the grade and accommodate commercial development in that area. In the past, a diversion ditch was built around the Grain Growers facilities. The Oregon Department of Transportation (ODOT) has suggested placing culverts by the grain elevator but no action has been taken to date pending the outcome of the ongoing study. Even if the topographical constraints were corrected, it is likely that only limited access from this commercial area will be allowed by ODOT.

### TRANSPORTATION FACILITIES

The City of Ione's transportation system includes facilities that serve several different travel modes. All of these facilities are identified and discussed in detail in the remainder of this section.

#### Roadway Facilities

All public roadways within the City of Ione are operated and maintained under the auspices of one of two jurisdictions – ODOT and/or the city. The following paragraphs highlight the existing roadway network, which is illustrated in Figure 3.

Figure 3  
Existing Roadway Network

Ideally, pedestrian facilities should provide connectivity between major activity centers, such as housing, commercial areas, schools, the post office, and recreation areas. There are no sidewalk connections to the school located in the southwest quadrant of the city. Sidewalks are generally provided along the south side of Main Street and around the post office but are not provided immediately adjacent to the community park. Access to Emert Addition and to the cemetery, which are located on the north side of Highway 74, is limited primarily to auto use due to the local topography and the high operating speeds on Highway 74.

## **BICYCLE SYSTEM**

The City of Ione does not currently offer designated bicycle facilities and very little bicycle activity was noted. Topographical constraints and the remote location of the city in relation to trip generators limit the attractiveness of this mode of transportation for commuter purposes. There may however, be children or recreational bicyclists in the area that would benefit from provision of such facilities. In addition, there is a bike road race held annually in May along Highway 74.

## **PUBLIC TRANSPORTATION SYSTEM**

### **Morrow County Special Transportation Program**

Morrow County currently provides two public transportation programs that serve the City of Ione. A senior bus service is available to groups by appointment and provides service for seniors, disabled persons, and low-income persons. Other users are welcome as long as they do not displace the primary users (i.e., seniors, the disabled, and the disadvantaged). A dial-a-ride service is also available by appointment to serve the same audience. Both programs are funded through a tobacco tax and rely on a volunteer pool of drivers.

Volunteer dispatchers handle appointment requests on weekdays and the actual transportation service is available as needed except on holidays (pending the availability of volunteer drivers, of which there are apparently several). The transportation service is free to users, although anonymous donations are accepted by sealed envelope. Trip requests outside the county to areas such as Pendleton are honored as long as the purpose of the trip is appropriate (for example, trips to specialized medical service providers located in Pendleton). While increased usage of these services is desirable, there are no current or pending plans to expand public transportation services to the area.

### *Relevant Information*

- Program Contact: John Wenholz, County Commissioner, Phone (541) 922-3941
- Program Coordinator: Barbara Hayes, Phone (541) 676-5667
- Ride Scheduling Contact: Linda Halvorsen (RSVP Driver), Phone (541) 422-7547
- Scheduling Hours: Monday-Friday 9:00 a.m. to 5:00 p.m.
- Service Area: As needed, serves all of Morrow County and has provided trips out of county for medical services including trips to the Tri-Cities area of Washington State.
- Equipment/Facilities in Ione (As of March 31, 1999):
  1. 1979 Plymouth 8 Passenger Van - 17,790 miles (Handicapped accessible)

### **General Comments**

The county's transit program does not typically operate on weekends due to the nature of the volunteer staff pool and the limited demand for trips. Instead, if there is a need for handicapped accessible service on weekends, family members of the person to be transported can be van-trained and (once qualified) are then allowed to operate the vehicles.

Discussions with local agency staff indicate that the two public transportation services are not as well used as they could be. A commonly repeated theme was the notion that there is a need to create greater awareness of the programs among community members. Community input stressed the need for convenient access to public transit service for the elderly. The need for additional volunteer staff was also noted.

It was further observed that the population under the driving age is particularly under-served and, as the community grows in geographic size, their overall accessibility will be diminished. Aside from the identified services, for most of the city's residents, private transportation is the only available option to get to the local medical, social, and retail services and the educational and employment opportunities located in adjacent communities. Although enhanced service is desired, no segment of the city's population was specifically identified as being without transportation service.

### **AIR TRANSPORTATION SYSTEM**

No commercial or private aviation facilities are located within the City of Ione. The nearest airfield is the Lexington Airport, located approximately 10 miles to the southeast in the Town of Lexington. The Lexington Airport provides local air service and is estimated to support approximately 2,500 flight operations per year. The airport's single runway, Runway 08-26, has an asphalt surface that measures 4,150 feet in length and 75 feet in width. Fourteen aircraft are based at the airport. Efforts have begun to have the Federal Aviation Administration develop a Global Positioning Satellite instrument approach to the Lexington Airport.

Regional freight cargo and air passenger services are provided at the Eastern Oregon Regional Airport at Pendleton, located approximately 80 miles to the northeast. In addition, the City of Hermiston owns and operates a general aviation airport located approximately 55 miles to the northeast that offers charter service.

### **RAILROAD TRANSPORTATION SYSTEM**

Railroad service is no longer provided to the City of Ione. The former railroad right-of-way parallels Highway 74 through the north section of the city. Although the railroad track has been removed, plans for the use of the right-of-way are unknown at the time this TSP was prepared. Rail service would potentially be available through Union Pacific's Hinkle Rail Yard located in Hermiston, though intermediate non-rail transport to Hermiston would be necessary.

### **MARINE TRANSPORTATION SYSTEM**

Marine transportation is not available within the City of Ione, though the Port of Morrow maintains a barge area along the Columbia River in Boardman, Oregon. Similarly, The Port of Umatilla maintains two marine facilities along the Columbia River. These facilities are available for use by persons in the City of Ione through intermediate truck transfer.

### **PIPELINE TRANSPORTATION SYSTEM**

No major pipelines within the City of Ione were identified; however, it was noted that a natural gas line is located on the east side of town on the south side Highway 74.

### **TRAFFIC OPERATIONS ANALYSIS**

Three intersections within the city were selected for operational analysis under 1998 existing conditions. Traveling west to east, those intersections include Highway 74 and:

- Main Street
- Green Street
- H Street

#### **Traffic Control**

Figure 5 illustrates the existing lane configurations and traffic control devices at each of the study intersections, all of which are currently unsignalized. Traffic operations at each of the intersections were examined during the weekday p.m. peak hour. The p.m. peak period represents the worst case condition for traffic operations on the transportation system. Travel patterns during this weekday 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.

Figure 5  
Existing Intersection Lane Configurations and Traffic Control Devices

### **Traffic Volumes**

Weekday p.m. peak hour manual traffic volume counts at the intersections were conducted in late October 1998. Manual turning movement traffic counts were conducted between 4:00 p.m. and 5:30 p.m. on a mid-week day. The highest one-hour flows during these periods were used in this study.

Based on the turning movement counts conducted at study area intersections, the systemwide p.m. peak hour of traffic on a typical weekday afternoon was estimated to occur between 4:00 and 5:00 p.m. Existing weekday p.m. peak hour traffic volumes are shown in Figure 6. Traffic volumes have been rounded to the nearest five vehicles per hour. For comparative purposes, local average daily traffic (ADT) volume data obtained from ODOT are summarized in Figure 7.

### **Level of Service Analysis**

Using the weekday p.m. peak hour turning movement volumes shown in Figure 6, an operational analysis was conducted at each of the study area intersections to determine existing levels of service. All level of service analyses described in this study were conducted in accordance with the *1994 Highway Capacity Manual*, published by the Transportation Research Board (Reference 2). Appendix B summarizes the level of service concept.

To ensure that this analysis was based on a reasonable worst case scenario, the peak 15 minute flow rate during the weekday p.m. peak hour was used in the evaluation of all intersection level of service analyses. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average weekday p.m. peak hour. Traffic conditions during all other weekday periods will likely operate under better conditions than those described in this report. (It should be noted that peak seasonal traffic conditions typically occurs during the summer harvest season, hence Design Hour Volumes may be up to 25 percent higher than the peak hour analyzed in the TSP.)

### *Unsignalized Intersections*

For unsignalized two-way stop-controlled (TWSC) intersections, level of service (LOS) is based on an intersection's capacity to accommodate the worst, or critical, movement. Typically, the left-turn from the stop-controlled approach is the most difficult movement for drivers to complete at a TWSC intersection. This is due to this movement being exposed to the greatest potential number of conflicting, higher-priority movements at the intersection. Available gaps in the through traffic flow of the uncontrolled approach(es) are used by all other conflicting movements before the side street left-turn can be negotiated. Therefore, the number of available gaps for the side street left-turn to negotiate its movement safely is likely to be substantially lower than any other movement. As a result, the side-street left-turn typically experiences the highest delays and the worst level of service. For the Highway 74 corridor through the City of Ione, ODOT stipulates that level of service "A" through "D" for mainline traffic are considered acceptable. Table 1 summarizes the level of service results for the unsignalized study intersections.



Figure 6  
1998 Existing Traffic Volumes, Weekday PM Peak Hour

Figure 7  
1997 Estimated Average Daily Traffic Volumes

**TABLE 1**  
**1998 EXISTING PM PEAK HOUR LEVEL OF SERVICE,**  
**UNSIGNALIZED INTERSECTIONS**

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Main Street/Highway 74	Northbound	0.02	3.6	A	A
Green Street/Highway 74	Northbound	0.02	2.8	A	A
H Street/Highway 74	Southbound	< 0.01	3.6	A	A

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

As Table 1 indicates, all of the unsignalized study area intersections operate at acceptable levels of service under existing weekday p.m. peak hour conditions.

**TRAFFIC SAFETY**

Another important aspect of the transportation system is safety. The safety analysis described in the following section focuses on the accident history for Highway 74 within the City of Ione urban growth boundary.

**Intersection Accident Analysis**

The accident history of the study intersections was examined for potential and existing safety problems. ODOT accident data for the period January 1993 through June 1998 were used for this analysis. In addition, the ODOT District 12's 1996-1998 Safety Priority Index System (SPIS) lists were reviewed. The SPIS list identifies locations with relatively high accident rates and locations that have been the site of one or more fatal accidents.

Table 2 presents accident rates for the individual study intersections. Accident rates for intersections are calculated by relating the total entering volume of traffic at the intersection, on an average daily basis, to the number of reported accidents for a given period of time. The accident rate for intersections is expressed as the number of accidents per million entering vehicles (acc/mev).

**TABLE 2**  
**STUDY INTERSECTION ACCIDENT RATES**

Intersection	Number of Accidents	Accidents/MEV
Main Street/Highway 74	0	0
Green Street/Highway 74	0	0
H Street/Highway 74	1	0.52

\*ODOT Accident data search period of 1993 – 1998

As shown in Table 2, the only study intersection with a reported accident during the review period was the "H" Street/Highway 74 intersection. A single accident was reported to have occurred at this intersection in September of 1997. The accident was attributed to a northbound driver on "H" Street not yielding to a vehicle on Highway 74.

The 1996 ODOT SPIS list identified the area near the "H" Street intersection on Highway 74 (specifically, the area between mileposts 28.34 and 28.38) as a SPIS site due to the occurrence of a fatal

accident at that location. Since the fatal accident, Highway 74 has been reconstructed between mileposts 28.34 and 28.38 to provide a wider roadway cross section and a reduced curvature.

### **OTHER IDENTIFIED EXISTING TRANSPORTATION DEFICIENCIES**

As an extension of the existing conditions analysis, different aspects of the transportation system with existing deficiencies were identified. A description of the deficiencies and potential improvements follows. The summary is based on field data/observations and information/suggestions that were made by members of the respective transportation agencies and the general public.

#### **Emert Addition**

One issue that was identified by community members as being of particular concern was access to, and connectivity within the new Emert Addition. This new residential subdivision, located on the north side of Highway 74 east of "H" Street, was recently annexed into the city. The subdivision has been partially developed and concerns have arisen with respect to access to and from the site.

The Emert Addition area is currently accessible only from Highway 74. The location of the subdivision's roadway connection to Highway 74 is in the immediate vicinity of a vertical curve that effectively creates a blind spot for the intersection. Residents noted that the resulting sight distance limitations pose a safety issue for traffic entering and exiting the subdivision; however, subsequent analysis conducted by ODOT has determined that the sight distance available is adequate.

Highway 74 has a two-lane cross section and a posted speed limit of 55 miles per hour in the area of the subdivision's access road. Neither an eastbound left-turn lane nor a westbound right-turn deceleration lane into the subdivision is currently provided on Highway 74. Given the 55 mile per hour posted speed limit on Highway 74 in the area, traffic turning out of or into the subdivision's access road creates a large differential in speeds that may affect safety. Provision of amenities such as turn lanes is desired by the local community and from the standpoint of the overall transportation system in order to enhance safety for traffic entering and leaving the subdivision as well as for through traffic on Highway 74.

The location of the Emert Addition and its current lack of connections with the remainder of the city extends to both bicycle and pedestrian facilities, neither of which are currently provided. With the current lack of pedestrian or bicycle facilities, all non-vehicular traffic is essentially forced to use the relatively narrow shoulders of Highway 74. The lack of a defined crossing point between the north and south sides of Highway 74 creates additional issues.

#### **Speeds on Highway 74**

Several community members also expressed a desire to reduce speeds on Highway 74 as it passes adjacent to the city. Community sentiment reflects a common theme that many motorists and truckers drive too fast through the city. The County Sheriff Department is the only police agency that currently enforces speed limits along Highway 74.

Highway 74 is operated and maintained by ODOT and the posted speed limit of 45 miles per hour on the highway is established by ODOT. ODOT (and most other transportation agencies) consider the 85th percentile speed (essentially the speed that 85 percent of the roadway users drive at or below) to be the best indicator of prevailing speeds on a given roadway. Posting speed limits based on the 85th percentile recognizes that drivers will travel at a speed that they are comfortable with regardless of the posted speed limit.

### **Truck Circulation Routes**

Truck traffic has long been associated with the local agricultural harvest activities that occur in and around the City of Ione. While some local storage elevators located in the city are no longer in use, Morrow County Grain Growers operate a series of elevators located on the northwest corner of the “H” Street/Main Street intersection. These elevators store agricultural products that are transported to the site by truck. Truck-based shipping activity occurs throughout the year as local growers buy and sell their products according to market conditions. Typically, truck activity at the elevators peaks during harvest season, which usually occurs in July. An additional surge in traffic to the elevators usually occurs in January as off-season shipping increases.

Currently, trucks access the elevators primarily via Main Street. Typically, trucks entering the city from the west will exit Highway 74 and travel east down Main Street to the elevators. Those trucks travelling to the city from the east will exit Highway 74 at “H” Street, travel south to Main Street and then use Main Street to access the elevator site. The truck traffic has taken a toll on the city’s roadways, with \$25,000 being allocated to the reconstruction of the “H” Street/Main Street intersection this year. Community members indicated that the need for pavement repairs at this location is largely attributable to the truck traffic.

### **Green Street/Main Street Intersection Sight Distance**

Sight distance concerns were raised by community members with respect to the Green Street/Main Street intersection. Based on conversations with TAC members and field inspection, the sight distance limitations are attributable to building locations and on-street parking along Main Street. Available sight distance at the intersection is variable; largely depending on the location and size of vehicles parked at the respective businesses along Main Street.

### **SUMMARY**

Through an inventory of existing conditions, several key findings were identified. Those findings include:

- The Reaping Grade, located along Highway 74, constrains development of adjacent commercial land. An ongoing study is examining ways to fix the drainage problem and accommodate commercial development in that area.
- The City of Ione’s transportation system is comprised primarily of auto-oriented transportation facilities.
- Sidewalk facilities are concentrated in the residential and commercial areas along Main Street and Second Street; other local roads tend to exhibit disjointed or nonexistent sidewalks. No sidewalk facilities currently are available along Highway 74.
- No bicycle facilities were identified.
- Public transit service is available in the form of a senior bus and dial-a-ride service provided through Morrow County.
- On a typical weekday afternoon, the transportation system experiences its peak roadway traffic demand between 4:00 and 5:00 p.m. During this peak period, the transportation system operates well within established standards.
- An evaluation of historical ODOT accident data revealed that accident rates at the study intersections are well within generally accepted safety thresholds.

- There are several improvement needs associated with the Emert Addition, including pedestrian and vehicular connectivity needs and safety issues at the Highway 74/Site-Access road intersection.
- Community concerns include operating speeds on Highway 74 and the need for improved truck circulation routes.
- The Green Street/Main Street intersection exhibits variable sight distance limitations depending on the location and size of vehicles parked at local businesses along Main Street.

### **Section 3**

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### Future Conditions Analysis

## Future Conditions Analysis

### INTRODUCTION

This section presents estimates of long-term future travel conditions within the TSP study area. The long-term future transportation needs for the City of Ione were examined based on available employment and population forecasts, review of the proposed roadway network, review of the operational analysis of the existing street system, and discussions with regional transportation personnel and representatives from the City of Ione.

### TRANSPORTATION DEMAND

Future transportation demand within the City of Ione was estimated based on expected growth in the study area population, employment, and traffic traveling through the study area for the horizon year 2020. Future growth estimates were developed based on historical traffic volume trends in the study area as well as consideration of the unique trip making characteristics of residential and employment-based activities. The estimation included a review of the land use mix proposed in the city's Comprehensive Plan.

As part of this analysis, planned developments and transportation improvement projects were identified and reviewed within the city's urban growth boundary. Historic transportation trends were compared with proposed future site-specific growth to arrive at a reasonable forecast condition.

#### Land Use/Demographics

Year 2020 traffic volumes on the City of Ione's transportation system were forecast based on population and employment estimates developed by the State of Oregon for Morrow County and the city. These estimates were compared against recent development trends, planned developments, and forecast growth rates provided by local agencies to verify their appropriateness. The 20-year planning horizon was chosen to ensure compliance with the Transportation Planning Rule.

#### Population and Employment

Tables 3 and 4 summarize population and employment projections prepared for the City of Ione in conjunction with the TSP process.

**TABLE 3  
 POPULATION PROJECTIONS**

Year	1997	2000	2002	2005	2010	2015	2020	1997-2020 Average
<b>City of Ione Projections</b>								
Projected Population	310	319	326	344	372	401	428	--
Annual Percent Change	--	1.0%	1.0%	1.8%	1.6%	1.5%	1.3%	1.4%
<b>Morrow County Projections</b>								
Projected Population	9,895	11,131	12,039	12,701	13,750	14,812	15,801	--
Annual Percent Change	--	4.0%	4.0%	1.8%	1.6%	1.5%	1.3%	2.1%



**TABLE 4  
 EMPLOYMENT PROJECTIONS**

Year	1990	1997	2000	2002	2005	2010	2015	2020
<b>City of Ione Projections</b>								
Projected Employment	121	125	127	128	136	146	154	161
Annual Percent Change	--	0.5%	0.6%	0.5%	1.9%	1.5%	1.0%	0.9%
<b>Morrow County Projections</b>								
Projected Employment	2,232	2,924	3,283	3,449	3,613	3,890	4,097	4,290
Annual Percent Change	--	3.93%	3.93%	2.5%	1.6%	1.5%	1.0%	0.9%

As shown in Table 3, the City of Ione’s population is forecast to grow by an average annual rate of 1.4 percent (approximately 118 people) between 1997 (estimated population of 310) and 2020 (projected population of 428). During the same 23-year period, approximately 36 additional employment opportunities are anticipated within the city. The growth projections prepared for the city suggest that the area’s growth will be relatively stable, with approximately 25 to 30 persons added to the local population every five years. While growth is expected, it is noteworthy that the estimated population of Ione was 417 persons in 1977. This suggests that if growth occurs as anticipated over the next 20 years, sometime after the year 2015 the city will be reaching a population level that previously been experienced during the late 1970’s.

Over the course of the same forecasting period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020). The countywide employment projections suggest approximately 1,365 additional employment opportunities will become available over the same 23-year horizon period. It should be noted that the county is anticipating significant growth in the near-term with the annual growth rate more closely paralleling Ione’s after the year 2005.

Such findings are reflective of the current development patterns being experienced in the area. Development activities within Ione have been largely limited to the new Emert Addition residential subdivision and no significant employment activities are anticipated, suggesting that near-term future population increases will continue to be relatively small. The regional growth phenomenon evidenced in Table 3 has been attributed to several new employment and development activities that have occurred in and around the county. These developments have an indirect impact on the local City of Ione transportation system in the form of increased traffic volumes traveling through the city on Highway 74. Additional information regarding the population and employment estimates is included in Appendix “C”.

**Anticipated Future Growth**

In an effort to account for regional traffic growth, a net annual growth rate was chosen to forecast the year 2020 traffic analysis. This rate was determined based on a review of historical traffic volume trends, anticipated population and employment growth, regional population densities, and local knowledge of planned development.

### **Historical Growth**

ODOT maintains an automatic traffic recorder along Highway 74 that indicated a historical 2.3 percent average annual growth rate between 1960 and 1997 (refer to Figure 8). Considering only the past five years, the annual traffic growth rate was 2.2 percent. The recorder, Station 25-007, is located approximately 1.4 miles south of the Town of Lexington. While this location is not within the City of Ione, it is the closest historical data source and is considered to be representative of regional growth trends.

Based on the data available, it appears that the relationships between historical regional employment, population, and traffic growth trends in Ione and the surrounding areas have been relatively consistent. Given this information, the addition of new residents in the region over the next 20 years is expected to result in a growth in traffic of approximately 2.3 percent annually. Like the regional population growth, the growth in traffic volumes is expected to occur at a relatively stable pace.

### **PLANNED TRANSPORTATION IMPROVEMENTS**

Two planned roadway improvement projects within the City of Ione urban growth boundary were identified at the time this TSP was prepared as discussed below.

#### **“H” Street/Main Street Intersection Reconstruction**

The “H” Street/Main Street intersection will be reconstructed in 1999 through a grant received by the City of Ione. The project will involve repaving the intersection and is estimated to cost \$25,000.

#### **Highway 74 Resurfacing**

As part of the Statewide Transportation Improvement Program (STIP), ODOT is tentatively planning a resurfacing project along Highway 74. ODOT’s Region 5 2000-2003 STIP Update identifies a resurfacing project along Highway 74 that would extend from Lorraine Creek (milepost 28.20) west to the Morrow County line (milepost 8.44).

Although no specific project information or timeline had been identified at the time this TSP was prepared, the project would widen/reconstruct shoulders and is expected to entail resurfacing and alignment improvements. The alignment improvements would include realignment of substandard horizontal and vertical curves along the highway. ODOT has identified this project as being a “low” priority within Region 5. Construction cost is estimated by ODOT to be \$9,800,000 and is not currently funded.

No other planned improvement projects were identified.

### **FORECAST FUTURE TRAFFIC VOLUMES/DEFICIENCIES**

The transportation needs and travel demand patterns of Ione will change with time. It is generally understood that as smaller rural communities grow in population and employment they become more self-sufficient entities and better able to serve the full needs of their population. Citizens are able to find employment and services desired within the community instead of having to travel to large urban areas located nearby. The benefit to the transportation system is in the potential for some of these trips (now local as opposed to long distance) to be made via modes other than the automobile; thus reducing demand on the overall network. The future traffic volume forecast presented in this report reflects the anticipated benefits of a more multi-modal transportation system as well as the changing character of travel demand.



Figure 8  
Historic Growth Trends on Highway 74

Future conditions within the City of Ione were forecast by applying the 2.3 percent annual growth rate assuming a “no-build” condition (i.e., no new roadways would be constructed in the 23-year horizon) to the 1997 local average daily traffic (ADT) volume data shown in Figure 7. Figure 9 illustrates the resulting forecast year 2020 average daily traffic volumes under the no-build condition.

Typically, two-lane rural highways with geographic features similar to Highway 74 can accommodate a maximum of 17,000 to 20,000 vehicles (including vehicles in both directions) daily based on the *Highway Capacity Manual* (Reference 2). Accordingly, the year 2020 forecast average daily traffic volumes shown in Figure 9 can be accommodated by the highway. It should be further noted that the daily traffic volumes on the Highway 74 could range up to 5,000 to 7,000 vehicles and still maintain the level of service that residents of Ione are accustomed to. Considering this information, the forecast volumes clearly indicate that no capacity deficiencies are anticipated for highway traffic.

A similar analysis of traffic volumes at the study intersections was completed by applying the 2.3 percent annual growth factor to the 1998 existing intersection traffic counts shown in Figure 6. Figure 10 summarizes the forecast year 2020 weekday p.m. peak hour traffic volumes at the study intersections under the no-build condition.

**Level of Service Analysis**

As previously stated, ODOT stipulates that intersection levels of service “A” through “D” for mainline traffic are considered acceptable on the Highway 74 corridor through the City of Ione. To ensure that the local study area intersections will continue to operate at an acceptable level of service, the forecast future traffic volumes were analyzed. The findings of this analysis are summarized in Table 5.

**TABLE 5  
 2020 FUTURE FORECAST LEVEL OF SERVICE,  
 UNSIGNALIZED INTERSECTIONS**

Intersection	Critical Movement	V/C	Average Delay (sec/veh)	Critical Movement LOS	Major Street LOS
Main Street/Highway 74	Northbound	0.04	3.7	A	A
Green Street/Highway 74	Northbound	0.04	3.0	A	A
H Street/Highway 74	Southbound	0.04	4.1	A	A

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

As Table 5 indicates, all of the unsignalized study area intersections are forecast to continue operating at acceptable levels of service under year 2020 weekday p.m. peak hour conditions. Based on these results, no roadway capacity-related mitigation measures are anticipated.

**ANTICIPATED FUTURE CIRCULATION DEFICIENCIES**

In addition to the previously described capacity analysis, the future conditions evaluation involved the review and identification of potential future circulation deficiencies. Given the size and projected growth potential of the City of Ione, it appears that future circulation deficiencies will primarily involve the exacerbation of existing deficiencies as discussed below.

Figure 9  
2020 Forecast Average Daily Traffic Volumes

Figure 10  
2020 Forecast Traffic Volumes, Weekday PM Peak Hour

### **Pedestrian Circulation**

There are several anticipated future circulation deficiencies that will need to be addressed including:

- In general, sidewalk facilities tend to appear in areas of residential and commercial development, leaving the city with a pedestrian system that is relatively complete in some core areas and virtually non-existent in others. As documented in the **Existing Conditions** section, the majority of existing sidewalks are provided along Main Street, Second Street, and along north-south streets between Main Street and Second Street.
- Local roads tend to exhibit discontinuous sidewalks within the city, especially in areas where lots are not fully developed. No sidewalk facilities currently are available along Highway 74. The lack of sidewalks on Highway 74 is considered to be a growing problem, especially as it relates to pedestrian access to the new Emert Addition subdivision located on the north side of Highway 74.
- Some of the existing sidewalks are poorly maintained and do not satisfy current ODOT or Americans with Disability Act (ADA) design standards. The condition of sidewalks was identified at the first TAC meeting as a source of concern as it relates to access for the city's elderly residents. In addition to sidewalk condition, community members have identified a need for crosswalk facilities along portions of Main Street.
- Ideally, pedestrian facilities should provide connectivity between major activity centers, such as housing, commercial areas, the post office, and recreation areas. There are commercial land uses located along Main Street that have the potential to attract pedestrian traffic (the bank, post office, and park area already attract pedestrian traffic) and future development in the area can be expected to increase the demand for pedestrian amenities. Sidewalk connections to the grade school building located in the southwest quadrant of the city would also be desirable.

At a minimum, future roadway design standards should ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed arterials, collectors, and local streets. It is essential that existing sidewalks be connected to new sidewalks as new developments are constructed or as road improvements are made. The alternatives analysis presented in the next section identifies potential methods to further develop a comprehensive pedestrian network within the city.

### **Bicycle Circulation**

The City of Ione does not currently offer designated bicycle facilities and has no circulation plan for bicyclists. The future potential for bicycle activity is somewhat limited by topographical constraints and the remote location of the town in relation to trip generators. It was noted that there currently are children riding bicycles in the community and there may be other recreational bicyclists in the area during seasonal cycling events that occur along Highway 74.

Given the potential for future bicycle access, the city should consider development of a bicycle circulation plan. The scope of the plan could be limited to on-street bicycle facilities along Highway 74 and one or two designated roadways in the city for bicycle use. Such alternatives will be further discussed in the **Alternatives Analysis** section.



### OTHER ANTICIPATED DEFICIENCIES

The growth in Ione's population will impact many aspects of the local transportation system. System deficiencies identified in the **Existing Conditions** section are expected to be exacerbated by the increase in demand for transportation services. Accordingly, other subject areas that will need to be considered in the alternatives analysis include:

- Public transportation services;
- Potential changes that could be made to pursue speed reductions along Highway 74;
- Sight distance at the Green Street/Main Street intersection;
- Truck circulation routes; and
- Access to, and connectivity with, the Emert Addition.

### SUMMARY

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

- The City of Ione's population is forecast to grow by an average annual rate of 1.4 percent (approximately 118 people) between 1997 (estimated population of 310) and 2020 (projected population of 428). During the same period, the population of Morrow County is projected to increase by approximately 2.1 percent annually (from an estimated population of 9,895 in 1997 to a projected population of 15,801 in 2020).
- The growth projections prepared for the city suggest that the area's growth will be relatively stable, with approximately 25 to 30 persons added to the local population every five years.
- Based on the population projections, the city will be reaching a population level that it previously experienced during the late 1970's sometime after the year 2015.
- The City of Ione's transportation system is expected to accommodate forecast future growth in travel demand without triggering the need for major capacity-related roadway improvements.
- In the absence of capacity-related improvements, there are connectivity and access issues that should be planned for and addressed. Enhancements to the city's roadway, pedestrian, bicycle, and public transit systems are desirable and will be reviewed in Section 4, **Alternatives Analysis**.

## **Section 4**

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### Alternatives Analysis

## Alternatives Analysis

### INTRODUCTION

This section presents a summary of future transportation improvement alternatives that could be implemented to mitigate existing and projected future transportation system deficiencies. Potential roadway improvement alternatives are presented and recommendations are offered as to their feasibility. As potential deficiency mitigation projects were developed, consideration was given to how a multi-modal approach could contribute to individual projects. Thus, while the primary impetus for a given mitigation alternative may center on increasing vehicular capacity, provision of appropriate bicycle and pedestrian amenities was given equal consideration.

Special effort was provided in considering and recommending improvements to the pedestrian and bicycle systems. Recommendations were developed that create direct linkage to all identified pedestrian/bicycle generators and provide for a core pedestrian and bicycle transportation system. The alternative analysis and subsequent recommendations process were handled separately to ensure that a complete system for each mode was identified without constraint.

It should be noted that, in this section, formal alternatives development and analysis have only been presented for the roadway network and its components. Other elements of the transportation system such as pedestrian access, bicycle access, etc. currently exist at a level such that an entire network needs to be developed. The **Transportation System Plan** section of this report contains the recommended improvements to all of the modal systems.

The remainder of this section is organized into two parts. First, a general discussion of improvement needs and associated ramifications is presented. A discussion of specific improvement alternatives, including estimated costs, then follows.

### LAND USE/TRANSPORTATION SYSTEM RELATIONSHIP

The existing and future land uses within the City of Ione have a substantial impact on the local transportation system. As a result, the city's transportation system will continue to reflect a strong relationship to local land use well into the future. For illustrative purposes, the following discussion presents some of the transportation implications associated with various land use alternatives.

#### Background

As stated in the **Existing Conditions** section, there are a limited number of vacant and redevelopable sites within the central part of town. Most of the opportunities associated with development and redevelopment over the next 20 years focus on areas along the periphery of the city limit and UGB, such as the Emert Addition northeast of the existing city street grid. Specific land use opportunities and constraints are described below for industrial, commercial, and residential land.

#### Commercial Land

The designated commercial land within the city is located along Main Street (zoned C-1) and Highway 74 (zoned C-2). Today, most of the local businesses are located along Main Street. Currently, there are only a small number of vacant parcels along Main Street. Although the vacant parcels on Main Street are limited, projected new commercial development can likely be accommodated in the foreseeable future, barring significant population or employment growth.

Development along Highway 74 has occurred as relatively low intensity commercial and light industrial uses, including equipment storage and Beechers Restaurant. Historically, development along the Highway has been constrained by the presence of the park and by topographic constraints related to Reaping Grade. Lots along Reaping Grade are very shallow and currently undevelopable for commercial use. Future development along Highway 74 could result in commercial strip development, given its location and orientation to the highway. There are several disadvantages associated with strip commercial development, such as:

- development of strip commercial along the highway tends to be auto-oriented, which increases vehicle trips and can serve as a disadvantage those who cannot drive automobiles to access needed services;
- there is an inability to create synergistic effects where businesses can benefit themselves and the community through co-location such as customer patronage and increased sales, shared parking and signage, landscaping, managed access, etc.; and,
- strip commercial along the highway detracts from the commercial core that has developed along Main Street, which makes it difficult to maintain a strong community identity that contributes to the community's social fabric and sense of well being.

To prevent strip commercial along Highway and strengthen the city's downtown commercial core, the city may want to further restrict the types of uses allowed in the C-2 zone, if needed, or rezone the land along the highway for more appropriate uses. This approach would support the city's objectives to maintain pedestrian connectivity between residential and commercial areas and reduce vehicle miles for internal trips as well as make the most efficient use of the city's land supply. It also would help maintain a smooth flow of traffic on Highway 74 through the use of well-planned access management.

#### **Residential Land**

There are a limited number of vacant and redevelopable parcels within the current city limits. There are also two large, relatively flat parcels on each end (east and west) of town, zoned for residential development, with ready connections to the existing city street network. As noted previously, most recent residential development has occurred in the Emert Addition subdivision, which is located on a hill northeast of the existing city street grid. There is the potential to develop additional housing northeast of this development. Access to lots in the Emert Addition is via a long cul-de-sac from Highway 74 and access to the additional properties to the northeast would likely occur through the existing Emert Drive.

As an alternative to the continued residential development trends of developing along the periphery of the city in areas that are not well served by existing infrastructure and that lack a sense of community and connection with the central core of the city, several approaches could be taken. Possible approaches are discussed below.

To encourage infill and redevelopment opportunities and development of land with ready connections to existing streets and other city services, the following measures could be implemented:

- review existing ordinances to ensure that they do not contain regulations that could inhibit infill and redevelopment of parcels in the city core;
- develop a conceptual access plan for the properties on the east and west ends of the city core; and,
- explore the possibility of implementing financial incentives to develop land that can be served by existing roads or other services at lower cost or disincentives for land that is more costly to serve.

These approaches are consistent with the city's objectives to utilize the most efficient pattern of residential development to maximize the use of existing and planned infrastructure. Developing the flat parcels on either end of town may result in lower costs to build roads and provide water and sewer service than further development of land in the northeastern section of the city that is hilly and farther removed from the rest of town.

If continued development to the northeast of the Emert Addition is desirable by the community, the following measures could be implemented to improve the subdivision's connection to the rest of the city:

- explore opportunities for additional access, possibly from the west end of the subdivision to the existing road west of the development;
- recommend planning guidelines that would limit cul-de-sac length in the future and/or require a plan to provide direct access and services via existing streets and public facilities; and,
- develop a conceptual local street or access plan for the area northeast of the Emert Addition, including direct connections between the two areas.

These measures are consistent with the city's objective to reduce vehicle miles of travel for trips within the city. Continued development in this area is somewhat inconsistent with the objective to utilize the most efficient pattern of residential development, which seeks to maximize the use of existing and planned infrastructure. Development of a local street plan for the remaining undeveloped portion of this area could help encourage a more efficient pattern of development that maximizes the use of the infrastructure built to serve the Addition.

#### **Land Use Recommendations**

In light of the opportunities, constraints, and advantages/disadvantages of the alternative manners in which lands could develop in the future, the following recommendations have been developed to help guide future land use planning in Ione. These recommendations reflect both the transportation and land use implications of future development patterns and a desire to maintain the sense of community within Ione that exists today. Appendix "D" contains a zoning map illustrating the land use alternatives.

#### *Commercial Land*

As discussed, land zoned for commercial use is concentrated within the city in two areas: along Main Street between "B" Street and Willow Street, including the City Park between "A" Street and Cherry Street; and along Highway 74 between Green Street and "H" Street. The land occupied by the Ione City Park is also currently zoned commercial. As it will not be redeveloped commercially, this area should be rezoned to recreation/open space.

Small cities with limited amounts of land zoned for commercial use in the central part of the city often encounter land use issues involving construction of residential land uses on commercially zoned property. The construction of residential uses in commercial areas potentially could erode the supply of commercial land in the future if not adequately addressed.

The city should take the steps outlined below to address future use of these areas.

- *Rezone the City Park from commercial to open space or recreational use:* Commercial use is not the appropriate zoning designation for this area. To avoid confusion about its long-term use and to portray an accurate inventory of commercially zoned land in Ione, this property should be zoned for recreational/open space use.

- *Address potential use of commercially zoned land adjacent to Highway 74:* A long, narrow strip of land along Highway 74 is zoned for commercial land, with the potential for strip commercial development in the future. Two factors are expected to limit strip commercial or other intensive development of this land in the short term: topography and the need for access management along the highway. Unless the city or property owners alter the topography of these parcels, drainage conditions are expected to prevent significant development. In addition, access to developable parcels will be limited by the need to maintain acceptable spacing between private driveways and public streets along the highway. The city could address this situation by either taking this land out of commercial land supply and finding other more appropriate areas for downtown commercial development in the near future or retain this area as commercial land until such time land constraints presented by the ditch are corrected.
- *Amend the City's zoning ordinance to restrict residential uses in commercial zones:* Sections 3.40 and 3.42 of the zoning ordinances should be amended as needed to restrict further development of housing in commercially zoned areas. This will further protect commercially zoned land for future commercial development.

### *Residential Land*

Future residential lands should be developed in a manner that is consistent with the following objectives:

- enhance the sense of community within the city;
- reduce the cost of future public infrastructure; and,
- provide easy and convenient pedestrian, bicycle, and vehicular access both within the subdivision and to areas in the remainder of the city.

To achieve these objectives and to encourage infill and redevelopment in the city, the measures outlined below should be implemented.

- Provide copies of the city's inventory of vacant and redevelopable properties to individuals interested in building or developing land in Ione. The city should work with the County GIS Coordinator to translate existing information developed by the city onto a map of vacant and other buildable land within the city limits and urban growth boundary.
- Amend the city's zoning ordinance to allow for flag lot development. Proposed ordinance language is included in Section 7.
- Encourage future residential development to locate on the properties on the east and west ends of the city core. Development of these parcels should be conditioned on connecting to existing city streets (Main, 2<sup>nd</sup> and 3<sup>rd</sup> streets), continuing Ione's grid street system. Proposed ordinance language is included in Section 7.

To achieve the objectives outlined above and to improve access to the Emert Addition and lands to the northeast, the measures outlined below should be implemented.

- Develop additional access, at a minimum for pedestrians and preferably also for bicycles and motor vehicles, from the Emert Addition to Ella Road.
- Amend the city's subdivision regulations to limit cul-de-sac length. Proposed ordinance language is included in Section 7.

- If additional development is expected to occur northeast of the subdivision, work with property owners in the Emert Addition to provide easements for right-of-way for direct connections to potential future development in this area. Proposed ordinance language to address this issue for future developments is included in Section 7.
- Develop plans for or require a connection from future development northeast of the Emert Addition to Ella Road.

Ultimately, regardless of the land-use pattern that the community chooses to pursue, there are several transportation improvements that will also be necessary. The remainder of this section provides improvement alternatives that could be implemented to mitigate existing and anticipated transportation system deficiencies.

### **IMPROVEMENT ALTERNATIVES EVALUATION**

The following discussion presents specific improvement alternatives that were considered for inclusion as part of the recommended City of Ione Transportation System Plan. For reference purposes, each alternative has been identified by number, with the relative location of each improvement identified in Figure 11.

It should be noted that the order in which the alternatives are presented is not intended to convey the relative rank or significance of the respective projects. Further, the identified improvement alternatives were evaluated based on construction costs and ability to meet identified transportation needs. Other factors, including potential environmental impacts, were not specifically considered. Some environmental impacts that could occur have the potential to increase costs or require project modifications. The required modifications or increased costs could be significant enough to make the project impractical. All cost estimates were based on industry unit costs and do not reflect utility relocation, environmental constraints, property acquisition or inflationary increases in cost over the planning horizon of this document.

Funding resources available to the City of Ione and ODOT are limited. It is expected that, for the foreseeable future, those funding sources that are available will predominantly be applied to maintenance and preservation of the existing transportation system. In light of the constrained funding situation, it should be recognized that implementation of some of the improvement alternatives presented in this section may not be practical within the 20-year planning horizon.

### **OPERATIONAL ISSUES AND IMPROVEMENT ALTERNATIVES**

The need for mitigation of existing and future roadway/intersection operations in the City of Ione is relatively limited in scope. The long-term future forecast conditions did not identify any specific capacity-related roadway or intersection deficiencies. Although no capacity improvement needs were identified, the community did identify four areas of concern as discussed below.

### **INCORPORATION OF THE NEW EMERT ADDITION**

As discussed in the **Existing Conditions** section, one issue that was identified by community members as being of particular concern was access to, and connectivity within the new Emert Addition. There are several potential improvement concepts that could be implemented to enhance the operations and safety of the existing Highway 74/Emert Drive intersection. These concepts are discussed below.

**Improvement Alternative #1 - Maintain Grass and Shrubbery Near Emert Drive**

Maintain roadside grass and shrubbery to maximize available intersection sight distance. The cost to perform this maintenance would be minimal if completed by property owners within the subdivision.



Figure 11  
Improvement Alternatives

**Improvement Alternative #2 - Evaluate and Install Signing on Highway 74 Near Emert Drive**

Install appropriate signing alerting drivers on Highway 74 to the subdivision access road, Emert Drive. This signing could include a "bus stop ahead" sign to alert drivers to the local school bus which serves the subdivision. Estimated cost to install the signing is \$800.

**Improvement Alternative #3 - Reconstruct Highway 74 in the Vicinity of the Highway 74/Emert Drive intersection**

Reconstruct Highway 74 in the vicinity of the Highway 74/Emert Drive intersection to increase available sight distance. The estimated cost to reduce or remove the existing vertical curve and rebuild the Highway 74/Emert Drive intersection is \$145,000.

**Improvement Alternative #4 - Construct a Westbound Right-turn Lane at the Highway 74/Emert Drive Intersection**

Construct a westbound right-turn lane on Highway 74 (including adequate storage space) to facilitate westbound turns into Emert Drive. The estimated cost to provide a right-turn lane and adequate deceleration distance is \$75,000.

**Improvement Alternative #5 - Construct an Eastbound Left-turn Lane at the Highway 74/Emert Drive Intersection**

Construct an eastbound left-turn lane on Highway 74 at the Highway 74/Emert Drive intersection to facilitate eastbound turns into Emert Drive. The estimated cost to provide a left-turn lane and adequate storage (without overlaying the adjacent highway surface) is \$170,000.

**Improvement Alternative #6 - Construct Pedestrian and Bicycle Connections from the Emert Addition to the City**

Construct pedestrian and bicycle amenities linking the Emert Addition subdivision with the remainder of the city. Additional discussion of pedestrian and bicycle links between the city and the subdivision will be presented later in this memorandum.

**Improvement Alternative #7 - Provide a Roadway Link Between Emert Drive and Ella Road**

Access within Emert Addition is provided by a long cul-de-sac that is not linked to the city's existing transportation system, except via the state highway on the edge of the urban growth boundary. Provision of a future connection to Ella Road would be desirable from a system connectivity perspective as well as for enhanced provision of emergency services.

No cost estimate is provided for this improvement. It is expected that the desired roadway connection would be developed in conjunction with future expansion within the Emert Addition and would be privately financed by property owners within the subdivision.

**Improvement Alternative #8 - Modify City Ordinance to Ensure Connectivity Between City Facilities and Future Residential Developments**

From a more global policy perspective, as new subdivisions are constructed within the City of Ione in the future, better consideration should be given to the placement and availability of pedestrian, bicycle, and vehicular access both within the subdivision and the linkages to the remainder of the city. City ordinances should be reviewed and modified as appropriate to encourage connectivity and to limit the lengths and use of cul-de-sacs. Suggested ordinance modifications are discussed in Section 7.

### *Emert Addition Recommendations*

Recognizing that construction of one or more of the identified roadway improvement alternatives is unlikely to occur in the immediate future, the comparatively low-cost Alternative #1 and #2 measures are recommended for near-term implementation as an interim mitigation to address access and connectivity issues associated with the subdivision. In addition, as indicated by Alternative #8, the city should review and modify its comprehensive plan to ensure that future developments provide for reasonable connectivity with the remainder of the city.

In the mid-term future, Alternatives #4, #5, and #6 should be implemented. At the time funding becomes available, Alternative #3 should be implemented and the improvement project should provide for right- and left-turn lanes on the highway if they have not yet been provided. In conjunction with future development, a roadway connection to Ella Road should also be provided.

*It should be noted that the addition to or modification of Highway 74's cross section, as well as potential signing changes, would require the approval of the State Traffic Engineer. Identification and documentation of the need for such changes in the city's TSP does not guarantee the provision or modification will occur.*

### **POSTED SPEED LIMIT ON HIGHWAY 74**

Community input identified operating speeds on Highway 74 through the city as an issue of concern. The current posted speed limit of 45 miles per hour on the highway was established by ODOT and reflects the 85<sup>th</sup> percentile speed. Posting speed limits based on the 85<sup>th</sup> percentile recognizes that drivers will travel at a speed that they are comfortable with regardless of the posted speed limit.

### **Improvement Alternative #9 – Influence Highway 74 Streetscape**

Given that changing the posted speed limit will not influence driver behavior, it is necessary to influence the driving environment to effect driver's speeds. Wide travel lanes and open shoulders convey a sense of security that encourages higher speeds. Specific changes to the roadway such as narrowing the travel lanes and condensing the road environment (through construction of curbs, lane restriping, other amenities such as planter strips, street trees, etc.) may contribute to reduced travel speeds on the highway. Once changes have been made to the roadway environment that effect drivers' perceptions, speeds will likely drop. Following these modifications, ODOT could conduct a speed study, determine the new 85<sup>th</sup> percentile speed, and evaluate the need to change the posted speed limit.

### *Highway 74 Recommendations*

Through new roadway and land-use standards, future development activities and roadway improvements along Highway 74 should be focused to influence the streetscape of Highway 74. By modifying the streetscape of Highway 74, driver's perceptions can be influenced and travel speeds may be reduced. Section 5, **Transportation System Plan**, presents recommended roadway cross-section standards that will assist in fostering a more constrained perception of the Highway 74 travel environment.

### **TRUCK CIRCULATION ROUTES**

Truck traffic has long been associated with the local agricultural harvest activities that occur in and around the City of Ione. While truck activity does contribute to the wear on city roadway facilities, the elevators and associated agricultural interests are a vital component of the local economy and there was no interest expressed in relocating the elevators. Accordingly, the goal of the community should be to

redirect truck traffic from key community corridors while still providing reasonable direct access to local delivery points.

#### **Improvement Alternative #10 - Extend "E" Street to Highway 74**

Given the expectation that the elevators will not be relocated, one potential option for reducing the impact of truck traffic on Main Street and "H" Street would be the extension of "E" Street to Highway 74. This extension could be constructed specifically to support the additional weight and wide turning radii associated with truck traffic. From an access spacing viewpoint, extending "E" Street to Highway 74 is reasonable as an additional public street connection to the highway.

By creating a direct dedicated link between the elevators and the highway, most of the burden created by the truck traffic could be shifted off Main and "H" Streets. Rerouting truck traffic to an "E" Street extension would benefit both the community and the truck traffic itself. Trucks would be able to access the elevators more efficiently, the trucks would not need to travel through the downtown area of the city, and as a result, there would be a greater separation between truck traffic, local cars, and non-vehicular traffic. One impediment to implementing this improvement alternative the steep topography of the Reaping Grade ditch. The estimated cost to complete this improvement, assuming that a crossing of the ditch is necessary, is \$245,000.

#### **Improvement Alternative #11 - Improve Access Between "H" Street and the Morrow County Grain Growers' Elevator complex**

Another alternative to improve access to the grain elevators and thereby enhance truck circulation would be to develop additional on-site circulation at the elevator site that allows truck traffic to enter and exit the site via expanded access to "H" street. Appropriate signing and/or access control could then be implemented along Main Street to encourage the use of "H" Street to access the elevators. No formal development alternatives or costing analysis was prepared for this improvement option.

#### **Improvement Alternative #12 – Highway 74 Left-Turn Lanes**

As improvements are considered to facilitate truck access to the elevators, consideration should also be given to developing westbound left-turn lanes on Highway 74 that would serve traffic entering either "H" Street or an extension of "E" Street. The left-turn lanes would provide a refuge for westbound left-turn traffic and would also serve to better separate turning traffic from through traffic. In this manner, highway speed differentials (between truck traffic turning left off the highway and through traffic) could be more safely accommodated. The cost to install a westbound left-turn lane at the "H" Street/Highway 74 intersection is estimated to be \$150,000.

#### *Truck Circulation Recommendation*

In the short-term, the city should implement specific truck routes through town, as discussed in Alternative #11. As properties develop in the vicinity of "E" and "H" Streets and the issues associated with Reaping Grade are addressed, "E" Street should be extended to the highway. The extension of "E" Street will provide for a local truck circulation route and would likely be completed in conjunction with some form of improvement project at the elevator complex. Accordingly, the scope of such a project would be most adequately addressed by a collaborative effort involving the Morrow County Grain Growers and the city.

In addition, a westbound left-turn lane on the highway at "H" Street should be installed in the mid- to long-term future, most likely in conjunction with ODOT improvement projects along the highway. If the

“E” Street extension is constructed, a westbound left-turn lane at “E” Street should also be provided in conjunction with the project.

### **SIGHT DISTANCE AT THE GREEN STREET/MAIN STREET INTERSECTION**

Sight distance concerns were raised by community members with respect to the Green Street/Main Street intersection. Based on conversations with TAC members and a site visit, the sight distance limitations were attributed to building locations and the presence of on-street parking.

#### **Improvement Alternative #13 - Restrict Parking at the Green Street/Main Street Intersection**

To avoid sight distance obstructions at the Green Street/Main Street intersection, it is recommended that no on-street parking be permitted within 20 feet of the edge of the intersection. Implementation of this alternative would involve the minimal cost required to appropriately sign and stripe the parking restriction.

#### *Green Street/Main Street Recommendation*

Alternative #13 should be implemented in the near-term future.

### **TRAFFIC VOLUMES ADJACENT TO THE SCHOOL/CONTINUITY OF SPRING STREET**

#### **Improvement Alternative #14 – Extend Spring Street North to Highway 74 and Vacate the Green Street Connection to Highway 74**

Currently, Spring Street terminates north of Main Street, and Green Street provides the nearest access to Highway 74. Because Spring Street does not connect to the highway, many travelers at the southwest end of town turn from Spring Street onto Third Street in the vicinity of the school to access Green Street. This additional traffic in front of the school is undesirable from a pedestrian/vehicle interaction perspective.

To enhance north-south connectivity and refocus traffic away from the school, Spring Street could be extended north to intersect with Highway 74. This connection would provide direct north-south access from the south side of the city north to Highway 74. In conjunction with the extension of Spring Street, the Green Street connection to Highway 74 could be vacated.

From a land use perspective, the vacation of Green Street would permit the city to enlarge the community park along the south side of Highway 74. In order to complete this project, the Spring Street approach to Highway 74 would require significant geometric improvements to address the existing grade difference between the two roadways. Care would also be required to ensure that adequate sight distance is available at the newly constructed Spring Street/Highway 74 intersection. The impact to business and private property owners along Green Street would also need to be evaluated. The overall benefit to the system associated with this project is limited given the low traffic volumes using Green and Spring Streets.

Given the constraints associated with this alternative, no formal costing analysis was prepared for this improvement option.

#### *Spring Street Recommendation*

This improvement alternative is not recommended for implementation due to the high projected cost associated with the necessary grading improvements and the lack of compelling operational issues that would require vacation of Green Street in favor of Spring Street. Concerns regarding traffic adjacent to the school building should be addressed through public education about adherence to school zones, pedestrian, bicycle, streetscape improvements, and/or other traffic calming improvements.

## REDUCED RELIANCE ON THE AUTOMOBILE

### **Alternative #15 – Reduce Vehicular Reliance Through Zoning and Development Code Revisions**

In part, Oregon's Transportation Planning Rule seeks to reduce the reliance on personal vehicles as a mode of travel through the creation of environments that foster alternative modes of transportation. Local land uses can have a significant impact on the form of transportation necessary to travel from one location to another. Specifically, by carefully structuring local zoning and development codes, development activities can be focused such that a more self-contained community can be achieved. Construction of mixed-use developments, the location of commercial and service businesses in the vicinity of residential land uses, and the provision of employment opportunities near residential areas are all means by which the need for travel by personal automobile can be reduced.

In relatively rural areas such as Ione, the need to travel long distances to employment, commercial, and service opportunities fosters a travel environment dependent on personal automobiles. This is an issue for Ione residents, many of who work in other communities such as Heppner and Boardman that are located 20 to 40 miles away. The recent closing of the Kinzua Mill between Lexington and Heppner may exacerbate this problem as residents who formerly were employed at the mill likely will have to drive even further to new jobs. Recent residential development also has contributed to reliance on the automobile. Much of the recent development in the city has occurred in the Emert Addition located on a hill in a recently annexed area northeast of the rest of the community. Access to all homes in the subdivision is via a long cul-de-sac (Emert Drive) connecting to Highway 74.

Currently there is no additional direct pedestrian and bicycle access from the west end of the subdivision (the end of the cul-de-sac closest to the rest of town). Development of vacant parcels within the central part of Ione or future development of large parcels on either end of the community with direct connections to the city's street grid system would reduce reliance on the automobile for short trips to local community commercial establishments and other uses.

### *Recommendation*

Implementation of the land use recommendations identified in this TSP should be encouraged through appropriate zoning and development code revisions.

## ACCESS MANAGEMENT

### **Alternative #16 – Promote Access Management Along Highway 74**

The Oregon Department of Transportation has established access spacing standards for Highway 74. These standards, which are presented in detail in Section 5, are intended to ensure the long-term safety and efficiency of the Highway 74 corridor. Implementation of the standards as they relate to local development activities will be essential to ensure the long-term viability of the Highway 74 corridor.

The future conditions analysis, as presented in this document, assumes that current public roadway spacing along Highway 74 will be maintained into the long-term future. As long as the current public road access spacing standards along Highway 74 are maintained and new private access points are allowed in accordance with the access spacing standards presented in Section 5, it is expected that the forecast future traffic conditions will be reflective of long-term operations along the Highway 74 corridor. Conversely, if multiple additional access points are granted along Highway 74, it can be expected that additional incremental delay will be added to the highway's operations.

### *Access Management Recommendation*

Access Management should be implemented in the immediate future. No specific construction need is evident to implement this improvement as it simply promotes compliance with existing roadway policy. No immediate land use actions would be required either. Instead, as property along Highway 74 is developed or redeveloped, appropriate action should be taken by local and state agencies to ensure that the relevant access spacing standards are reasonably enforced. Section 5, **Transportation System Plan** includes a full access management plan and corresponding implementation strategy complete with typical spacing standards, driveway widths, etc.

## **TRANSPORTATION DEMAND MANAGEMENT**

### **Alternative #17 – Implement Transportation Demand Management Measures**

Transportation Demand Management (TDM) measures identify opportunities to reduce the impact of trips generated by various land uses. Specifically, TDM techniques typically seek to reduce reliance on single-occupant vehicle trips and promote the use of alternative travel modes by persons accessing a given area or facility. The Transportation Planning Rule encourages the evaluation of TDM measures as part of the TSP development process.

TDM strategies often focus on major employers or other sources of traffic that can be influenced through scheduling changes, alternative transit opportunities such as carpools and buses, and other means. Oftentimes, financial disincentives are included in programs as a revenue generator to support other elements of an overall program. The success of commonly used disincentives is dependent on the environment in which a given employer is located.

Given the rural nature of Eastern Oregon and the City of Ione, the TDM measures available to the city are limited in scope as compared to larger metropolitan areas. One of the most promising options available to the city is the provision of a carpool or vanpool service for people who live in Ione and work in neighboring communities. Coordination of a vanpool and/or carpool(s) to the major employers in the area could help to reduce the number of single occupant vehicle commute trips from Ione and help the community to achieve transportation demand management objectives. The city could also promote carpooling to out-of-town employers through education.

Provision of a park-and-ride facility at a key location within the community is another means by which the use of non-auto dependent travel can be encouraged.

The cost of implementing a TDM program is dependent on the type and variety of measures selected. Facilitation of carpools, vanpools, or a park-and-ride facility could be completed through a volunteer network and/or coordination with major employers at minimal cost.

### *Recommendation*

It is recommended that the City of Ione focus TDM efforts on supporting carpools and/or vanpools to major employers through education, coordination with employers, and provision of appropriate facilities such as park-and-ride areas.

## **SUMMARY**

This section has presented the alternatives that have been developed and evaluated to address the near-term and long-range transportation deficiencies and to encourage infill/redevelopment within the City of Ione urban growth boundary. Table 6 summarizes the potential improvement alternatives and recommendations as to their implementation.





**TABLE 6  
SUMMARY OF IMPROVEMENT ALTERNATIVE RECOMMENDATIONS**

Alternative Number	Improvement Description	Estimated Cost*	Implementation Timeline	Responsible Jurisdiction
#1	Maintain grass and shrubbery near Emert Drive	Minimal	Near-term future	Private/City
#2	Evaluate and install signing on Highway 74 near Emert Drive	\$800	Near-term future	City/ODOT
#3	Reconstruct Highway 74 in the vicinity of the Highway 74/Emert Drive intersection	\$145,000	Long-term future	Private/City
#4	Construct a westbound right-turn lane at the Highway 74/Emert Drive intersection	\$75,000	Mid-to long-term future	Private/City
#5	Construct an eastbound left-turn lane at the Highway 74/Emert Drive intersection	\$170,000	Mid-to long-term future	Private/City
#6	Construct pedestrian and bicycle connections from the Emert Addition to the city	\$230,000 (See Section 5)	Near- to mid-term future	Private/City
#7	Provide a roadway link between Emert Drive and Ella Road	Not evaluated	Concurrent with future development	Private
#8	Modify city ordinance to ensure connectivity between city facilities and future residential developments	Administrative	Near-term future	City
#9	Influence the Highway 74 streetscape	Administrative	Mid-to long-term future	City
#10	Extend "E" Street to Highway 74	\$245,000	Mid-to long-term future	City/Private
#11	Improve access between "H" Street and the Morrow County Grain Growers' Elevator complex	Not evaluated	Mid-to long-term future	Private/City
#12	Provide westbound left-turn lanes on Highway 74 at "H" Street and, if Alternative #11 is implemented, at "E" Street.	\$150,000 each	Mid-to long-term future	City/ODOT
#13	Restrict Parking at the Green Street/Main Street intersection	Minimal	Near-term future	City
#14	Extend Spring Street to Highway 74/Vacate Green Street connection to Highway 74	Not evaluated	Not Recommended	—
#15	Reduce Vehicular Reliance Through Zoning and Development Code Revisions	Administrative	As appropriate	City
#16	Promote access management along Highway 74	Administrative	Near-term future	City/ODOT
#17	Implement Transportation Demand Management Measures	Administrative	As appropriate	City

\*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

Section 5, which follows, incorporates the recommended improvements into the city's transportation system.

## **Section 5**

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### Transportation System Plan

# Transportation System Plan

## INTRODUCTION

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

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

The individual plans and policies presented in this section were developed specifically to address the requirements of Oregon's Transportation Planning Rule. Projects associated with each plan element have been identified and costs have been estimated as described herein. The recommendations set forth by this plan reflect the findings of the existing and forecast future conditions analyses, the alternatives analysis, and the concerns expressed by both the citizens of Ione and the public agencies that serve them.

## PREFERRED LAND USE PLAN

### Desirable Elements of the Preferred Alternative

The following are considered beneficial elements that should be explored as part of future land use planning and design efforts, preferably through amendments to the comprehensive plan, implementing ordinances and local street network:

- rezone the City Park from commercial to open space or recreational use;
- address potential use of commercially zoned land adjacent to Highway 74;
- amend the city's zoning ordinance to restrict residential uses in commercial zones;
- provide copies of the city's inventory of vacant and redevelopable properties to individuals interested in building or developing land in Ione;
- amend the city's zoning ordinance to allow for flag lot development;
- encourage future residential development to locate on the properties on the east and west ends of the city core;

- develop additional access, at a minimum for pedestrians and preferably also for bicycles and motor vehicles, from the Emert Addition to Ella Road;
- amend the city's subdivision regulations to limit cul-de-sac length;
- work with property owners in the Emert Addition to provide easements for right-of-way for direct connections to potential future development in this area; and,
- develop plans for or require a connection from future development northeast of the Emert Addition to Ella Road.

## **ROADWAY SYSTEM PLAN**

Based on the identified existing and anticipated operational and circulation needs, the roadway system plan was developed. The city's roadway system plan provides guidance as to how to best facilitate travel within the city by addressing two key issues:

- a roadway functional classification system and corresponding roadway design standards, and
- roadway connectivity, including new and improved streets to meet future capacity, circulation, and safety needs.

### **Functional Classification**

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation. A given roadway's functional classification determines its intended purpose, the amount and character of traffic that it is expected to carry, commitment to serve and promote non-auto travel, and its design standards.

The classification of a given street is intended to convey the requirements, capabilities, and capacity of each respective roadway while recognizing that roadway's contribution to the overall transportation system. It is imperative that the classification of streets is considered in relation to adjacent properties, the land uses that they serve, and the modes of transportation that can be accommodated. Further, each roadway must be appropriately designed so as to accommodate vehicles local to the roadway (i.e., passenger cars, heavy trucks, pedestrians, and bicycles). The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.

The functional classification plan for the City of Ione incorporates three functional categories: arterials, collectors, and local streets.

#### *Arterials*

In small communities, arterials are roadways that are primarily intended to serve traffic entering and leaving the urban area. Arterials tend to carry significant intraurban travel between downtown areas and outlying residential areas. While arterials may provide access to adjacent land, that function is subordinate to the travel service provided to major traffic movements. Arterials are the longest distance, highest volume roadways within the urban growth boundary. Although focused on serving longer distance trips, pedestrian and/or bicycle activities often are associated with the arterial streetscape.

#### *Collectors*

Collector facilities link arterials with the local street system. As implied by their name, collectors are intended to collect traffic from local streets (and sometimes from direct land access) and channel it to arterial facilities. Collector facilities tend to carry lower traffic volumes at slower speeds than arterials.

On-street parking is more prevalent and pedestrian amenities are typically provided. On collectors, bicycle facilities may be exclusive lanes or shared roadways.

For the purposes of TPR compliance, all collector facilities in this TSP are considered to be Minor Collectors. (The TPR requires that sidewalks and bike lanes be provided on all Major Collectors within a given Urban Growth Boundary).

### *Local Streets*

Local streets are primarily intended to provide access to abutting land uses. Local street facilities offer the lowest level of mobility and consequently tend to be short, low-speed facilities. As such, local streets should primarily serve passenger cars, pedestrians, and bicyclists; heavy truck traffic should be discouraged. On-street parking is common and sidewalks are typically present.

Using the roadway designations described, all current and future streets within the city have been designated in the functional classification plan presented in Figure 12. The roadway designations are summarized below.

### **Arterial**

Highway 74

### **Minor Collector**

- Main Street
- Spring Street (from Main Street south)
- Green Street (Highway 74 to Main Street)
- “H” Street
- “E” Street (north of Main)

### **Local Streets**

The remaining roads in the city would be designated as local streets.

*It should be stressed that the location of the potential roadway extensions as shown in Figure 12 is approximate and that the actual roadway alignment will need to be determined based on identified constraints and specific development plans for individual areas.*

## **STREET DESIGN STANDARDS**

Street design standards are based on the functional and operational characteristics of streets such as travel volume, capacity, operating speed, and safety. The standards are also established to provide appropriate separation between travel lanes and pedestrian and bicycle facilities. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands.

Figure 13 presents the typical cross sections for the various roadways identified in the functional classification system. The typical roadway cross sections comprise the following elements: right-of-way, number of travel lanes, bicycle and pedestrian facilities, and optional amenities such as landscape strips.

The cross sections illustrated in Figure 13 reflect the desire to develop multi-modal roadway facilities within the City of Ione in the future incorporating sidewalks where appropriate. The identified cross sections are intended for planning and design purposes for new road construction as well as for those locations where it is physically and economically feasible to improve existing streets.

Figure 12  
Roadway Network and Functional Classification System Plan

Figure 13  
Street Cross-Sections

The typical cross sections present standards for roadways that allow for flexibility in defining the actual roadway width through optional features such as planter strips, and on-street parking. The use of on-street parking and planter strips would be subject to the discretion of the City of Ione which would determine whether such amenities are required on a given street (in the case of Highway 74, appropriate representatives from ODOT would have ultimate authority over the roadway design).

Table 7 summarizes the street design standards for the different roadway classifications.

**TABLE 7  
 STREET DESIGN STANDARDS**

Classification	Cross Section	Right-of-Way	Turn Lanes?	Travel Lanes	Bike Lane?	Sidewalks?	On-Street Parking?	Landscape Strip?
Arterial	2 lanes	60 feet	Optional	12 foot	Multi-use path	Multi-use path	No	Yes
Minor Collector	2 lanes	60 feet	No	12 foot	No	Yes	Optional	Optional
Local Street	2 lanes	50 feet	No	Not striped (32' paved width)	No	Yes	Optional	Optional

<sup>1</sup> Minimum width = 12 feet

As indicated in Table 7, an arterial such as Highway 74 will have a right-of-way requirement of 60 feet and will include two 12-foot wide travel lanes. In addition, optional left-turn lanes may be provided at key locations. The arterial cross-section also incorporates a multi-use path as will be explained further within the Pedestrian and Bicycle System Plan. The 10-foot wide multi-use path will be separated from the highway by a 10-foot wide landscape strip. No on-street parking will be permitted. In reviewing these standards, it should be noted that ODOT would have the ultimate authority as to which improvements are implemented along Highway 74.

Minor collector streets will have a right-of-way requirement of 60 feet and a required cross-section consisting of two 12-foot wide travel lanes and five-foot wide sidewalks. As shown in Figure 13, optional landscape strips and/or on-street parking may also be required at the discretion of the city. Further, the cross section of Main Street (classified as a minor collector) may be altered in the downtown commercial area to permit the use of an eight- to ten-foot wide sidewalk with tree wells in lieu of a five-foot sidewalk and five-foot landscape strip.

Local streets will have a right-of-way requirement of 50 feet, a 32-foot wide paved cross section, and five-foot wide sidewalks. On-street parking may be required at the discretion of the city.

Requirement of adjacent landscape strips will be made at the discretion of the city. The landscaping strips are recommended to be located between the street and sidewalk on arterial and collector facilities to provide a buffer between cars and pedestrians. Locating the landscaping strip between the street and sidewalk allows for areas with no obstructions or impediments that would prevent or discourage pedestrian movements. Further, the landscape strips can be used for the location of street signs, power poles, utility easements, etc. to provide an unimpeded area for pedestrian movements.

For maintenance purposes, it is considered desirable to place landscape strips on local streets next to the adjacent property line rather than between the roadway and the sidewalks. The adjacent resident maintains the landscaping as part of their property (e.g., lawns, etc.). Further, city requirements revealed that a minimal amount of impeding projects will occur on local streets.



Through the flexible requirements provided in Table 7, the City of Ione will have an ability to reduce impervious surface and provide site-specific standards for roadway improvement projects that reflect local conditions. The optional availability of streetscape treatments such as landscape strips and on-street parking may be valuable to the city in the future as an instrument by which the character of roadways can be influenced. For example, narrow collector streets may be desirable in some neighborhood areas for use as a deterrent to through or speeding traffic on local streets. It should be noted that ODOT would have the ultimate authority as to which improvements are made along Highway 74.

#### *Relation to Development Activities*

At the time development activities are proposed, the City of Ione, when appropriate, will require half-street improvements as part of a given project's conditions of approval. The conditions of approval should require that roadways adjacent to development activities be constructed to comply with the street standards presented in this TSP. Section 7, **Policies and Land Use Ordinance Modifications**, provides sample development review guidelines that are recommended for adoption by the city.

#### *Relation to County Facilities*

The Morrow County Transportation System Plan (Reference 3) identified roadway standards for county facilities. The county's right-of-way requirement for Rural Access Roadways is 60 feet; as opposed to the 50 foot requirement identified for local roads in this TSP. Although the county's Rural Access Roadways may be applicable to some roadways within the City of Ione Urban Growth Area, the roadway standards contained in the City of Ione TSP do not conflict with the county's standards. The county's Rural Access Roadway standards are intended for roads that do not exhibit substantial traffic volumes now but may be expected to expand in the future, hence the additional right-of-way requirement. It is likely that the county roads will become collectors when incorporated into city limits.

By comparison, the 50 foot right-of-way required on city streets designated as being local roads reflects the expectation that these roadways will not require additional widening in the long-term future (50 feet is for local neighborhood streets with urban densities). The city's collector designation would be an appropriate counterpart to the county's Rural Access Roadway designation.

#### *Parking Restrictions*

To ensure adequate intersection sight distance, curbside parking should be prohibited within 20 feet of the edge of a given intersection.

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

### **ROADWAY IMPROVEMENT PROGRAM**

Transportation infrastructure improvements that are necessary within the City of Ione UGB over the next 20 years to meet both short- and long-term needs are listed below in Table 8. The projects are listed in priority order and have been divided into three time periods; 0 to 5 years, 5 to 10 years, and 10 to 20 years.

**TABLE 8  
ROADWAY IMPROVEMENTS**

Improvement Description	Estimated Cost*	Responsible Jurisdiction
<b>Near-Term, High Priority Projects (0-5 years)</b>		
Maintain grass and shrubbery near Emert Drive	Minimal	Private/City
Evaluate and install signing on Highway 74 near Emert Drive	\$800	City/ODOT
Restrict Parking at the Green Street/Main Street intersection	Minimal	City
Modify city ordinance to ensure connectivity between city facilities and future residential developments	Administrative	City
Construct pedestrian and bicycle connections from the Emert Addition to the city	\$230,000 (See Table 12)	City
<b>Mid-Term Projects (5-10 years)</b>		
Construct an eastbound left-turn lane at the Highway 74/Emert Drive intersection	\$170,000	Private/City
Construct a westbound right-turn lane at the Highway 74/Emert Drive intersection	\$75,000	Private/City
Extend "E" Street to Highway 74	\$245,000	City
Improve access between "H" Street and the Morrow County Grain Growers' Elevator complex	Not evaluated	Private/City
Reduce Vehicular Reliance Through Zoning and Development Code Revisions	Administrative	City
Implement Transportation Demand Management Measures	Administrative	City
<b>Long-Term Projects (10-20 years)</b>		
Reconstruct Highway 74 in the vicinity of the Highway 74/Emert Drive intersection	\$145,000	Private/City
Provide westbound left-turn lane on Highway 74 at "H" Street and, if Alternative #11 is implemented, at "E" Street.	\$150,000 each	City/ODOT
<b>Concurrent with Development</b>		
Provide a roadway link between Emert Drive and Ella Road	Not evaluated	Private
Promote access management along Highway 74	Administrative	City/ODOT
Through new roadway and land-use standards, focus future development activities and roadway improvements along Highway 74 to influence the streetscape of Highway 74.	Administrative	City

\*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

### ACCESS MANAGEMENT STRATEGIES

As the City of Ione continues to develop, the arterial/collector/local street system will become more heavily relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/collector street system as new development occurs. Access locations on roadway sections need to be properly located to ensure safe and efficient travel along a given transportation facility. Access locations should be placed appropriately to limit potential conflicting turning movements, weaving maneuvers over short distances, and congestion along facilities.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access management categories. One objective of the Ione TSP was to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the city's streets. From a policy perspective, the Oregon Department of Transportation has legal authority to regulate access points along Highway 74 within the city's urban growth boundary. The City of Ione will manage access on other

collector and local streets within its jurisdiction to ensure the efficient movement of traffic and enhance safety.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways in the upper echelon of the functional classification system (i.e., arterials) tend to have stringent spacing standards, while facilities ranked lower in the functional classification system allow more closely spaced accesses. The following discussion presents the hierarchical access management system for roadways in Ione.

**ODOT Access Management Standards**

The 1991 Oregon Highway Plan (Reference 1) specifies an access management classification system for state facilities and has classified Highway 74 as being of a *District Level of Importance (Category 6)*. The recently adopted 1999 Oregon Highway Plan maintains the *District Level of Importance* classification along Highway 74. With the adoption of the 1999 Oregon Highway Plan, segment classifications will need to be defined through the City of Ione to determine the appropriate access spacing standards. Although Ione may designate the state highway as an arterial roadway within its transportation system, the access management categories for Highway 74 should generally follow the guidelines of the Oregon Highway Plan.

*Impact on Local Development Activities*

Future developments along Highway 74 (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the 1991 Oregon Highway Plan Access Management policies and standards. Those policies and standards will then be succeeded by the new 1999 Oregon Highway Plan at the time that it is adopted and the segment classifications have been determined.

As shown in Table 9, within urban or urbanizing areas, a new development will need to maintain a 500-foot (Category 6 highways) spacing (centerline-to-centerline) between public access points and 150-feet between private access points on both sides of the roadway and to either side of the proposed access point.

**TABLE 9  
HIGHWAY 74 ACCESS MANAGEMENT STANDARDS\***

Classification	Intersection				Signal Spacing <sup>3</sup>	Median Control
	Public Road		Private Drive <sup>2</sup>			
	Type <sup>1</sup>	Spacing	Type	Spacing		
District Highway, Category 6	At-grade	500-foot	Left/right turns	150 feet	1/4mile	None

\*Source: 1991 Oregon Highway Plan, Reference 1

<sup>1</sup> The basic intersection design options are as listed. Special treatments may also be considered including partial interchanges, jughandles, etc. The decision on design should be based on function of the highway, traffic engineering, cost effectiveness, and need to protect the highway. Interchanges must conform to the interchange policy.

<sup>2</sup> Generally, no signals will be allowed at private access points on regional highways. If signal warrants are met, alternatives to signals should be investigated, including median closing. Spacing between public and private access points is to be determined by acceleration needs to achieve 70 percent of facility operating speed. Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety.

<sup>3</sup> Generally, signals should be spaced to minimize delay and disruptions to through traffic. Signals may be spaced at intervals closer than those shown to optimize capacity and safety.

Additional property frontage along the state highway does not guarantee that additional approach roads will be allowed. The 1991 Oregon Highway Plan further designates that traffic signal spacing shall maintain a minimum ¼-mile spacing and that no median control is necessary.

In addition to the standards shown in Table 9, according to the 1991 Oregon Highway Plan, the impact in traffic generation from proposed land uses must allow a major street approach level of service “D” to

be maintained for Category 6 segments within the development's influence area along the highway. The influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property-line of the development (whichever is greater).

The existing legal driveway connections, public street intersection spacing, and other accesses to the state highway system are not required to meet the spacing standards of the assigned category immediately upon adoption of this transportation system plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, ODOT is required to ensure that all safety and capacity issues are addressed. Proposed land use actions that do not comply with the designated access spacing policy will be required to apply for an access variance from the City of Ione and/or ODOT.

#### *Variance Process*

Access variances may be provided to parcels whose highway frontage, topography, or location would otherwise preclude issuance of a conforming permit and would either have no reasonable access or cannot obtain reasonable alternate access to the public road system. In such a situation, a conditional access permit may be issued by ODOT and the City of Ione for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards.

The permit may carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. Approval conditions might also require a given land owner to work in cooperation with adjacent land owners to provide either joint access points, front and rear cross-over easements, or a rear-access upon future redevelopment. In addition, approval of a conditional permit might require ODOT-approved turning movement design standards to ensure safety and managed access. Under special circumstances, ODOT may be required to purchase property in order to prevent safety conflicts.

#### **City Standards**

Table 10 identifies the minimum public street intersection and private access spacing standards for the City of Ione roadway network as they relate to new development and redevelopment. Table 11 identifies standards for private access driveway widths. In cases where physical constraints or unique site characteristics limit the ability for the access spacing standards listed in Tables 10 and 11 to be met, the City of Ione should retain the right to grant an access spacing variance. County facilities within the city's urban growth boundary should be planned and constructed in accordance with these street design standards.

**TABLE 10  
 MINIMUM INTERSECTION SPACING STANDARDS**

Functional Classification	Public Street (feet)	Private Access Drive (feet)
Arterial	600	500
Collector	300	75
Local	150	15

**TABLE 11  
 PRIVATE ACCESS DRIVEWAY WIDTH STANDARDS**

Land Use	Minimum (feet)	Maximum (feet)
Single Family Residential	12	24
Multi-Family Residential	24	30
Commercial	30	40
Industrial	30	40

**Management Techniques**

From an operational perspective, the City of Ione should consider implementing access management measures to limit the number of redundant access points along roadways. This will enhance roadway capacity and benefit circulation. Improvements that should be considered include:

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

Enforcement of the access spacing standards should be complemented with the availability of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously effect the viability of the impacted properties. Thus, if an access management approach is taken, alternative access should be developed prior to “land-locking” a given property.

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

- Crossover easements should be provided on all compatible parcels (considering topography, access, and land use) to facilitate future access between adjoining parcels. Figure 14 illustrates how this process would, in the long run, facilitate compliance with access management objectives.
- Conditional access permits should be issued to developments having proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing driveways.
- Right-of-way dedications should be provided to facilitate the future planned roadway system in the vicinity of proposed developments.
- Half-street improvements (sidewalks, curb and gutter, bike lanes/paths, and/or travel lanes) should be provided along site frontages that do not have full-buildout improvements in place at the time of development.



Figure 14

Example of Crossover Easements and Conditional Access Policy/Process

As suggested by Figure 14, using these guidelines, all driveways and roadways along the highway will eventually comply with the access spacing policy set for a particular segment of roadway as development and redevelopment occurs in the study area. It should be noted that not every parcel can or should be addressed through the process illustrated in Figure 14. The topography of the parcel, type of proposed or adjoining use, and/or highway frontage may preclude a development from using consolidated or crossover access points (e.g., consolidating access for a commercial business and an industrial or agricultural land use would be inappropriate). Further, it should be noted that the Reaping Grade ditch presents potential constraints to some of the roadway alignments in Figure 14, in addition to constraints for commercial development in the area at the east end of the city.

## **PEDESTRIAN SYSTEM PLAN**

The pedestrian and bicycle system plan is shown in Figure 15. The key objective in the development of the pedestrian and bicycle system plan was to provide connectivity between major activity centers. Within Ione, these activity centers include the post office, the school, recreation areas such as the park, and local commercial businesses (primarily along Main Street).

The street design standards (refer to Figure 13) would ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed collectors and arterials. It is essential that existing sidewalks be connected to new sidewalks as new developments are constructed or as road improvements are made.

### **Multi-Use Facilities**

Recognizing the limited resources available to finance separate pedestrian and bicycle facilities, a multi-use path should be developed along Highway 74 that supports both pedestrian and bicycle needs. As illustrated in Figure 15, this shared pedestrian/bicycle facility would link the Emert Addition with downtown Ione in an environment free of vehicular traffic. The cross section of the multi-use pathway would consist of 10-foot wide paved path separated from the roadway by a landscape strip that is at least 10-feet wide. Ultimately, the multi-use path should extend north from the highway into the subdivision to provide direct access to the local housing. When ODOT has the financial resources to construct sidewalks and bicycle lanes along Highway 74 throughout the duration of the Ione UGB, the multi-use path could be replaced with sidewalks and bicycle lanes on both sides of the highway.

It should be noted that multi-use paths are especially effective in undeveloped areas. If properties were to develop/redevelop at urban densities in Ione, the city should consider replacing the multi-use path with sidewalks on all streets and bicycle lanes on arterial and collector streets.

### **Other Pedestrian Amenities**

It should be noted that alternate and/or additional multi-use paths would be desirable in conjunction with future development activities. Further, provision of sidewalks along one or both sides of key collector and local roads not specifically identified in this plan is also encouraged.

In addition to providing the pedestrian system components, additional street lighting should be provided at the point where the multi-use path crosses Highway 74 to provide clear visibility of pedestrians at night.

### **Bicycle Facilities**

Bicycle routes within the city's collector and local-level street system were not considered to warrant exclusive roadway treatments and are to remain as undesignated shared facilities.





Figure 15  
Pedestrian and Bicycle System Plan

Table 12 provides a summary of pedestrian and bicycle system projects as well as corresponding cost estimates.

**TABLE 12  
 PEDESTRIAN AND BICYCLE SYSTEM IMPROVEMENTS**

General Alignment	Project Start/End Point	Improvement Description	Estimated Cost*
<b>Near-Term, High Priority Projects (0-5 years)</b>			
Highway 74	Emert Drive to Green Street	Multi-Use Path	\$230,000
<b>Mid-Term Projects (5-10 years)</b>			
Emert Drive	Highway 74 to northern terminus	Multi-Use Path	\$135,000
Green Street	Second Street to Third Street	Sidewalk	\$11,250
Spring Street	Main Street to Third Street	Sidewalk	\$45,000
Third Street	Spring Street to "A" Street	Sidewalk	\$33,750
<b>Mid- to Long-Term Projects (5-20 years)</b>			
Main Street	Cherry Street to "E" Street	Sidewalk	\$65,250
Main Street	"E" Street to "H" Street	Sidewalk	\$36,000
"H" Street	Highway 74 to Main Street	Sidewalk	\$36,900

\*Estimated costs are in 1999 dollars and do not include right-of-way acquisition

The remainder of the sidewalk facilities identified in Figure 15 should be provided in conjunction with development or redevelopment of adjacent properties. Similarly, many of the sidewalk and multi-use facilities presented in Table 12 could be completed incrementally as part of local development projects. Creating "partnership programs" with landowners and businesses to construct such facilities would be one method by which individual projects could be brought to fruition in a timely manner. The pedestrian facilities could be constructed as adjacent properties develop, thereby ensuring alternative modes of access to various land uses. The city would however, need to develop a reasonably equitable methodology of assessing the extent of facilities that individual developers would be required to provide.

In reviewing the cost estimates, two assumptions should be noted. First, the estimated cost for the multi-use paths assumes an asphalt concrete path, but does not include costs for landscaping the adjacent 10-foot wide strip (minimum width) that separates the multi-use path from the adjacent roadways. Second, the cost estimates for sidewalk facilities assume minimum slope grading work, drywells for drainage, roadside curbing, and the sidewalk itself.

**PUBLIC TRANSPORTATION SYSTEM PLAN**

Transit service provides mobility to community residents who do not have access to automobiles and provides an alternative to driving for those who do. Transit service should meet the needs both of travelers within the city and those of travelers making trips outside of the community.

The 1997 Oregon Public Transportation Plan identifies minimum level of service standards for rural and frontier communities such as the City of Ione (Reference 4). Under the 1997 Oregon Public Transportation Plan, public transportation in small communities and rural areas in the year 2015 (under Level 3-Respond to State and Federal Mandates and Goals) should:

- Provide public transportation service to the general public based on locally established service and funding priorities;

- Provide an accessible ride to anyone requesting service;
- Provide a coordinated centralized scheduling system in each county and at the state level;
- Provide phone access to the scheduling system at least 40 hours weekly between Monday and Friday; and
- Respond to service requests within 24 hours (not necessarily provide a ride within 24 hours).

#### **Service Enhancements**

Overall, the City of Ione should continue to monitor the adequacy of the transit service provided to the community and work with the county to extend service as necessary. The local transit program should also seek to meet the 2015 minimum level of service standards identified in the *1997 Oregon Public Transportation Plan*. Three improvement strategies are identified below for further consideration.

#### *Increase Public Awareness*

Both the city and the county should promote a greater public awareness of the available public transit services and the need for additional volunteer dispatchers and drivers. Greater awareness of the service and its needs will likely result in increased usage and availability. Provision of better recognition for drivers and/or driver meetings would be an additional avenue by which to encourage more volunteer participation in the program.

#### *Coordinate Trips*

Secondly, consideration should be given to coordinating trip requests to other neighboring communities and areas outside the county such as Hermiston and Pendleton. For example, a given day of the week could be designated for trips to Pendleton. This would then allow the city's residents to visit specialized medical service providers or satisfy other needs on a scheduled basis. Similarly, weekly shopping trips to Hermiston or other communities could be established to allow community members to purchase commodities not available through local commercial and service providers.

A recent survey conducted by transportation provider staff suggests that coordination of medical visits could be difficult due to the unpredictable nature of office visits, though the need for such a service should be more closely examined. Assuming that the demand for such a service exists, a scheduled weekly service would lend itself to greater coordination with service providers in the neighboring communities of Lexington and Heppner.

Close coordination between the City of Ione and adjacent communities is also encouraged and should increase ridership and efficiency through better use of the resources available. Such coordination could prove to be especially fruitful if the weekly trips previously discussed are established as a joint community service. Coordinated trips to local community events would likely generate significant interest. Ultimately, if an increased demand for service can be established and documented, additional resources (e.g., funding and equipment) may be successfully pursued through grant applications or other alternative financing sources.

#### *Provide Commuter Service*

It is recommended that a carpool or vanpool service be provided for people who live in Ione and work in neighboring communities. Provision of a vanpool and/or carpools to major employers in the area could help to reduce the number of single occupant vehicle commute trips from Ione and help the community to achieve transportation demand management (TDM) objectives.

### **Vehicle Replacement**

The Morrow County Special Transportation Program replaces vehicles on an as-needed basis. No specific plans to replace the current vehicles in use in the City of Ione are in place. The county has budgeted to replace one vehicle in 1999 though that will not necessarily affect the vehicles in Ione. The county is pursuing additional funding for vehicles and has, through the Region 5 Public Transit Division, submitted a grant application that would allow the program to purchase a new modified van in 2001 and a small bus in 2003. In addition, a new bus barn would be built somewhere in the county if the grant were to be approved. The City of Ione should support the Morrow County Special Transportation Program in its pursuit of additional vehicles and funding.

### **MARINE SYSTEM PLAN**

The City of Ione should actively support the continued presence and operation of port facilities along the Columbia River as an alternative means of transportation.

### **AIR TRANSPORTATION SYSTEM PLAN**

Existing regional air service for passengers and freight is provided via the Lexington Airport as well as aviation facilities in Hermiston and Pendleton. The continued use and appropriate expansion of these facilities is recommended.

### **PIPELINE SYSTEM PLAN**

The existing gas pipeline facilities located east of town should be use and expanded as appropriate.

### **IMPLEMENTATION PLAN**

This section has outlined specific transportation system improvement recommendations as well as a corresponding timeline for implementation of the identified improvements. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather ranks projects to be developed over 0 to 5 year, 5 to 10 year, and 10 to 20 year horizon periods. In this manner, the implementation of identified system improvements has been staged to spread investment in this infrastructure over the 20-year life of the plan.

The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the City of Ione is to develop in an orderly and efficient way. Consequently, the plans identified for implementation in the TSP should be considered in light of developing infrastructure sequencing plans, and may need to be modified accordingly.

### **SUMMARY**

The adoption and implementation of this Transportation System Plan will enable the City of Ione to address existing transportation system deficiencies while also facilitating growth in the study area population and employment levels assumed in this study.

**Section 6**

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Transportation Funding Plan

# Transportation Funding Plan

## INTRODUCTION

The Transportation Planning Rule (OAR 660-12-040) requires that the City of Ione Transportation System Plan (TSP) include a transportation financing program. These programs are to include:

- a list of planned transportation facilities and major improvements;
- a general estimate of the timing for planned transportation facilities and major improvements;
- determination of rough cost estimates for the transportation facilities and major investments identified in the TSP (intended to provide an estimate of the fiscal requirements to support the land uses in the acknowledged comprehensive plan(s) and allow jurisdictions to assess the adequacy of existing and possible alternative funding mechanisms); and,
- a discussion of existing and potential financing sources to fund the development of each transportation facility and major improvement (which can be described in terms of general guidelines or local policies).

Section 5 of this TSP identified the recommended improvement projects, an implementation timeline, and estimated improvement costs. This section provides an overview of the City of Ione's historic funding levels and available funding sources at a federal, state, county, and local level.

The timing and financing provisions in the transportation financing program are not considered a land use decision as defined by the TPR and ORS 197.712(2)(e) and, therefore, cannot be the basis of appeal under State law. In addition, the transportation financing program is intended to implement the comprehensive plan policies, which provide for phasing of major improvements to encourage infill and redevelopment of urban lands, prior to facilities that would cause premature development of urbanizable areas or conversion of rural lands to urban uses.

## CITY OF IONE FUNDING HISTORY

The City of Ione Street Fund provides an annual budget of approximately \$75,800. This includes a \$25,000 grant for improvements at the "H" Street/Main Street intersection and \$50,800 for street maintenance, repair, and lighting. Maintenance and preservation are the major work activities performed on the local street system. Virtually all of the annual Street Fund budget is derived from the city's share of the state-wide gasoline tax and motor vehicle fees. This revenue sharing is based on population and distributed on a proportional share basis to all cities and counties.

It is expected that, for the foreseeable future, whatever funding is made available to the city through state and county resources will be applied to the maintenance and preservation of the existing street system. This practical approach has served the community well; however, the recommendations and requirements of the Transportation Planning Rule will influence this approach. Should the city obtain funds in excess of the budget necessary to maintain the existing system, the TPR will seek to balance the application of these funds across all modes of travel. Therefore, the list of identified needs provided in this TSP should be the primary source for future projects to be implemented.

The City of Ione currently does not have a transportation system development charge (SDC), which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development

traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Ione TSP study, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit improvements, and street improvements.

## **OREGON TRANSPORTATION FUNDING HISTORY**

### **Road-Related Funding**

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the State. Through the fiscal year 1996, the matching ratio in Oregon for Interstate Funds was: Federal 92.22 percent and State 7.78 percent (Reference 5).

During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last three Oregon Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption. Nevertheless, fuel taxes are the largest single source of highway revenues at approximately \$390 million annually (Reference 5). Weight-miles taxes are the second largest source of revenue to the Highway Fund, at approximately \$215 million annually (Reference 5).

Oregon Highway Trust Fund revenues are distributed among State (60.05 percent), County (24.38 percent) and City (15.57 percent) governments to fund their priority road needs. Under the 1997-1999 legislatively adopted Department of Transportation budget, a total of \$2,284 million revenue dollars was identified. Of the total available revenue, approximately \$317 million dollars was allocated to counties and \$185 million to cities (Reference 6).

Oregon law allows local government, in addition to receiving state highway trust fund revenues, to levy local fuel taxes for street related improvements. Multnomah and Washington Counties, and some small cities (Tillamook, The Dalles, and Woodburn) have used this authorization. Several attempts have been made by other jurisdictions, but have not been supported by the local electorate. As few local governments have implemented this option, non-user road revenues tend to be relied upon to supplement the funds received from state and federal user revenues. Other local funding sources have included property tax levies, local improvement district assessments, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other miscellaneous sources.

Oregon's current fee for cars and other light vehicles weighing 8,000 pounds or less is \$30 biennially (Reference 5). Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities in Oregon have relied more on transfers from their general funds to support roadway improvements, than have counties. Ballot Measure 5, however, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the property tax rate for purposes other than for payment of certain general obligation indebtedness to \$15 per \$1,000 of assessed value. The measure further divided the \$15 per \$1,000 property tax authority into two components: \$5 per \$1,000 dedicated to the public schools; the remaining \$10 dedicated to other



local government units, including cities, counties, special service districts, and other non-school entities. The tax rate limitation for cities and counties went into effect in July 1991. The school portion of the measure was phased in over a five-year period beginning in July 1991.

In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which further impacted the ability of cities and counties to pay for needed infrastructure through historic or traditional means. Ballot Measure 50 was then approved by Oregon voters in May of 1997 and, through implementing legislation, became law in July 1997. Ballot Measure 50 repealed Measure 47 and made efficiency changes to Measure 5. Measure 50 limits taxes on each property by rolling back the 1997-1998 assessed value of each property to 90 percent of its 1995-1996 value. Measure 50 also limits future growth on taxable value to three percent per year, with exceptions for new items such as new construction, remodeling, subdivisions, and rezoning. Permanent tax rates for Oregon's local taxing districts are also established in Measure 50 that replace the former tax base amounts of the district. Measure 50 allows voters to approve new short-term levies outside the permanent rate limit if approved by a double majority.

At the same time that increased growth and increased transportation demands are occurring, cities and counties have lost another traditional source of revenue for infrastructure construction and modernization - timber harvest receipts. Under a 1993 negotiated mitigation plan, federal forest receipts to support county roads are decreasing 3 percent per year. In 1996, counties received 74 percent of their 1986-90 average receipts, and by 2003 they will receive 55 percent of the late 1980s average receipts.

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, counties, or cities, for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the State, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996.

A result of these recommendations was the appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal included a process for identifying a "base" transportation system, with a priority of maintenance, preservation, and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. Other components included provisions for realizing efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. The State Legislature was unable to reach consensus on the means to collect and distribute the funds and the package failed.

A part of future transportation funding will include identification of relationships and responsibilities relative to delivery of projects and services. In Oregon, the primary state role has been to construct and maintain the state highway system and to assist local government with funding of other modes. The State also has a role in intercity passenger services and airports. This has historically been minor but would grow significantly, if serious efforts were put into intercity transportation improvements. Local governments provide local transit and airport support, in addition to providing maintenance, preservation, and construction for local roads, streets, and bridges. The Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) began moving decision-making for federal programs to states and this program and other state policies incorporated in the Oregon Transportation Plan (OTP) encourage

reassessment of responsibilities and obligations for funding. The Transportation Equity Act for the 21<sup>st</sup> Century (TEA21), passed in 1998, has continued the efforts first initiated by ISTEA.

These changing relationships have resulted in two significant issues for State and local governments. First, there is no clear definition of State responsibility. At one time, the State operated on an informal consensus that it should provide one-half the match on federally funded, local, and other projects that served statewide needs. No similar consensus seems to exist today. The State's responsibility for transit, airports, and other local transportation infrastructure and services is not clear. The question of regional equity is raised in considering especially high-cost project needs, such as the Bend Parkway or the Portland area light rail program. Regional equity will probably require consideration of all modes together, because different regions may have different modal needs and financial arrangements.

Given this dynamic transportation funding environment, it is clear that local governments need to reassess traditional methods of funding projects and look creatively at ways to meet public expectations of high quality transportation services.

### **Transit Funding**

Transit service in Oregon has evolved from private development and reliance on user fees for operating revenue, to public ownership with public subsidy for operations. No clear philosophy of the State role in providing transit services is evident and the State is discussing how it should raise revenue in support of transit. The State has used general funds, lottery funds, cigarette tax revenue, and other funds at various times to support transit service. These efforts have largely been targeted towards supplying half the required match to federal capital improvement grants. To date, the State has provided no operating funds for transit, other than the elderly and disabled program. The State role has been one of granting authority to local governments to raise locally-generated operating revenue.

While the state's role in transit funding is limited, the ODOT Public Transit Section does currently administer three public transit funding sources. These include Small City and Rural Transit Assistance (Section 18), the Special Transportation Fund (STF), and Section 16.

The Small City and Rural Transit Assistance program is a federally funded initiative that provides capital to operate and acquire vehicles for public transportation systems in cities with populations of less than 50,000 and rural areas. This assistance program is funded annually through an appropriation from the Federal Transit Administration (FTA) to each state with funds allocated to eligible providers based on a three-part formula. Fifty percent of the funds are distributed based on population, 25 percent are based on ridership, and 25 percent are based on service hours. There is a 50 percent local match requirement for operating costs and a 20 percent match for capital costs. The program stipulates that service must be marketed as "public transit": exclusive transportation services such as those limited strictly to senior citizens or employers are not eligible for funding under this program. Additional funding details, application information, and general assistance with the Small City and Rural Transit Assistance is available through ODOT's Public transit Division.

The Special Transportation Fund is intended for elderly and disabled citizens and is funded through the State cigarette tax. Funding for the purchase of vehicles and equipment for special transportation providers (i.e., servicing the elderly and disabled) is provided through a federal funding program known as Section 16.

### **POTENTIAL TRANSPORTATION FUNDING SOURCES**

There are a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state, and local governments. Appendix E

(Table E-1) provides a summary of federal, state, and local highway, bridge, sidewalk, and bicycle funding programs respectively, which have typically been used in the past. Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 47 severely limit the opportunities for this funding source.

Appendix E (Table E-2) presents details of the revenue sources for streets, bridges, sidewalks, and bicycle facilities currently used by cities. The information is summarized by type of facility, and indicates the percent of revenue each funding source represents for all cities in Oregon, likely trends for the source, known constitutional or other limitations, and their respective rates. The general status of each funding source is summarized in Table E-3.

### **Funding Program**

Major expenditures for transportation improvements within the City of Ione are anticipated over the course of the next 20 years. The city can expect to make significant investments to improve transportation facilities for existing development and to improve collectors and arterials that serve the entire area. In future years, however, the burden for expansion of the transportation network should be borne by the development community creating the additional demand and this is reflected in the project costs/responsibilities previously summarized in Table 8.

Based on the recommended roadway improvement projects identified in Table 8, at least \$230,000 of roadway improvements have been identified for completion within the next five years. The vast majority of this expenditure is associated with the construction of a pedestrian and bicycle multi-use path linking Emert Drive and Green Street. Additional projects for which cost estimates could not be prepared are also anticipated, though the expenditures necessary to complete these additional projects are expected to be minimal. With the possible exception of evaluating and installing signing on Highway 74 near Emert Drive and maintaining grass and shrubbery in the vicinity, the City of Ione would bear most of the financial burden for near-term improvements. ODOT's funding involvement for roadway improvements potentially would be limited to supporting the signing improvements near the Emert Drive/Highway 74 intersection, which has an estimated cost of less than \$1,000.

Within the mid-term (5 to 10 year) planning horizon, the provision of turn-lanes on Highway 74 at the intersection of Emert Drive is expected and is estimated to cost \$145,000. The turn-lane improvements could be funded as a requirement of additional development activity and/or by the city. The extension of "E" Street to Highway 74 is also anticipated during the 5 to 10 year planning horizon and the estimated \$245,000 expenditure associated with this project will likely be funded by the city.

Within the 20-year planning horizon, three other major transportation improvement projects are anticipated. These include the potential reconstruction of the Emert Drive/Highway 74 intersection (estimated cost of \$145,000), the provision of one or more westbound left-turn lanes on Highway 74 (estimated cost of \$150,000 each; up to two may be provided), and the extension of Emert Drive to Ella Road. Financing of the Emert Drive extension and improvements to the Emert Drive/Highway 74 intersection would likely be provided by local development with some supplemental funding potentially provided by the city. The provision of westbound left-turn lanes would likely be financed by the city, potentially in conjunction with future maintenance work by ODOT along the highway. The transportation improvement projects near Emert Drive are assumed to occur at such time that additional development occurs, which may or may not fall within the 20-year planning horizon.

Pedestrian and bicycle improvement projects are expected to be implemented on a gradual basis as roadways are reconstructed, development activities occur, or alternative funding becomes available through grant projects or some other financing mechanism. With the possible exception of the multi-use

path located along the north side of Highway 74, none of the identified bicycle/pedestrian improvement projects will directly affect ODOT facilities and little, if any, ODOT funding is anticipated for bicycle and pedestrian improvements. Thus, the \$593,150 in identified pedestrian and bicycle improvement projects is expected to be financed either by the city or developers as appropriate. Funding programs such as the Transportation Enhancement Program provide funds for enhancing pedestrian and bicycle facilities, landscaping, and other scenic beautification that may be a source of funding for adding sidewalks, multi-use paths, and bicycle facilities. Additional funding may be available through the creation of Local Improvement Districts or through grant projects.

### *State Funding*

ODOT operates and maintains Highway 74 in the City of Ione. State and federal funds administered through ODOT will be the primary sources of funding for improvements to this facility. Further, most Federal funding is passed through ODOT to local jurisdictions. While improvement projects affecting ODOT facilities are documented in this TSP, the inclusion of such projects in the TSP does not obligate ODOT to finance them.

A good working relationship with ODOT Region 5 planning staff and the Region Manager will be important to ensure that major roadway improvement projects on state facilities within the city are included in ODOT's State Transportation Improvement Plan (STIP) when it is updated. The city and Morrow County should take an active role in jointly representing the transportation priorities of Ione to ODOT during its process of formally incorporating priorities into the STIP. For its part, the City of Ione Transportation System Plan will provide ODOT with highway-related transportation projects of importance to the city and should be used as a basis for discussion with ODOT.

Local funding participation in projects on state facilities may enable the ODOT to accelerate the priority of an improvement identified in the STIP. While not normally a requirement of project funding, local participation does demonstrate a strong commitment to ODOT and the local funds may be used to leverage state funds.

### *Local Funding*

The City of Ione should continue to pursue federal, state, and county transportation funds for transportation projects. Given the high level of annual expenditures needed for construction of the transportation projects identified, existing sources of transportation revenue are not expected to be adequate to meet the demand for new projects. To meet the additional funding needs, the city may wish to consider additional revenue-generating options such as systems development charges, local improvement districts, and street maintenance fees as discussed below. It should be noted that, even with increased funding, it may prove difficult to fund all of the projects identified in this TSP within the 20-year planning horizon. Accordingly, the city should review the identified improvement projects on a periodic basis to prioritize local transportation system funding such that it most appropriately reflects current and projected needs.

### **Transportation System Development Charge**

The City of Ione does not currently have a transportation system development charge, which would be assessed to developers. This charge could be implemented by the city, with both a "reimbursement fee" and an "improvement fee" element built into its structure. The reimbursement fee places a value on the amount of capacity on an existing street that is utilized by new site development traffic. The improvement fee is an assessment for the added traffic impact associated with new development that triggers new roadway improvements. As a follow up to the Ione TSP study, it is recommended that the city undertake a study to consider the appropriateness of a transportation SDC structure that would further facilitate the development of a multi-modal charge where funds could be spent on pedestrian, bicycle, transit

improvements, and street improvements. The study should determine the feasibility of implementing SDC fees, particularly with respect to evaluating equitability with neighboring cities both in economic and political terms.

**Local Improvement Districts**

Local improvement districts could be formed to improve currently substandard and unimproved roads. These projects may or may not be fully completed within the 20-year planning horizon.

**Street Maintenance Fee**

The City of Ione could investigate local adoption of a street maintenance fee to raise revenues to be dedicated toward street rehabilitation projects. These revenues could also be used to supplement the current State Highway Fund (State gas tax and vehicle registration fees) revenues already used for on-going maintenance.

**Additional Considerations**

There are important limitations that should be considered with respect to additional funding options. For example, the dollar amount of SDCs that can be assessed must meet legal requirements for establishing SDCs. Also, the success of any funding plan will be reliant on the approval of the community. Accordingly, the involvement of citizens of the community in developing and implementing a funding package is essential.

**SUMMARY**

Transportation funding resources available to the City of Ione and ODOT are limited. It is expected that, for the foreseeable future, those funding sources that are available will predominantly be applied to maintenance and preservation of the existing transportation system. As additional funding becomes available, the list of transportation improvement projects identified in this TSP should be used to select projects for implementation. In the interim, the City of Ione should consider developing alternative transportation funding sources such as System Development Charges, Local Improvement Districts, or Street Maintenance Fees as a mechanism by which to finance improvements to the city's transportation system.

## **Section 7**

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Policies and Land Use Ordinance  
Modifications

## **Policies and Land Use Ordinance Modifications**

This section is provided under separate cover in the document “City of Ione Implementing Ordinances for the Transportation System Plan.”

## **Section 8**

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Transportation Planning Rule Compliance



## Transportation Planning Rule Compliance

In April 1991, the Land Conservation and Development Commission (LCDC), with the concurrence of ODOT, adopted the Transportation Planning Rule (TPR), OAR 660 Division 12. The TPR requires local jurisdictions to prepare and adopt a Transportation System Plan (TSP) by 1997. Outlined below is a list of recommendations (designated by *italics*) and requirements for a TSP for an urban area with a population between 2,500 and 25,000, and how each of those were addressed in the City of Ione TSP. The comparison demonstrates that the City of Ione TSP is in compliance with the provisions of the TPR.

### DEVELOPMENT OF A TRANSPORTATION SYSTEM PLAN

#### TPR Recommendations/Requirements

#### City of Ione TSP Compliance

##### Public and Interagency Involvement

- Establish Advisory Committees.  

A Management Team and Technical Advisory Committee was established at the outset of the project. Membership on the Management Team included members of the City, County, and ODOT staff. Membership on the Technical Advisory Committee included representatives from all facets of the community.
- Develop informational material.  

Technical memoranda and current status reports of work undertaken and completed by the advisory committee were published and made available to the public throughout the project. Press releases concerning the project and opportunities for participation at public workshops were published and materials (including report text, charts, and maps) were prepared for review defining critical components of the City's TSP.
- Schedule informational meetings, review meetings and public hearings throughout the planning process. Involve the community.  

Three Management Team/TAC meetings were held through the planning process. The meetings were advertised by distribution of meeting notices. All TAC meetings were advertised and open to the public.
- Coordinate Plan with other agencies.  

Coordination with the City, ODOT, and Morrow County was accomplished by including agency representatives on the project mailing list, individual project briefings/meetings, and participation on the Management Team and the TAC.

## Review Existing Plans, Policies, Standards, and Laws

- *Review and evaluate existing comprehensive plan.*

The following plans were reviewed as part of the development of the TSP: 1991 *Oregon Highway Plan*, (June, 1991); 1996 *Oregon Bicycle Plan*; *City of Ione Comprehensive Plan*, (1987); *Draft Statewide Transportation Improvement Program* (2000-2003).
- *Land use analysis - existing land use/vacant lands inventory.*

In developing the forecast of transportation needs, an analysis was conducted of current land use designations and land status within the project area to determine the capacity for growth, which would increase demand for transportation services. Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and the City's economic role in the region. Estimates of needed housing, commercial, and employment lands were derived from these forecasts.
- *Review existing ordinances - zoning, subdivision, engineering standards.*

Existing City Subdivision Ordinances, Zoning Ordinances, and Comprehensive Plan engineering standards were reviewed for adequacy in the development of the City of Ione TSP.
- *Review existing significant transportation studies.*

Significant transportation studies reviewed as part of the City of Ione TSP include the above mentioned comprehensive plans and their associated transportation elements and the Morrow County TSP.
- *Review existing capital improvements programs/public facilities plans.*

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

ADA requirements were reviewed and acknowledged as part of the City of Ione TSP development.

## Inventory Existing Transportation System

- Street system (number of lanes, lane widths, traffic volumes, level of service, traffic signal location and jurisdiction, pavement conditions, structure locations and conditions, functional classification and jurisdiction, *truck routes, number and location of accesses, safety, substandard geometry*).  
An inventory of the existing street network, traffic volumes, traffic control devices, accident history, and levels of service is provided in Section 2: Existing Conditions.
- Bicycle ways (type, location, width, condition, *ownership/jurisdiction*).  
As noted in Section 2: Existing Conditions, there are no existing bicycle ways within the City of Lone.
- Pedestrian ways (location, width, condition, *ownership/jurisdiction*).  
Section 2: Existing Conditions, summarizes the location of the existing sidewalk facilities within the City of Lone.
- 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 Lone.
- Intermodal and private connections.  
A summary of the existing intermodal and private carrier transportation services is presented in Section 2: Existing Conditions.
- Air transportation.  
A summary of existing air transportation facilities is provided in Section 2: Existing Conditions.
- Freight rail transportation.  
As noted in Section 2: Existing Conditions, there are no freight rail transportation services within the City of Lone.
- Water transportation.  
A summary of water transportation services is provided in Section 2: Existing Conditions.
- Pipeline transportation.  
A summary of pipeline transportation services is provided in Section 2: Existing Conditions.
- *Environmental constraints*.  
Development of the TSP did not include the identification of environmental constraints beyond those specifically documented in the TSP.
- Existing population and employment.  
As outlined Section 1: Introduction, the 1997 City of Lone population is approximately 310 persons in the city. This information and employment data cited in Section 3: Future Conditions Analysis, is included in Future Conditions as the basis for the

forecasts that were performed for this TSP.

## Determine Transportation Needs

- Forecast population and employment  
Population and employment forecasts were prepared for the year 2020 that reflect regional growth prospects and City of Ione's economic role. This information is summarized in Section 3: Future Conditions.
- Determination of transportation capacity needs (cumulative analysis, *transportation gravity model*).  
Travel demand forecasts were undertaken as part of this project. The methodology for travel forecasting and assumptions used in the transportation model are contained in Section 3: Future Conditions, which presents an analysis of future transportation conditions and identifies capacity needs.
- Other roadway needs (safety, bridges, reconstruction, operation/maintenance).  
Non-capacity related transportation needs are identified and recommended for implementation in Section 5: Transportation System Plan.
- Freight transportation needs.  
Freight transportation needs are adequately met via motor carrier freight services.
- Public transportation needs (special transportation needs, general public transit needs).  
Public transportation needs are discussed in Section 5: Transportation System Plan.
- Bikeway needs.
- Pedestrian needs.  
Future bicycle and pedestrian improvements are to be made in conjunction with roadway improvements to provide cyclists and pedestrians with full accessibility to City of Ione's street system. Plans for these facilities are shown in Figure 15 of Section 5: Transportation System Plan.

### **Develop and Evaluate Alternatives**

- Update community goals and objectives.
- Establish evaluation criteria.
- 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).
- Select recommended alternative.

Goals were established as part of the TSP development (see Section 1: Introduction).

Evaluation criteria was established from the study goals and objectives and used to develop the Preferred Alternative presented in Section 5: Transportation System Plan.

Section 4: Alternatives Analysis includes a summary of the land use and transportation alternatives considered and analyzed for City of Lone's TSP. Land uses, roadway alternatives, transportation system management options, bike and pedestrian options were analyzed.

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.
- Streets plan element (functional street classification and design standards, proposed facility improvements, access management plan, truck plan, safety improvements).
- Public transportation element (transit route service, transit facilities, special transit services, intercity bus and passenger rail).
- Bikeway system element.
- Pedestrian system element.

Section 7: Policies and Land Use Ordinance Modifications outlines specific recommendations regarding transportation goals and policies.

The streets plan element is outlined in Section 5: Transportation System Plan.

The public transportation element is outlined in Section 5: Transportation System Plan.

The bikeway plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.

The pedestrian plan is outlined in Section 5: Transportation System Plan, and shown in Figure 15.

- Airport element (land use compatibility, future improvements, accessibility/connections/conflicts with other modes). The airport element is outlined in Section 5: Transportation System Plan.
- Freight rail element (terminals, safety). There is no rail service available or anticipated to serve the City of Ione.
- Water transportation element (terminals). The water transportation element is outlined in Section 5: Transportation System Plan

### **Produce a Transportation System Plan (Continued)**

- *Transportation System Management element (TSM).* TSM element not applicable per OAR 660-12-020(2)(f) and (g).
- *Transportation Demand Management element (TDM).* TDM element not applicable per OAR 660-12-020(2)(f) and (g).

### **Implementation of a Transportation System Plan**

#### ***Plan Review and Coordination***

- Consistent with ODOT and other applicable plans. See Section 7: Policies and Land Use Ordinance Modifications

#### ***Adoption***

- Is it adopted? *To follow.*

#### ***Implementation***

- Ordinances (facilities, services and improvements; land use or subdivision regulations). Included in Section 7: Policies and Land Use Ordinance Modifications.
- Transportation financing/capital improvements program. The transportation finance plan is summarized in Section 6: Transportation Funding Plan.

## **Section 9**

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References

## References

1. Oregon Department of Transportation. *Oregon Highway Plan*. 1991.
2. Transportation Research Board. *Highway Capacity Manual*, Special Report No. 209. 1994.
3. KCM, Inc. *Morrow County Transportation System Plan Final Report*. March 1998.
4. Oregon Department of Transportation. *1997 Oregon Public Transportation Plan*. April 1997.
5. Oregon Department of Transportation. *State Transportation Fiscal and Statistical Data for 1997*. September 1998.
6. Oregon Department of Transportation. *Financial Services Website*, <http://www.odot.state.or.us/fspublic>. May 1999.



## **Appendix A**

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### Plan and Policy Review

## Plans and Policies Review

Existing plan policies and other actions will influence the analysis of land use and transportation issues and the alternatives to address these issues as well as other community objectives. This appendix provides a summary of the plans and policies reviewed as part of the development of the Transportation System Plan.

### URBAN GROWTH AREA JOINT MANAGEMENT AGREEMENT

Included in the city's Comprehensive Plan is an Urban Growth Area Joint Management Agreement with Morrow County, adopted June 1978. This agreement directs that the county and city shall cooperatively develop an implementation policy regarding streets and roads within the city urban growth area and corporate limits which is consistent with the city Comprehensive Plan. Such policy shall include, but not be limited to, the following:

- The circumstances under which the city will assume ownership of and maintenance responsibility for County Roads within the corporate limits.
- The conditions under which new streets and roads will be developed in conjunction with subdivisions within the city urban growth area.
- The conditions under which new public streets and roads will be developed within the city urban growth area.
- The conditions under which existing roads designated as future arterials in the city Comprehensive Plan will be approved.

### CITY OF IONE COMPREHENSIVE PLAN

Ione's Comprehensive Plan and implementing regulations were acknowledged by the Land Conservation and Development Commission in October 1979. They were amended on June 20, 1979 (Ord #156); January 22, 1980 (Ord. #160); April 7, 1987 (Ord. #173); and June 2, 1987 (Ord. #175). Ione's Comprehensive Plan consists of 7 sections as follows:

- Section 1: Authority
- Section 2: Plan Technical Report
- Section 3: Plan Implementation Measures
- Section 4: Availability of Plan
- Section 5: Plan Goals and Policies (includes: Citizen Involvement, Land Use Planning, Agricultural Lands, Open Spaces, Scenic and Historical Areas, and Natural Resources, Air, Water and Land Resources Quality, Areas Subject to Natural Disasters and Hazards, Recreational Needs, Economic Development, Housing, Public Facilities and Services, Transportation, Energy Conservation, and Urbanization)
- Section 6: Plan and Implementation Measure Review
- Section 7: Plan Amendment

Section 5, Plan Goals and Policies, includes the following goals and policies that relate to land use and transportation planning:

- *Land Use Planning Goal:* To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.
- *Land Use Policy:* To determine the public facilities and services required to accommodate existing unmet public needs and expected economic and population growth.
- *Open Spaces, Scenic and Historical Areas, and Natural Resources Policies:* Examine any publicly-owned lands including street rights-of-way for their potential open space use before their disposition; and conserve the area's natural resources and protect open space and natural resources which should be preserved from urban development.
- *Economic Development Goal:* To diversify and improve the economy of Ione.
- *Economic Development Policies:* Encourage potential industrial development near or adjacent to transportation facilities, especially where intermodal connections or opportunities are feasible; and consider proximity to existing and planned transportation systems.
- *Public Facilities and Services Goal:* Plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban development.
- *Public Facilities and Services Policy:* Develop, maintain, update, or expand police and fire services, street, water and sewer system, and storm drains as necessary to provide adequate facilities and services to the community.
- *Transportation Goals:* To provide and encourage a safe, convenient and economical transportation system and to provide for an orderly and efficient transition from rural to urban land use.
- *Transportation Policies:*
  1. To develop good transportation linkages (pedestrian, vehicular, bicycle, etc.) between residential areas and major activity centers.
  2. To encourage industry to locate in areas which are or can be served by the railroad.
  3. To prioritize the sequence for the paving of city streets.
  4. To actively support development of a good, direct, all-weather road from the middle Willow Creek Valley to the Carty electric plant, Boeing Space Age Industrial Park, and Boardman.
  5. To support ongoing improvement to Highway 74 and the regional highway system in general, and to coordinate with the State Highway Division on highway improvement planning.
  6. To functionally classify streets and roads within the Ione city limits and the urban growth boundary.
- *Energy Conservation Goal:* Conserve energy and develop and use renewable resources.
- *Energy Conservation Policies:* Require the orientation of streets and buildings to allow for utilization of solar energy.

## IMPLEMENTING REGULATIONS

### Zoning Ordinance

The Zoning Ordinance (Ordinance #158 as amended) implements the Comprehensive Plan by establishing specific standards for use of the land by zoning districts and other development standards. The ordinance contains regulation for off-street parking and loading (Article 9) and parking lot access, but does not contain development standards related to streets, use of streets or additional access standards. More detail on street and sidewalk standards can be found in Ione's subdivision ordinance.

The zoning ordinance, as amended, states that all new and replacement streets, driveways and bridges shall be elevated so that they are not more than 1 foot below the 100-year or relevant historical flood elevation, to ensure ease of emergency access during flooding.

A provision is included in the ordinance regarding bicycle racks, that they must be firmly anchored, clearly labeled and convenient without interfering with pedestrian traffic, and separated from automobile access by some form of barrier for safety purposes.

Section 11.40, Street Trees, restates provisions detailed in the subdivision ordinance.

### Subdivision Ordinance

Ione's Subdivision Ordinance has five sections regarding subdivision partition procedure and approval process and requirements for improvements and design.

Section 1 includes general provisions stating the purpose for the ordinance is to ensure that public facilities including streets are adequate to serve the subdivided or partitioned area.

Section 2, Subdivision and Partition Application Procedure and Approval Process, describes requirements for a sketch plan to be submitted prior to approval, giving particular attention to the arrangement, location and width of streets and their relation to the topography of the land.

Section 4, Requirements for Improvements, Reservations and Design Streets, requires that roads be related appropriately to the topography, that they be curved wherever possible to avoid conformity of lot appearance, and arranged to obtain as many as possible of the building sites at, or above, the grades of the streets. Where topography allows, residential streets shall be aligned to run east-west, with lots oriented north-south to provide greater opportunity for south orientation of windows in dwellings for solar energy utilization. Streetlights shall be installed by the developer in accordance with design and specification standards approved by the City Engineer.

Subsection 4.2.2, Design Standards, states that the following standards in Table A-1 are required.

**TABLE A-1  
 DESIGN STANDARDS FOR ROADS**

	Residential Density			Non-Residential (Business/ Industrial)
	High	Med.	Low	
<b>Minimum Right-of-Way Width (in feet)</b>				
Arterial	80	80	100	100
Collector	60	60	80	80
Continuous Minor Street	60	60	60	60
Minor Streets less than 2,400 feet in length which cannot be extended	50	50	60	60
Alleys	20	20	20	20
<b>Minimum Surfaced Width (in feet)</b>				
Arterial	44	44	52	52
Collector Street	40	40	48	48
Continuous Minor Streets	36	36	40	40
Minor Streets less than 2,400 feet in length which cannot be extended	28	36	40	40
Alleys	20	20	20	20
<b>Maximum Grade (%)</b>				
Local Road	10	10	8	6
Collector Road	8	8	8	6
Secondary Arterial	6	6	6	5
Primary Arterial	6	6	6	5
<b>Minimum Grade</b>	1	1	1	1
<b>Minimum Radius of Curve (in feet)</b>				
Local Road	100	100	100	200
Collector Road	100	100	100	200
Secondary Arterial	300	300	300	400
Primary Arterial	500	500	500	500

TABLE A-1 (CONTINUED)

	Residential Density			Non-Residential Density (Business/Industrial)
	Low	Med.	High	
<b>Minimum length of Tangents Between Reverse Curves (in feet)</b>				
Local Road	100	100	150	200
Collector Road	100	100	150	200
Secondary Arterial	200	200	250	300
Primary Arterial	300	300	350	400
<b>Minimum Sight Distance (in feet)</b>				
Local Road	200	200	200	250
Collector Road	200	240	240	250
Secondary Arterial	275	275	300	300
Primary Arterial	275	300	300	400
Intersection	Across Corners - 75 ft Back Intersection			
<b>Minimum Turnaround (in feet)</b>				
Local Roads Right-of-Way	120	120	140	160
Pavement	100	100	120	140
Center Island Diameter (If Required)	40	40	50	60
<b>Design Speed (Miles per Hour)</b>				
Local Road	25	30	30	30
Collector Road	30	35	35	35
Secondary Arterial	40	40	40	40
Primary Arterial	40	40	40	50
<b>Minimum Length of Vertical Curves</b>				
Local Road	100 feet, but not less than 20 feet for each algebraic difference in grade.			
Collector Road	200 feet, but not less than 50 feet for each 1 percent.			
Secondary Arterial				
Primary Arterial	300 feet, but not less than 50 feet for each algebraic difference in grade.			

Subsection 4.2.2 b, Road Surfacing and Improvements states, that after utilities have been installed by the developer, the applicant shall construct curbs and gutters and shall surface roadways to the widths prescribed (in Table 1). Surfacing shall be suitable for expected traffic and in harmony with similar improvements in surrounding areas. Types of pavements shall be determined by the City Engineer, and adequate provision shall be made for culverts, drains and bridges. Further, the section states that all road pavements, shoulders, drainage improvements and structures, curbs, turnarounds and sidewalks shall conform to all construction standards and specifications adopted by the City Council upon recommendation of the City Engineer and shall be incorporated into the construction plans required to be submitted by the developer for plat approval. An exception states that minor roads and cul-de-sacs within rural-density developments may be provided with gravel roads designed and built to the appropriate County standards, provided that:

1. At the time of Final Plat or Map approval, the developer shall sign and have recorded, on behalf of himself, his heirs and assigns, an irrevocable consent to participate in a future local improvement

district or special assessment district to bring the roads up to regular city street standards as set forth (in Table 1) and

2. The developer shall cause to be formed a home-owners association which shall be legally responsible for maintenance of said gravel roads until such are brought up to city standards and accepted by the city for public maintenance.

Subsection 4.2.2c, Excess Right-of-Way, provides that excess right-of-way may be required when necessary to provide adequate earth slopes. Such slopes shall not be in excess of three to one.

Subsection 4.2.2 d, Intersections, states that:

- Streets shall be laid out so as to intersect as nearly as possible at right angles. A proposed intersection of two new streets at an angle of less than 75 degrees shall not be acceptable. An oblique street should be curved approaching an intersection and should be approximately at right angles for at least one hundred (100) feet back from the intersection. Not more than two streets shall intersect at any one point.
- Proposed new intersections along one side of an existing street shall, wherever practicable, coincide with any existing intersections on the opposite side of such street. Street jogs with centerline offsets of less than 150 feet shall not be permitted, except where the intersected street has separated dual drives without median breaks at either intersection. Where streets intersect major streets, their alignment shall be at least 800 feet apart.
- Minimum curb radius at the intersection of two local streets shall be at least 20 feet; and minimum curb radius at an intersection involving a collector street shall be at least 25 feet. Alley intersections and abrupt changes in alignment within a block shall have the corners cut off in accordance with standard engineering practice to permit safe vehicular movement.
- Intersections shall be designed with a flat grade wherever practical. In hilly or rolling areas, at the approach to an intersection, a leveling area shall be provided having not greater than a 2% rate at a distance of 60 feet, measured from the nearest right-of-way line of the intersecting street.
- Where any street intersection will involve earth banks or existing vegetation inside any lot corner that could create a traffic hazard by limiting visibility, the developer shall cut such ground and/or vegetation (including trees) in connection with the grading of the public right-of-way to the extent necessary to provide an adequate sight distance.

Section 4.6, Sidewalks, includes required improvements as follows:

*Required improvements -*

- Sidewalks shall be included within the dedicated non-pavement right of way of all roads as given in Table 2.
- Concrete curbs are required for all roads where sidewalks are required by these regulations or where required in the discretion of the City Council.
- Sidewalks shall be improved as required in Section 4.2.2b (road surfacing and improvements) of these regulations. A median strip of grassed or landscaped areas at least 4 feet wide shall separate all sidewalks from adjacent curbs.

*Pedestrian accesses –*

- The City Council may require, in order to facilitate pedestrian access from the roads to schools, parks, playgrounds, or other nearby roads, perpetual unobstructed easements at least 20 feet in width. Easements shall be indicated on the plan, plat or map.

**TABLE 2**

**SIDEWALKS REQUIRED**

	Residential Density			Non- Residential (Business/ Industrial)
	High	Med.	Low	
Collector Road	Optional*	Optional*	Both sides 5' wide	Both sides 6' wide
Secondary Arterial	Optional*	Both sides 5' wide	Both sides 5' wide	Both sides 6' wide
Primary Arterial	Both sides 5' wide	Both sides 5' wide	Both sides 5' wide	Both sides 6' wide

\* Optional, but where provided 4' minimum on one side of the road with concrete curbs.

Section 4.9, Preservation of Natural Features and Amenities, requires that existing features which would add value to the development or to the city as a whole, such as trees, shall be preserved in the design of the subdivision or partition. No trees shall be removed from any subdivision or partition nor any change of grade of the land effected until approval of the tentative plan or map has been granted. All trees on the plat or map required to be retained shall be preserved. The sketch plan must show the number and location of existing trees, and the location of all proposed trees required along the street side of each lot as required by the subdivision ordinance.

Section 4.10, Street Trees, discusses requirements for trees planted by the developer. As a requirement of subdivision or partition approval, the applicant shall plant street trees on the property of the subdivision or partition. Such trees are to be planted along the road or roads within and abutting the subdivision, or further back on the abutting property when conditions warrant. Presence of existing trees can satisfy street tree planting requirements. A list of recommended species and varieties should be available at City Hall, with a variety of species recommended throughout the city. Several species may not be planted such as poplar, willow, cottonwood, ailanthus, silver maple, boxelder, nut or fruit trees (except ornamental) and conifers.

Trees shall be planted at 30-40 feet intervals as approved by the city in required parkway strips or, if not available, within 10 feet of a street edge. Further direction is given for planting at intersections, spacing, size and type, time of planting, installation and maintenance and approval. The City Council may require the developer to reserve an easement authorizing the city to plant shade trees within 5 or more feet of the required right-of-way of the city.

Subsection 4.13, Bicycle Routes, states that the City Council may require installation of separate bicycle lanes within streets and separate vehicle paths.

Section 4.14, Nonresidential Subdivisions, states that in nonresidential subdivisions for commercial or industrial use subdivisions street rights-of-way and pavement shall be adequate to accommodate the type



and volume of traffic anticipated to be generated. Special requirements may be imposed with respect to the street, curb, gutter, and sidewalk design and construction. Streets carrying nonresidential traffic, especially truck traffic, shall not normally be extended to the boundaries of adjacent existing or potential residential areas. Every effort should be made to protect residential areas from potential nuisances; e.g., extra depth in parcels, or placement of landscaped strips.

#### **MOBILE HOME PARK ORDINANCE**

Adopted in 1979 and amended in 1987, Ione's Mobile Home Park Ordinance Section 2, Procedure for Mobile Home Park Plan Approval, requires that the sketch of the layout shall show the tentative layout for streets in the park. Section 3, Requirements for Improvements, Preservation, and Design, states that interior streets are required subject to applicable standards as approved by the City Council upon recommendation of the City Engineer. Optional improvements that may be required by City Council also upon recommendation of the City Engineer include curbs or sidewalks or both, streetlights, and guest or recreational vehicle parking areas.

#### **STRATEGIC PLAN**

The Vision Statement in Ione's 1997 Strategic Plan states that, in the year 2010, safe streets and the small town environment will activate a sense of community pride and volunteerism, "people looking out for their neighbors".

In the summary of strengths, weaknesses, opportunities and threats (SWOT), "inadequate infrastructure" is listed as a business development weakness without specifying which infrastructure. One quality of life weakness is listed as "housing availability". A physical infrastructure strength is "adequate access in and out of area".

**Appendix B**

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Description of Level-of-Service Methods and  
Criteria

## Appendix B

### LEVEL OF SERVICE CONCEPT

Level of service (LOS) is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or roadway segment. Six grades are used to denote the various LOS from A to F.<sup>1</sup>

### SIGNALIZED INTERSECTIONS

The six LOS grades are described qualitatively for signalized intersections in Table B1. Additionally, Table B2 identifies the relationship between level of service and average stopped delay per vehicle. Using this definition, LOS D is generally considered to represent the minimum acceptable design standard.

**Table B1  
 Level of Service Definitions (Signalized Intersections)**

Level of Service	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stop delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stop delay is in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay values.

<sup>1</sup> Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual*, Special Report 209 (1994).

**Table B2**  
**Level of Service Criteria for Signalized Intersections**

Level of Service	Stopped Delay per Vehicle (Seconds)
A	# 5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	> 60

**UNSIGNALIZED INTERSECTIONS**

Unsignalized intersections include two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections. The *1994 Highway Capacity Manual* provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table B3. A quantitative definition of LOS for unsignalized intersections is presented in Table B4. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard.

**Table B3**  
**Level of Service Criteria for Unsignalized Intersections**

Level of Service	Average Delay per Vehicle to Minor Street
A	<ul style="list-style-type: none"> <li>• Nearly all drivers find freedom of operation.</li> <li>• Very seldom is there more than one vehicle in queue.</li> </ul>
B	<ul style="list-style-type: none"> <li>• Some drivers begin to consider the delay an inconvenience.</li> <li>• Occasionally there is more than one vehicle in queue.</li> </ul>
C	<ul style="list-style-type: none"> <li>• Many times there is more than one vehicle in queue.</li> <li>• Most drivers feel restricted, but not objectionably so.</li> </ul>
D	<ul style="list-style-type: none"> <li>• Often there is more than one vehicle in queue.</li> <li>• Drivers feel quite restricted.</li> </ul>
E	<ul style="list-style-type: none"> <li>• Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement.</li> <li>• There is almost always more than one vehicle in queue.</li> <li>• Drivers find the delays approaching intolerable levels.</li> </ul>
F	<ul style="list-style-type: none"> <li>• Forced flow.</li> <li>• Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.</li> </ul>

**Table B4**  
**Level of Service Criteria for Unsignalized Intersections**

Level of Service	Average Total Delay per Vehicle (Seconds)
A	< 5.0
B	5.1 to 10.0
C	10.1 to 20.0
D	20.1 to 30.0
E	30.1 to 45.0
F	> 45.0

It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on the minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. **While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections.** No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

## **Appendix C**

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Employment and Population Forecast  
Methodology

## **Appendix D**

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Preferred Land Use Alternative

## **Appendix E**

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### Supplemental Funding Information



**Table E-1**  
**Ione Area Transportation System Plan**  
**Summary of Road-Related Transportation Funding Programs: Federal Sources**

<b>Program Name</b>	<b>Description</b>
Community Development block Grants (CDBG)	Community Development Block Grants (CDBG) are administered by the Department of Housing and Urban Development (HUD) and potentially be used for transportation improvements in eligible areas.

**Table E-1 (Continued)**  
**Ione Area Transportation System Plan**  
**Summary of Road-Related Transportation Funding Programs: State Level**

Program Name	Description
State Highway Fund	<p>The State Highway Fund composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carrier. In 1994, the state gas tax was \$0.24 per gallon. Vehicle registration fees were \$15 annually. Revenues are divided as follows: 15.57 percent to cities, 24.38 percent to counties, and 60.05 percent to ODOT. The city share of the State Highway Fund is allocated based on population.</p> <p>ORS 366.514 requires at least one percent of the State Highway Fund received by ODOT, counties and cities be expended for the development of footpaths and bikeways. ODOT administers the bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.</p>
Special Public Works Fund (SPWF)	<p>The State of Oregon allocates a portion of revenues from the state lottery for economic development. The Oregon Economic Development Department provides grants and loans through the SPWF program to construct, improve and repair infrastructure to support local economic development and create new jobs. The SPWF provides a maximum grant of \$500,000 for projects that will help create a minimum of 50 jobs.</p>
Transportation Access Charges	<p>The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed, limited access corridors; service in high-demand corridors; and bypass facilities to avoid congested areas.</p> <p>Congestion pricing, where drivers are charged electronically for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements; but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods.</p> <p>The Oregon Revised Statutes allow ODOT to construct toll bridges to connect state highways and improve safety and capacity. The Statues also allow private development of toll bridges. Recent actions by the Oregon legislature provide authority for developing toll roads. State authority for congestion pricing does not exist; new legislation would be required.</p>
Immediate Opportunity Fund (IOF)	<p>Financed at a level of \$5 million per year to a maximum of \$40 million through FY96. The fund is to support specific economic developments in Oregon through the construction and improvement of roads and is restricted for use in situations that require a quick response and commitment of funds. It is anticipated that the maximum amount available for a single project is \$500,000 or 10 percent of the annual program level. This fund may be used only when other sources of financial support are unavailable or insufficient and are not a replacement or substitute for other funding sources.</p>
OR Transportation Infrastructure Bank	<p>As a pilot program for the USDOT, the Oregon Transportation Commission has made \$10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.</p>
Traffic Control Projects	<p>The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy.</p> <p>ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.</p>

**Table E-1 (Continued)**  
**Ione Area Transportation System Plan**  
**Summary of Road-Related Transportation Funding Programs: State Level**

Program Name	Description
OR Transportation Infrastructure Bank	<p>As a pilot program for the USDOT, the Oregon Transportation Commission has made \$10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.</p>
Traffic Control Projects	<p>The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy.</p> <p>ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.</p>

**Table E-1 (Continued)**  
**Ione Area Transportation System Plan**  
**Summary of Road-Related Transportation Funding Programs: Local Sources**

Program Name	Description
Special Assessments/Local Improvements Districts	<p>Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works projects as street paving, drainage, parking facilities and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct and/or financial benefit to its owners.</p> <p>Local Improvement Districts (LIDs) are legal entities established by the City to levy special assessments designed to fund improvements that have local benefits. Through a local improvement district (LID), streets or other transportation improvements are constructed and a fee is assessed to adjacent property owners.</p>
Systems Development Charges (Impact Fees)	<p>Systems Development Charges (SDCs) are fees paid by land developers intended to reflect the increased capital costs incurred by a municipality or utility as a result of a development. Development charges are calculated to include the costs of impacts on adjacent areas or services, such as increased school enrollment, parks and recreation use, or traffic congestion.</p> <p>Numerous Oregon cities and counties presently use SDCs to fund transportation capacity improvements. SDCs are authorized and limited by ORS 223.297 - 223.314.</p>
Local Gas Tax	<p>A local gas tax is assessed at the pump and added to existing state and federal taxes. Tillamook, The Dalles and Woodburn are Oregon cities that have a local gas tax. Multnomah and Washington Counties also have gas taxes.</p>
Local Parking Fees	<p>Parking fees are a common means of generating revenue for public parking maintenance and development. Most cities have some public parking and many charge nominal fees for use of public parking. Cities also generate revenues from parking citations. These fees are generally used for parking-related maintenance and improvements.</p>

**Table E-1 (Continued)**  
**Ione Area Transportation System Plan**  
**Summary of Road-Related Transportation Funding Programs: Local Sources**

Program Name	Description
Street Utility Fee	Most city residents pay water and sewer utility fees. Street user fees apply the same concept to city streets. A fee would be assessed to all businesses and households in the city for use of streets based on the amount of use typically generated by a particular use. For example, a single-family residence might, on average, generate 10 vehicle trips per day compared to 130 trips per 1,000 square feet of floor area for retail uses. Therefore, the retail use would be assessed a higher fee based on higher use. Street services fees differ from water and sewer fees because usage cannot be easily monitored. Street user fees are typically used to pay for maintenance more than for capital projects.
Vehicle Registration Fees	Counties can implement a local vehicle registration fee. The fee would operate similar to the state vehicle registration fee. A portion of the County fee would be allocated to the City.
Property Taxes	Local property taxes could be used to fund transportation, although this is limited by Ballot Measure 5 and 47.
Revenue Bonds	Revenue Bonds are bonds whose debt service is financed by user charges, such as service charges, tolls, admissions fees, and rents. If revenues from user charges are not sufficient to meet the debt service payments, the issuer generally is not legally obligated to levy taxes to avoid default, unless they are also based by the full faith and credit of the insuring governmental unit. In that case, they are called indirect general obligation bonds. Revenue bonds could be secured by a local gas tax, street utility fee, or other transportation-related stable revenue stream.