

City of Adams

Transportation System Plan

Final Report

Adopted

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Oregon Department of Transportation**

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION 1-1

 PLANNING AREA 1-1

 PLANNING PROCESS 1-1

 Community Involvement 1-2

 Goals and Objectives 1-4

 Review and Inventory of Existing Plans, Policies, and Public Facilities 1-4

 Future Transportation System Demands 1-4

 Transportation System Potential Improvements 1-4

 Transportation System Plan 1-5

 Funding Options 1-5

 Other State Plans 1-7

CHAPTER 2: GOALS AND OBJECTIVES 2-1

 OVERALL TRANSPORTATION GOAL 2-1

 Goal 1 2-1

 Goal 2 2-1

 Goal 3 2-2

 Goal 4 2-2

CHAPTER 3: TRANSPORTATION SYSTEM INVENTORY 3-1

 STREET SYSTEM 3-1

 City Street Classification 3-1

 Street Layout 3-4

 State Highways 3-4

 OR 11 3-4

 GENERAL PAVEMENT CONDITIONS 3-5

 City Streets 3-5

 State Highways 3-5

 BRIDGES 3-6

 PEDESTRIAN SYSTEM 3-6

 BIKEWAY SYSTEM 3-8

 PUBLIC TRANSPORTATION 3-8

 RAIL SERVICE 3-9

 AIR SERVICE 3-9

 PIPELINE SERVICE 3-9

 WATER TRANSPORTATION 3-10

CHAPTER 4: CURRENT TRANSPORTATION CONDITIONS 4-1

 TRAFFIC VOLUMES 4-1

 Average Daily Traffic 4-1

 Street Capacity 4-1

 TRANSPORTATION DEMAND MANAGEMENT MEASURES 4-3

 Alternative Work Schedules 4-3

 Travel Mode Distribution 4-4

 ACCIDENT ANALYSIS 4-5

 Historic 4-5

CHAPTER 5: TRAVEL FORECASTS 5-1

 LAND USE 5-1

 Historic Growth 5-2

 Projected Growth 5-2

TRAFFIC VOLUMES	5-3
Historic	5-3
Future Traffic Volumes	5-4
HIGHWAY SYSTEM CAPACITY	5-4
Analysis Results	5-5
CHAPTER 6: IMPROVEMENT OPTIONS ANALYSIS	6-1
EVALUATION CRITERIA	6-1
STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS	6-2
COUNTY TRANSPORTATION IMPROVEMENT PROJECTS	6-2
IMPROVEMENT OPTIONS EVALUATION	6-4
SUMMARY	6-7
CHAPTER 7: TRANSPORTATION SYSTEM PLAN	7-1
STREET DESIGN STANDARDS	7-1
Existing Street Standards	7-1
Recommended Street Standards	7-1
ACCESS MANAGEMENT	7-11
Access Management Techniques	7-11
Recommended Access Management Standards	7-12
ACCESS CONTROL RIGHTS	7-13
MODAL PLANS	7-14
Street System Plan	7-14
Pedestrian System Plan	7-15
Bicycle System Plan	7-16
Transportation Demand Management Plan	7-17
Public Transportation Plan	7-17
Rail Service Plan	7-18
Air Service Plan	7-18
Pipeline Service	7-19
Water Transportation	7-19
TRANSPORTATION SYSTEM PLAN IMPLEMENTATION PROGRAM	7-19
20-Year Capital Improvement Program	7-19
CHAPTER 8: FUNDING OPTIONS AND FINANCIAL PLAN	1
HISTORICAL STREET IMPROVEMENT FUNDING SOURCES	1
Transportation Funding in Umatilla County	2
Revenues and Expenditures in the City of Adams	3
Transportation Revenue Outlook in the City of Adams	4
REVENUE SOURCES	6
Property Taxes	7
System Development Charges	7
State Highway Fund	8
Local Gas Taxes	8
Vehicle Registration Fees	8
Local Improvement Districts	8
GRANTS AND LOANS	9
Bike-Pedestrian Grants	9
Access Management	9
Enhancement Program	9
Highway Bridge Rehabilitation or Replacement Program	10
Transportation Safety Grant Program	10
Federal Transit Administration (FTA) Section 5311-Non-urbanized Area Formula Program	10
Surface Transportation Program (STP) Funds	10

Department of Labor Welfare-to-Work Program	11
FTA Section 5310 Discretionary Grants	11
Special Transportation Fund	11
County Allotment Program	11
Immediate Opportunity Grant Program	11
Oregon Special Public Works Fund	12
Oregon Transportation Infrastructure Bank	12
ODOT FUNDING OPTIONS	12
Financing Tools	13
General Obligation Bonds	14
Limited Tax Bonds	14
Bancroft Bonds	14
FUNDING REQUIREMENTS	14

APPENDICES

- APPENDIX A: REVIEW OF CITY PLANS AND POLICIES
- APPENDIX B: 1997 MAJOR STREETS INVENTORY
- APPENDIX C: UMATILLA COUNTY POPULATION DISCUSSION –
UMATILLA COUNTY POPULATION ANALYSIS

LIST OF TABLES

TABLE 4-1: LEVEL OF SERVICE CRITERIA FOR ARTERIAL AND COLLECTOR STREETS	4-2
TABLE 4-2: SUMMARY OF OPERATIONS AT HWY 11 AND COMMERCIAL STREET	4-3
TABLE 4-3: DEPARTURE TO WORK DISTRIBUTION	4-4
TABLE 4-4: JOURNEY TO WORK TRIPS	4-5
TABLE 5-1: UMATILLA COUNTY POPULATION TRENDS	5-1
TABLE 5-2: HISTORIC TRAFFIC GROWTH RATES ON STATE HIGHWAYS	5-3
TABLE 5-3: FORECAST TRAFFIC VOLUMES AND TOTAL GROWTH ON STATE HIGHWAYS	5-4
TABLE 5-4: SUMMARY OF FUTURE OPERATIONS AT HWY 11 AND COMMERCIAL STREET	5-4
TABLE 6-1: TRANSPORTATION IMPROVEMENT OPTIONS: RECOMMENDATION SUMMARY	6-8
TABLE 7-1: RECOMMENDED STREET DESIGN STANDARDS	7-2
TABLE 7-2: RECOMMENDED ACCESS MANAGEMENT STANDARDS	7-12
TABLE 7-3: RECOMMENDED STREET SYSTEM PROJECTS	7-15
TABLE 7-4: CAPITAL IMPROVEMENT PROGRAM	7-20
TABLE 8-1: SOURCES OF ROAD REVENUES BY JURISDICTION LEVEL	1
TABLE 8-2: UMATILLA COUNTY TRANSPORTATION-RELATED REVENUES	2
TABLE 8-3: UMATILLA COUNTY TRANSPORTATION-RELATED EXPENDITURES	3
TABLE 8-4: UMATILLA COUNTY BICYCLE PATH FUND REVENUES AND EXPENDITURES	3
TABLE 8-5: ESTIMATED RESOURCES AVAILABLE TO CITY OF ADAMS FROM STATE HIGHWAY FUND, 1998 DOLLARS	6

LIST OF FIGURES

	Page
FIGURE 1-1: PLANNING AREA – ADAMS	1-3
FIGURE 3-1: ROADWAY FUNCTIONAL CLASSIFICATION – ADAMS	3-3
FIGURE 3-2: PEDESTRIAN SYSTEM INVENTORY - ADAMS.....	3-7
FIGURE 6-1: POTENTIAL TRANSPORTATION SYSTEM IMPROVEMENTS - ADAMS	6-3
FIGURE 7-1: RECOMMENDED STREET DESIGN STANDARDS – LOCAL STREETS AND ALLEYS	7-5
FIGURE 7-2: RECOMMENDED STREET DESIGN STANDARDS – COLLECTORS	7-7
FIGURE 7-3: RECOMMENDED STREET DESIGN STANDARDS – ARTERIALS	7-9
FIGURE 8-1: STATE HIGHWAY FUND.....	5

CHAPTER 1: INTRODUCTION

The Adams Transportation System Plan (TSP) guides the management of existing transportation facilities and the design and implementation of future facilities for the next 20 years. This Transportation System Plan constitutes the transportation element of the city's Comprehensive Plan and satisfies the requirements of the Oregon Transportation Planning Rule established by the Department of Land Conservation and Development. It identifies and prioritizes transportation projects for inclusion in the Oregon Department of Transportation's (ODOT's) Statewide Transportation Improvement Program (STIP).

PLANNING AREA

The city of Adams Transportation System Plan planning area covers the entire area within the city's Urban Growth Boundary (UGB). The planning area is shown on Figure 1-1. Roadways included in the Transportation Plan fall under three jurisdictions: the city of Adams, Umatilla County, and the state of Oregon.

Adams is located in the northeastern portion of Umatilla County in the northeastern corner of Oregon. It is a small agricultural community with a population of approximately 330 people. The City is located near larger urban areas such as Pendleton and Athena and depends on these cities for many urban services. Most of the community's shopping is done in Pendleton and Walla Walla, and the town children attend Athena, Helix, or Pendleton schools. The City is laid out in a grid with the commercial and city services concentrated along Main Street. The grid is broken by Sandhollow Creek and Wildhorse Creek that run north and south through the east side of the town. Consequently, much of the City is located in the floodplain of these creeks. The, western and southernmost portions of the City are used for agricultural production and pastureland. An industrial area is located along the eastern edge of the City between Old State Highway 11 and the current OR 11.

Most of the city streets are unpaved with County and State roads functioning as arterials and collectors within Adams. In particular, OR 11 is an essential link, connecting Adams to Athena, Milton-Freewater, and Walla-Walla to the north; and Pendleton, and US Highway 395 to the south. The two county roads within the city limits are County Road 973 (also called Adams Road and College Road), County Road 745 (Sand Hollow Road and Spring Hollow road). County Road 973 parallels OR 11 south of the City, provide an alternate to Pendleton from Adams. County Road 745 is broken into two sections. One section of Sand Hollow Road heads north linking with the Athena-Holdman Highway, Helix, and Athena. The Spring Hollow Road section heads southeast connecting the area to the Umatilla Indian Reservation.

Agriculture, food processing, wood products, tourism, manufacturing, and recreation serve as the principal industries within Umatilla County. Employment in agriculture and wood products is subject to seasonal variations, which tend to parallel growing and construction seasons.

PLANNING PROCESS

The Adams Transportation System Plan was prepared as part of an overall effort in Umatilla County to prepare TSPs for Umatilla County and eight small municipalities: the cities of Adams, Athena, Echo, Helix, Pilot Rock, Stanfield, Ukiah, and Weston. Each plan was developed through a series of technical analyses combined with systematic input and review by the county, the cities, the management team, the Transportation Advisory Committee (TAC), ODOT, and the public. The TAC consisted of staff, elected and

appointed officials, residents, and business people from Umatilla County, and the eight cities including Adams. Key elements of the process include:

- Involving the Adams community (Chapter 1)
- Defining goals and objectives (Chapter 2)
- Reviewing existing plans and transportation conditions (Chapters 3, 4; Appendices A and B)
- Developing population, employment, and travel forecasts (Chapter 5, and Appendix C)
- Developing and evaluating potential transportation system improvements (Chapter 6)
- Developing the Transportation System Plan and a capital improvement plan (Chapter 7)
- Evaluate funding options and develop financial plan (Chapter 8)
- Developing recommended policies and ordinances (Chapter 9)

Community Involvement

Community involvement is an integral component in the development of a TSP for the city of Adams, Umatilla County and each of the other seven cities covered under the Umatilla County TSP process. Since the communities faced many similar transportation and land use issues, a public involvement program involving all the jurisdictions was used. This process allowed for individual attention when needed, and general problem solving for all jurisdictions as appropriate. Several different techniques were utilized to involve each local jurisdiction, ODOT, and the general public.

Figure 1-1 – Adams Planning Area

A combined management team and transportation advisory committee (TAC) provided guidance on technical issues and direction regarding policy issues to the consultant team. Staff members from each local jurisdiction, from ODOT, and a local resident from each community served on the TAC. This group met six times during the course of the project.

The second part of the community involvement effort consisted of community meetings within Umatilla County. The first public meeting was held in June 1998. The Adams general public was invited to learn about the TSP planning process and provide input on transportation issues and concerns. A second public meeting was held in July 1998. The third and final public meeting was held in September 1998. The public was notified of the public meetings through public announcements in the local newspapers and on the local radio station.

Goals and Objectives

Based on input from the community, the county, and the management team/TAC, a set of goals and objectives were defined for the TSP. These goals and objectives were used to make decisions about various potential improvement projects. They are described in Chapter 2.

Review and Inventory of Existing Plans, Policies, and Public Facilities

To begin the planning process, Adams and Umatilla County transportation and land use plans and policies were reviewed and an inventory of public facilities was conducted. The purpose of these efforts was to understand the history of transportation planning in the Adams area, including the street system improvements planned and implemented in the past, and how the City is currently managing its ongoing development. Existing plans and policies are described in Appendix A of this report.

The inventory of existing facilities catalogs the current transportation system. The results of the inventory are described in Chapter 3, while Chapter 4 describes how the system operates. Appendix B summarizes the inventory of the existing arterial and collector street system.

Future Transportation System Demands

The Transportation Planning Rule requires the Transportation System Plan to address a 20-year forecasting period. Future traffic volumes for the existing and committed transportation systems were projected using ODOT's Level 1 — Trending Analysis methodology. The overall travel demand forecasting process is described in Chapter 5.

Transportation System Potential Improvements

Once the travel forecasts were developed, it was possible to evaluate a series of potential transportation system improvements. The evaluations of potential transportation improvements were based on a qualitative review of safety, environmental, socioeconomic, and land use impacts, as well as estimated cost. These improvements were developed with the help of the local working group, and they attempt to address the concerns specified in the goals and objectives (Chapter 2). After evaluating the results of the potential improvements analysis, a series of transportation system improvements were selected. These recommended improvements are described in Chapter 6.

Transportation System Plan

The Transportation System Plan addresses each mode of transportation and provides an overall implementation program. The street system plan was developed from the forecasting and potential improvement evaluation described above. The bicycle and pedestrian plans were developed based on current usage, land use patterns, and the requirements set forth by the Transportation Planning Rule. The public transportation, air, water, rail, and pipeline plans were developed based on discussions with the owners and operators of those facilities. Chapter 7 details the plan elements for each mode.

Funding Options

The city of Adams will need to work with Umatilla County and ODOT to finance new transportation projects over the 20-year planning period. An overview of funding and financing options that might be available to the community is described in Chapter 8.

RELATED DOCUMENTS

The city of Adams TSP addresses the regional and rural transportation needs in the City. There are several other documents that address specific transportation elements or areas in Umatilla County that may directly or indirectly impact transportation elements in and around Adams.

The following references were reviewed for relevance to the city of Adams TSP process:

Adams Comprehensive Plan

The Adams Comprehensive Plan was developed by joint efforts of a citizens group and a professional planner. It was written as a guide to how the City will develop in the future. The plan was developed after research, an extensive survey, and public meetings. It was adopted in 1978, and last updated in 1994.

The plan reflects the values of the community stating that the retaining small town rural character of the City is prized over growth. According to the plan, county and state roads provide the essential connections between Adams and other communities. OR 11, which runs along the eastern boundary of the City have been improved by removing dangerous curves and improving access to the City. Many of the city streets are unpaved. Also, there is a need for public transit between Adams and nearby cities. The City's transportation goal is as follows:

Goal 11: Transportation

To provide and encourage a safe, convenient and economic transportation system.

Objectives

1. The development of good transportation routes (vehicular, pedestrian, bicycle, etc.) between residential areas and major activity centers will be encouraged.
2. To provide, at minimum, graveled streets within the community.
3. Encourage the rerouting of Greyhound to at least pass through the community.

Adams Growth Report

The Adams Growth Report is included as an appendix to the Comprehensive Plan. The Growth Report describes existing land use, recent growth, growth problems and potential, and the various growth areas of the community. Growth in Adams is not expected to be high. The official population projections call for additional 60 persons by the year 2010. However, at this time (2002), the population has exceeded this projected population figures by an additional 100 persons, 40 more than was projected by 2010.

Umatilla County Comprehensive Plan

The Umatilla County Comprehensive Plan was written in 1983 to meet the statewide requirements for planning. It was last amended in 1987. The plan is broken into three sections: the Introduction; Plan Elements – Findings, Recommended Policies; and the Plan Map. The Plan Elements section is broken into sections dealing with the fourteen goals. This includes a Transportation Element with findings and recommended policies.

Umatilla County Development Code

The Umatilla County Development Ordinance was adopted in 1983, and last amended in November of 1991. In 1997 this ordinance was recodified and re-titled as Chapter 1528 Development Code. The portions of the code most relevant to the Transportation System Plan include sections on off-street parking requirements, driveways, and road standards. Amendments to the development code include road standards for county roads.

Development Ordinance for the Confederated Tribes of Umatilla Indian Reservation

The Land Development Code for the Confederated Tribes of the Umatilla Indian Reservation was adopted in 1983. The Ordinance contains 19 chapters covering each land use zone, supplementary development standards, and administration. The only section that directly applies to the transportation system is the sections on off-street parking.

OR 11 Corridor Plan

The OR 11 Corridor Plan is currently being prepared by David Evans and Associates, Inc. for the Oregon – Washington Highway (OR 11) which is the major north-south route through eastern Umatilla County. Corridor planning is a new approach to transportation planning in which ODOT and the communities bordering major transportation corridors work together to create plans for managing and improving transportation modes along entire corridors. The OR 11 Corridor Plan includes objectives that define the policy direction for all modes in the Corridor, as well as for several functional issues such as connectivity, congestion and environmental and energy impacts. The plan includes a list of projects prioritized by funding. The Corridor Plan projects are derived from the county and local TSPs, the Milton-Freewater to the Stateline Land Use and Transportation Plan, the STIP, the Umatilla County Needs Assessment, as well as input from the project management team, technical advisory committees and the public. Projects and strategies focus on managing the highway to minimize congestion and improve connectivity while ensuring safety.

The Milton-Freewater Stateline Highway 11 Corridor Land Use and Transportation Plan was a cooperative effort of Umatilla County, the city of Milton-Freewater, and the Oregon Department of Transportation. It

was developed by planning consultants at David Evans and Associates, Inc., with input from the local residents, Walla Walla County, and the Washington Department of Transportation. The plan was adopted in 1997, and evaluated existing and projected conditions within the northern portion of the US 11 corridor regarding basic layout and connectivity, conditions of transportation facilities, land use, and population and employment. It analyzed existing deficiencies and proposed strategies for addressing them. The primary deficiencies in the corridor were physical design of facilities, insufficient access control, and inadequate or nonexistent facilities for pedestrians and bicyclists. Recommended actions to improve these conditions included policy and ordinance amendments and transportation system improvements.

Other State Plans

In addition to the ODOT corridor strategy, coordination with the following state plans is required:

- Oregon Transportation Plan (1992)
- Oregon Highway Plan (1999)
- Oregon Bicycle and Pedestrian Plan (1995)
- Oregon Public Transportation Plan (1996)
- Oregon Rail Freight Plan (1994)
- Oregon Rail Passenger Policy and Plan (1992)
- Oregon Traffic Safety Action Plan (1995)
- Oregon Aviation System Plan (in development).

CHAPTER 2: GOALS AND OBJECTIVES

The purpose of the TSP is to provide a guide for Adams to meet its transportation goals and objectives. The following goals and objectives were developed from information contained in the city's Comprehensive Plan and reflect public concerns as expressed during public meetings. An overall goal was drawn from the plan, along with more specific goals and objectives. Throughout the planning process, each element of the plan was evaluated against these parameters.

OVERALL TRANSPORTATION GOAL

To provide and encourage a safe, convenient, and economic transportation system.

Goal 1

Preserve the function, capacity, level of service, and safety of the nearby highways.

Objectives

- A. Develop access management standards.
- B. Develop alternative, parallel routes where practical.
- C. Promote alternative modes of transportation.
- D. Promote transportation demand management programs.
- E. Promote transportation system management.
- F. Develop procedures to minimize impacts to and protect transportation facilities, corridors, or sites during the development review process.

Goal 2

Ensure that the road system within the City is adequate to meet public needs, including those of the transportation disadvantaged.

Objectives

- A. Meet identified maintenance level of service standards on the City, County and State Highway systems within the City.
- B. Pave City streets, when possible. Provide at minimum graveled streets.
- C. Develop and adhere to a five-year road program for maintenance and improvement of the existing City road system.
- D. Review and revise, if necessary, street cross section standards for local, collector, and arterial streets to enhance safety and mobility.

- E. Develop access management strategies where needed. Specific locations should be planned and listed.
- F. Evaluate the need for traffic control devices.
- G. Evaluate the safety of the street system and develop plans to mitigate any safety hazards.

Goal 3

Improve coordination between Adams and nearby cities, the Oregon Department of Transportation (ODOT), the US Forest Service (USFS), the Federal Highway Administration (FHWA), and the County.

Objectives

- A. Work with Umatilla County and ODOT to coordinate roadway maintenance and improvements.
- B. Cooperate with ODOT in the implementation of the Statewide Transportation Improvement Program (STIP).
- C. Work with the County in establishing right-of-way needed for new roads identified in the Transportation System Plans.
- D. Take advantage of federal and state highway funding programs.
- E. Encourage the County and ODOT to improve the existing road systems to and within the City.
- F. Consider pooling resources with other cities and the County to provide services that benefit areas in and outside the City.

Goal 4

Increase the use of alternative modes of transportation (walking, bicycling, and public transportation) through improved access, safety, and service.

Objectives

- A. Cooperate with other cities and the County to pursue an inter-city transit service.
- B. Encourage the rerouting of Greyhound to pass through the community.
- B. Provide sidewalks or shoulders and safe crossings on collectors and arterials.
- C. Explore opportunities for bicycle facilities and coordinate with the county bicycle plan.
- D. Seek Transportation and Growth Management (TGM) and other funding for projects evaluating and improving the environment for alternative modes of transportation.

CHAPTER 3: TRANSPORTATION SYSTEM INVENTORY

As part of the planning process, David Evans and Associates, Inc., conducted an inventory of the existing transportation system in Adams. This inventory covered the street system as well as the pedestrian, bikeway, public transportation, rail, air, water, and pipeline systems.

STREET SYSTEM

The most common understanding of transportation is of roadways carrying cars and trucks. Most transportation dollars are devoted to building, maintaining, or planning roads to carry automobiles and trucks. The mobility provided by the personal automobile has resulted in a great reliance on this form of transportation. Likewise, the ability of trucks to carry freight to nearly any destination has greatly increased their use.

Encouraging the use of cars and trucks must be balanced against costs, livability factors, the ability to accommodate other modes of transportation, and negative impacts on adjacent land uses; however, the basis of transportation in nearly all American cities is the roadway system. This trend is clearly seen in the existing Adams transportation system, which consists almost entirely of roadway facilities for cars and trucks. Because of the rural nature of the area, the street system will most likely continue to be the basis of the transportation system for at least the 20-year planning period; therefore, the emphasis of this plan is on improving the existing street system for all users.

The existing street system inventory was conducted for all highways, arterial roadways, and collector roadways within Adams, as well as those in Umatilla County that are included in the TSP planning area. Inventory elements include:

- Street classification and jurisdiction
- Street width
- Number of travel lanes
- Presence of on-street parking, sidewalks, or bikeways
- Speed limits
- General pavement conditions

Figure 3-1 shows the roadway functional classification and jurisdiction. Appendix B lists the complete inventory.

City Street Classification

The current Comprehensive Plan for the city of Adams does not provide functional classifications for the streets within the City. Typically, these streets are classified as arterials, collectors, or local streets. The consultant team classified all streets within the City based on city conditions observed such as traffic volumes and street widths during field reconnaissance. The classification system includes City, County, and State roadways as identified in Figure 3-1.

Arterials

Arterials form the primary roadway network within and through a region. They provide a continuous road system that distributes traffic between cities, neighborhoods, and districts. Generally, arterials are high capacity roadways carrying high traffic volumes entering or leaving the City.

In Adams, only OR 11 (Oregon - Washington Highway) functions as an arterial. This roadway serves as the focus for most of the commercial development in the City.

Collectors

Collectors serve traffic within the commercial, industrial and residential neighborhood areas. They connect local neighborhoods or districts to the arterial network. Collectors help form part of the grid system; however, they are not intended to function as alternate routes to the arterial system.

Five streets in Adams were identified as functioning as collectors:

- | | |
|------------------------------|----------------------|
| Main Street/Sand Hollow Road | Center Street |
| Spring Hollow Road | Preston Street |
| Commercial | Old State Highway 11 |
| Wade Street | |

Local Streets

Local streets provide access to all parcels of land and serve travel over relatively short distances. They are designed to carry the very low traffic volumes associated with the local uses that abut them. Through traffic movements are discouraged on local streets.

Figure 3-1: Adams Roadway Functional Classification



The local streets in Adams are comprised of all streets not classified as either arterials or collectors. Local streets in Adams also form part of the grid system.

High Street	Cleveland Street
Blaine Street	College Street
Morrison Street	Oro Street
East Street	

Street Layout

The majority of the Adams streets are positioned in a grid pattern. Block sizes vary but are typically 250 feet square. Sandhollow Creek and Wildhorse Creek that run north and south through the east side of the town interrupt the grid system in the east.

State Highways

Discussion of the Adams street system must include the state highway that traverses the planning area. Although Adams has no direct control over the state highway and adjacent development, the highway heavily influences local traffic patterns. Adams is served by OR 11, the Oregon-Washington Highway. This highway serves as a major route on the eastern edge of town connecting Adams to other population centers.

OR 11

The *1999 Oregon Highway Plan (OHP)* classifies the state highway system into five categories: Interstate, Statewide, Regional, District, and Local Interest. ODOT has established primary and secondary functions for each type of highway and objectives for managing the operations for each one.

OR 11 (Oregon-Washington Highway) is classified as a State Highway. According to the 1999 OHP, the primary function of a State Highway is to "provide connections and links to larger urban areas, ports, and major recreation areas that are not directly served by interstate highways." A secondary function is to provide links and connections for intra-urban and intra-regional trips. The management objective for statewide highways is to provide for safe and efficient high-speed, continuous-flow operation in rural areas and high- to moderate-speed operations with limited interruptions of flow in urban and urbanizing areas.

OR 11 connects Adams to numerous urban areas. The highway provides a high-speed link to Athena, Milton-Freewater, Walla-Walla to the north; and Pendleton and US 395 to the south.

The Highway extends north south along the eastern edge of the Urban Growth Boundary. It is easily accessible from the Adams urban area with four access points. It is a two-lane roadway within the city limits with a posted speed limit of 55 mph.

Currently, ODOT is working with local teams to develop a Corridor Management Plan that will address issues along the entire length of the highway. This plan will create objectives for highway functioning and will identify, evaluate, and recommend actions for corridor transportation management, capital improvements, and service improvements. A major part of this plan will be an access management program, which may affect Adams' current access points to the highway.

GENERAL PAVEMENT CONDITIONS

City Streets

The ODOT Pavements Unit published a 1994 report entitled, Pavement Rating Workshop, Non-National Highway System. This report thoroughly defines the characteristics that pavements must display to be categorized as Very Good and so on. The report also provides color photographs of roadways that display these characteristics, which aids in field investigation and rating of pavement condition. These established guidelines were employed by DEA in conducting a subjective evaluation of pavement condition for all collectors within the city of Adams.

David Evans and Associates, Inc. (DEA) conducted an inventory of local roadways in November 1997. DEA found few paved roads within the City. The conditions of the paved roads were found to be in poor, fair, or in good condition. The paved roadways in poor condition include:

College Road (County Road No. 973)	Center Street
------------------------------------	---------------

Main Street	Preston Street
-------------	----------------

The paved roadways in fair condition include:

Wade Street	Oro Street
-------------	------------

Sand Hollow Road	Spring Hollow Road
------------------	--------------------

Old Highway 11 is currently in good condition. The remaining City roads are unpaved.

State Highways

The Oregon Department of Transportation's (ODOT) Pavement Unit surveys the State Highway System on an annual basis. Observed severity levels of certain distress types are used to determine a pavement condition rating score. These scores are used to stratify pavement segments into five condition categories: (1) Very Good, (2) Good, (3) Fair, (4) Poor, and (5) Very Poor. The Umatilla County Transportation System Plan briefly defines these condition categories.

According to the 1997 ODOT Pavement Condition Report, the section of OR Hwy 11 which runs through the Adams urban area is in poor pavement condition. However, this section of the highway is scheduled for repair in the summer of 1998, after which, the highway will be in very good condition.

BRIDGES

The Oregon Department of Transportation maintains an up to date inventory and appraisal of Oregon bridges. Part of this inventory involves the evaluation of three mutually exclusive elements of bridges. One element identifies which bridges are structurally deficient. This is determined based on the condition rating for the deck, superstructure, substructure, or culvert and retaining walls. It may also be based on the appraisal rating of the structural condition or waterway adequacy. Another element identifies which bridges are functionally obsolete. This element is determined based on the appraisal rating for the deck geometry, under-clearances, approach roadway alignment, structural condition, or waterway adequacy. The third element summarizes the sufficiency ratings for all bridges. The sufficiency rating is a complex formula which takes into account four separate factors to obtain a numeric value rating the ability of a bridge to service demand. The scale ranges from 0 to 100 with higher ratings indicating optimal conditions and lower ratings indicating insufficiency. Bridges with ratings under 55 may be nearing a structurally deficient condition.

There are a total of three publicly owned bridges within the city of Adams that are included in ODOT's bridge inventory program. Two of the bridges are city owned and maintained with the third bridge being owned and maintained by the county. Three bridges cross Wildhorse Creek. The county owned bridge (ODOT Bridge No. 59C568) located on E. Commercial Street is functionally obsolete.

PEDESTRIAN SYSTEM

The most basic transportation option is walking. Walking is the most popular form of exercise in the United States and can be performed by people of all ages and all income levels. However, it is not often considered as a means of travel. Because pedestrian facilities are generally an afterthought, they are not planned as an essential component of the transportation system.

The relatively small size of Adams indicates that walking could be employed regularly, weather permitting, to reach a variety of destinations. Encouraging pedestrian activities may not only decrease the use of the personal automobile but may also provide benefits for retail businesses. Where people find it safe, convenient, and pleasant to walk, they may linger and take notice of shops overlooked before. They may also feel inclined to return to renew the pleasant experience time and again.

However, pedestrian facilities within Adams are limited. The only sidewalks located within the City are along the west side of Main Street between Commercial and Hale Streets. These sidewalks do not have curb cuts for wheelchair access. The existing pedestrian system is shown in Figure 3-2

Figure 3-2: Pedestrian System Inventory.

Sidewalks and other pedestrian facilities are notably lacking outside of this area. Curb cuts for wheelchair access are largely lacking even where sidewalks exist. Furthermore, the majority of streets within the City are unpaved making walking very unpleasant in inclement weather.

BIKEWAY SYSTEM

Like pedestrians, bicyclists are often overlooked when considering transportation facilities. Bicycles are not often considered as a serious mode of transportation. However, cycling is a very efficient mode of travel. Bicycles take up little space on the road or parked, do not contribute to air or noise pollution, and offer relatively higher speeds than walking. Because of the small size of Adams, a cyclist can travel to any destination in town within a matter of minutes.

Bicycling should be encouraged for short trips in order to reduce some of the negative aspects of urban growth and automobile use. Noise, air pollution, and traffic congestion could be mitigated if more short trips were taken by bicycle or on foot. Typically, a short trip that would be taken by bicycle is around two miles; on foot, the distance commonly walked is around one half mile.

Adams currently has no designated bikeways; bicyclists must share the roadways with motorized vehicles. On low volume roadways, such as many of the local streets, bicyclists and automobiles can safely use the roadway together. However, the unpaved roadways make bicycling difficult. On higher volume roadways, particularly the arterial streets, safety for the bicyclists is an important issue.

An impediment to bicycle use is the lack of parking and storage facilities for bikes throughout the city of Adams.

PUBLIC TRANSPORTATION

Greyhound bus lines provide the only inter-city bus service in Umatilla County, providing service along Highway I-84, US 395, and Oregon. Greyhound has terminals located in Hermiston and Pendleton, which connect these cities to each other and major population centers outside of the county. The Hermiston terminal has two departures heading southeast (with stops in Pendleton, La Grande, Boise, and Salt Lake City); three buses running west to Portland; and two buses heading north on US 395 to Pasco and Spokane daily. The Pendleton terminal has three departures southeast (with stops in La Grande, Boise and Salt Lake City); three departures west to Portland; and two departures north to Seattle via Walla Walla, Pasco, and Spokane daily. The line to Seattle could serve Milton-Freewater as it runs through the City along OR 11.

Although Pendleton, Hermiston, Pilot Rock, and the Umatilla Indian Reservation have dial-a-ride type transit service available for the transportation disadvantaged, Adams does not currently have this service. Dial-a-ride service is defined as door-to-door service initiated by a user's request for transportation service from their origins to specific locations on an immediate or advance reservation basis. These services are provided by the Pendleton Senior Center in Pendleton, the Confederated Tribes of the Umatilla Indian Reservation on the Umatilla Indian Reservation, the Hermiston Senior Center in Hermiston, and the Pilot Rock Lions Club in Pilot Rock. A similar kind of service could be appropriate for Adams.

Adams has no local fixed-route transit service at this time. The small size and low traffic volumes on city streets indicate that mass transit is not necessary or economically feasible at this time. The Transportation Planning Rule exempts cities with a population of less than 25,000 from developing a transit system plan or a transit feasibility study as part of their Transportation System Plans.

RAIL SERVICE

Adams has no passenger or freight rail service. Until recently, AMTRAK service was available in Hermiston and Pendleton along the rail line that follows the I-84 corridor from Portland to Boise, Idaho and points east. Amtrak is currently experiencing a funding crisis. As a result, passenger service between Portland and Denver, including service to cities within Umatilla County, was discontinued in May 1997. This line serves only freight traffic now.

The nearest freight line to Adams is the Union Pacific main line that runs through Pendleton. There is also a major freight line owned and operated by Union Pacific Railroad, a Class I line-haul freight railroad, which stops in Hermiston. In addition, there is a switch line out of Pendleton which hauls freight from Pilot Rock two to three days per week, and a line between Milton-Freewater and Weston on the Blue Mountain Railroad consisting of one freight train per day (maximum) or some local switching.

AIR SERVICE

Adams does not have its own air service within the City. However, there are many airport facilities nearby. Eastern Oregon Regional Airport is located in Pendleton, which is approximately 20 miles southwest of Adams. Walla Walla Airport is located in Walla Walla, WA, which is approximately 25 miles north of Adams. Hermiston Municipal Airport is located in Hermiston, which is approximately 45 miles west of Adams. Other small airports in the county include Barrett Field northwest of Athena, the Pea Growers' Field south of Athena, and Curtis Airfield northwest of Pendleton. These airports are small, private, uncontrolled airstrips mainly used for crop dusting operations.

Eastern Oregon Regional Airport in Pendleton is a tower controlled airport with 40,600 annual operations. Passenger service includes 16 scheduled flights per day by Horizon Airlines, with flights to Portland and Seattle. The airfield is also home to 60 locally owned fixed-wing aircraft, 4 rotor, and 8 CH-47 Chinook helicopters with the Oregon Army Air Guard.

Walla Walla Airport is owned and operated by the Port of Walla Walla. Located three miles from downtown Walla Walla, it is a tower-controlled airport with 25,000 annual enplanements. Passenger service includes ten scheduled flights per day to Seattle (five daily flights provided by Horizon Airlines and five daily flights provided by United Express). The airport is at an elevation of 1,205 feet above Mean Sea Level and has three runways varying in length from 6,450 feet to nearly 7,200 feet.

The city of Hermiston owns and operates a municipal airport. No commercial flights are available at the present time, but there is charter service available. The Hermiston Municipal Airport is located 1.5 miles from downtown Hermiston and had 12,380 annual operations in 1995. The airport is at an elevation of 641 feet above Mean Sea Level and has one runway which is 4,500 feet long and positioned in a northeast-southwest direction. Businesses such as Simplot, Gilroy Foods, Les Schwab Tires, UPS, and other large organizations such as PGE, Bonneville Power, and the Army Corps of Engineers often use the airport. There is an agricultural spray operation based at the airport, and local residents also use the airport for recreational purposes.

PIPELINE SERVICE

There are currently no pipelines serving Adams.

WATER TRANSPORTATION

Adams has no water transportation services. The nearest commercial port is the Port of Umatilla located in the northwest corner of the county along the Columbia River.

CHAPTER 4: CURRENT TRANSPORTATION CONDITIONS

As part of the planning process, the current operating conditions for the transportation system were evaluated. This evaluation focused primarily on street system operating conditions since the automobile is by far the dominant mode of transportation in Adams. Census data were examined to determine travel mode distributions. Traffic counts were used to determine how well traffic is currently flowing.

TRAFFIC VOLUMES

Historic traffic volume counts, documented in the ODOT *Traffic Volume Tables*, exist for OR 11 in Adams.

Average Daily Traffic

The Average Daily Traffic (ADT) on OR 11 in Adams is reported annually by ODOT at the north and south city limits. The 1996 reported ADT volumes are nearly identical at these two locations with ADT volumes of 4,000 and 4,100 vehicles per day (vpd) respectively at the north and south city limits. These values represent some of the lowest volumes at any recorded location along the entire highway. ADT volumes at these locations have averaged approximately 2 percent growth compounded annually since 1990.

ADTs represent average volumes for the year, however summer is the season when volumes are highest. ADT data from ODOT permanent traffic recorder stations along nearby Weston-Elgin and Athena-Holdman Highways indicate summer season volumes are approximately 10 to 40 percent higher than average volumes respectively. It is reasonable that OR 11 would experience summer increases in volume that are within this range.

No other daily or hourly traffic data were available for the city streets in Adams, nor were any counts taken. Because the daily volumes on OR 11 at the City's east edge were so low (fewer than 4,200 vpd), traffic volumes on the other city streets were expected to be low, and capacity deficiencies on city streets do not appear to be an issue in Adams.

Street Capacity

Transportation engineers have established various standards for measuring traffic capacity of roadways or intersections. Each standard is associated with a particular level of service (LOS). The LOS concept requires consideration of factors that include travel speed, delay, frequency of interruptions in traffic flow, relative freedom for traffic maneuvers, driving comfort and convenience, and operating cost. In the 1991 OHP, levels of service were defined by a letter grade from A-F, with each grade representing a range of volume to capacity (v/c) ratios. A volume to capacity ratio (v/c) is the peak hour traffic volume on a highway divided by the maximum volume that the highway can handle. If traffic volume entering a highway section exceeds the section's capacity, then disruptions in traffic flow will occur, reducing the level of service. LOS A represents relatively free-flowing traffic and LOS F represents conditions where the street system is totally saturated with traffic and movement is very difficult. The 1999 OHP maintains a similar concept for measuring highway performance, but represents LOS by specific v/c ratios to improve clarity and ease of implementation. Table 4-1 presents the level of service and volume to capacity ratio criteria for arterial roadways.

TABLE 4-1
LEVEL OF SERVICE AND VOLUME TO CAPACITY RATIO CRITERIA FOR ARTERIAL AND
COLLECTOR STREETS

Service Level ⁽¹⁾ (v/c Ratio) ⁽²⁾	Typical Traffic Flow Conditions
A (0.00-0.48)	Relatively free flow of traffic with some stops at signalized or stop sign controlled intersections. Average speeds would be at least 30 miles per hour.
B (0.49-0.59)	Stable traffic flow with slight delays at signalized or stop sign controlled intersections. Average speed would vary between 25 and 30 miles per hour.
C (0.60-0.69)	Stable traffic flow with delays at signalized or stop sign controlled intersections. Delays are greater than at level B but still acceptable to the motorist. The average speeds would vary between 20 and 25 miles per hour.
C-D (0.70-0.73)	
D (0.74-0.83)	Traffic flow would approach unstable operating conditions. Delays at signalized or stop sign controlled intersections would be tolerable and could include waiting through several signal cycles for some motorists. The average speed would vary between 15 and 20 miles per hour.
D-E (0.84-0.87)	
E (0.84-0.97)	Traffic flow would be unstable with congestion and intolerable delays to motorists. The average speed would be approximately 10 to 15 miles per hour.
E-F (0.98-0.99)	
F (≥ 1.00)	Traffic flow would be forced and jammed with stop and go operating conditions and intolerable delays. The average speed would be less than 10 miles per hour.

Source: (1) Transportation Research Board, *Highway Capacity Manual*, Special Report 209. National Research Council, 1985.

(2) ODOT, *SIGCAP Users Manual*. ODOT, 1994.

The 1999 Oregon Highway Plan (OHP) establishes mobility standards for the state highway system¹. Highways of statewide importance, such as OR 11, should operate at a v/c ratio of 0.60-0.69 or better where the average speeds are between 20 and 25 mph in urban and urbanizing areas.

Traffic operations were determined at one representative intersection along OR 11 at Commercial Street using the 1985 Highway Capacity Software for unsignalized intersections. This software is based on the 1985 Highway Capacity Manual, Special Report 209, published by the Transportation Research Board. Since all intersecting streets and driveways are controlled by stop signs in the City, the analysis was performed for an unsignalized intersection. The peak hour traffic on the highway was assumed to be 10 percent of the 24-hour ADT volume and the directional split was assumed to be 60/40. Because side street traffic volumes were unavailable, an assumed volume of 30 vph was used and unsignalized intersection level-of-service calculations were generated for the intersection. The peak hour operations at the intersections are shown in Table 4-2.

¹1999 Oregon Highway Plan, Table 6. MAXIMUM VOLUME TO CAPACITY RATIOS OUTSIDE METRO.

TABLE 4-2
SUMMARY OF OPERATIONS AT HWY 11 AND COMMERCIAL STREET

Intersection Location	Direction	Movement	1996 LOS (v/c ratio)
OR 11 (N-S) and Commercial Street (E-W)	Northbound	Left	A(<0.48)
	Southbound	Left	A(<0.48)
	Eastbound	Left and Through	A(<0.48)
		Right	A(<0.48)
	Westbound	Left and Through	A(<0.48)
		Right	A(<0.48)

Note: The level of service is shown for all evaluated movements of the unsignalized intersection.

In general, the intersection of OR 11 and Commercial Street currently operate very well based on the traffic volume assumptions made. Traffic on the highway flows smoothly at LOS A (vc ratio less than 0.48) as do right turning vehicles from the minor streets. The left turn movement level of service correlates to a maximum v/c ratio of less than 0.48.

TRANSPORTATION DEMAND MANAGEMENT MEASURES

In addition to inventorying the transportation facilities in Adams, an inventory was performed of any Transportation Demand Management (TDM) strategies that may currently be in place. TDM strategies are designed to relieve congestion on the street system by spreading peak hour traffic over a longer period of time, encouraging the use of alternative modes of transportation (i.e. sidewalks, bike lanes, public transit), and encouraging the single car driver to ride with others through local carpool programs. Other than the sidewalk and bicycle facilities that exist in Adams, no formal TDM strategies exist in the City.

The following sections briefly describe two elements that may impact future transportation demand management decisions in the City: 1) distribution of departure time to work, and 2) distribution of travel modes.

Alternative Work Schedules

One way to maximize the use of the existing transportation system is to spread peak traffic demand over several hours instead of a single hour. Statistics from the 1990 Census show the spread of departure to work times over a 24-hour period (see Table 4-3). Approximately 30 percent of the total employees (those not working at home) depart for work between 7:00 and 8:00 a.m. Another 42 percent depart in either the hour before or the hour after the peak. Therefore, nearly three-fourths of all morning commute trips occur between 6:00 a.m. and 9:00 a.m.

**TABLE 4-3
DEPARTURE TO WORK DISTRIBUTION**

Departure Time	1990 Census	
	Trips	Percent
12:00 a.m. to 4:59 a.m.	6	5.3%
5:00 a.m. to 5:59 a.m.	4	3.5%
6:00 a.m. to 6:59 a.m.	27	23.7%
7:00 a.m. to 7:59 a.m.	34	29.8%
8:00 a.m. to 8:59 a.m.	20	17.5%
9:00 a.m. to 9:59 a.m.	0	0%
10:00 a.m. to 10:59 a.m.	3	2.6%
11:00 a.m. to 11:59 a.m.	0	0%
12:00 p.m. to 3:59 p.m.	15	13.2%
4:00 p.m. to 11:59 p.m.	5	4.4%
Total	114	100.0%

Source: US Bureau of Census.

Assuming an average nine-hour workday, the corresponding afternoon peak can be determined for work trips. Using this methodology, the peak work travel hour would occur between 4:00 and 5:00 p.m. which corresponds with the peak hour of measured traffic volumes.

Travel Mode Distribution

Although the automobile is the primary mode of travel for most residents in the Adams area, some other modes are used as well. Modal split data is not available for all types of trips. The 1990 Census statistics that were reported for journey to work trips are shown in Table 4-4 and reflect the predominant use of the automobile in this area.

In 1990, 89.7 percent of all trips to work were in a private vehicle (auto, van, or truck). Trips in single-occupancy vehicles made-up 91.3 percent of these trips, and 2-person carpooling accounted for 8.7 percent.

The 1990 census data indicated that bicycles were not utilized for transportation. Since the data does not include trips to school or other non-work activities, bicycle usage may occur in the Adams area. None of the city of Adams roadways includes dedicated bicycle lanes. Dedicated bicycle lanes can encourage bicycle commuting, as can other facilities such as bicycle parking, showers, and locker facilities.

Pedestrian activity was also relatively low (2.6 percent of trips to work) in 1990. Statewide, 4.2 percent of trips to work were made on foot. Again, the census data only report trips to work; trips to school or other non-work activities are not included.

TABLE 4-4
JOURNEY TO WORK TRIPS

Trip Type	1990 Census	
	Trips	Percent
Private Vehicle	104	89.7%
Drove Alone	95	91.3%
Carpooled	9	8.7%
Public Transportation	0	0%
Motorcycle	5	4.3%
Bicycle	0	0%
Walk	3	2.6%
Other	2	1.7%
Work at Home	2	1.7%
Total	116	100.0%

Source: US Bureau of Census.

ACCIDENT ANALYSIS

The Oregon Department of Transportation (ODOT) collects detailed accident information on an annual basis along OR 11 within Umatilla County. However, no accident rate information exists for the Adams urban area (MP 11.78 to MP 12.14) for the three-year period analyzed from January 1, 1994 to December 31, 1996; nor does it exist as far back as 1988.

Historic

There were no ODOT coded accidents within the Adams City limits during the three-year period analyzed. Accident rates for the surrounding rural segments of OR 11 immediately preceding and following the Adams city limits are consistently lower than the statewide average for similar highway segments indicating that these segments do not have any significant safety problems.

CHAPTER 5: TRAVEL FORECASTS

The traffic volume forecasts for Umatilla County and its municipalities are based on historic growth of the state highway system taking into account historic and projected population growth. Forecasts were only prepared for the state highway system in the county, since the volumes on these roadways are much higher than on any of the county roads.

LAND USE

Land use and population growth plays an important part in projecting future traffic volumes. Population forecasts were developed to help determine future transportation needs since the amount of growth and where it occurs will affect traffic and transportation facilities in the study area. The population analysis presented here is not intended to provide a complete economic forecast or housing analysis, and it should not be used for any purpose other than that for which it was designed.

The population projections for Umatilla County are based on historic growth rates, the original population and employment forecasts made by the State of Oregon Office of Economic Analysis (OEA), and a recent study¹ identifying new economically-driven factors that will result in a higher population total than what was initially projected in the DEA forecast.

Historic and projected population estimates for Umatilla County, Adams, and seven other cities in the county are summarized in Table 5-1. Factors that will affect the future growth rates of the county and incorporated cities include employment opportunities, available land area for development, and community efforts to manage growth.

TABLE 5-1
UMATILLA COUNTY POPULATION TRENDS

	1970	1980	1990	1996 ¹ Estimate	2017 ² Projected
Umatilla County	44,923	58,855	59,249	65,500	80,073
Incorporated Cities					
Adams	219	240	223	260	310
Athena	872	965	997	1,105	1,360
Echo	479	624	499	530	660
Helix	152	155	150	185	230
Pilot Rock	1,612	1,630	1,478	1,570	1,650
Stanfield	891	1,568	1,568	1,755	2,490
Ukiah	NA	249	250	280	340
Weston	660	719	606	680	730

Sources:

- 1) Portland State University Center for Population Research and Census.
- 2) The population forecast shown for the county has been officially adopted, however there is no official breakdown in population for the incorporated cities in the county. The projected population numbers shown for the eight cities are based on the initial OEA forecast, solely for the purpose of producing travel forecasts for these cities.

¹ *Umatilla County Population Analysis*, December 16, 1998, produced by David Evans and Associates, Inc.

Umatilla County recently worked with the OEA to increase the official population projections for the county. Even though higher estimates have been adopted for the county than were used for the forecasting in this document, the new estimates will not impact travel projections for the TSP. This is because travel forecasts are based primarily on historic traffic levels taking into account population and land use. The difference between the original estimates and new official estimates is not great enough to impact travel projections.

A detailed description of existing and future land use projections, including the methodology and data sources used, is contained in the Umatilla County Population Analysis located in Appendix C. This appendix contains both the original estimates of the OEA and the new official estimates for the county.

As mentioned, Umatilla County has adopted new population estimates for the county as a whole. The new estimates have been disaggregated to determine how much growth is likely to occur in each city.

Historic Growth

The population of Umatilla County has grown since the 1970s, with significantly slower growth in the 1980s, reflecting a general slowdown in the state's economy. Helix, Pilot Rock, and Weston actually experienced a net population loss between 1970 and 1990, while Adams fluctuated during the same 20-year period. Adams saw some growth from 1970 to 1980, but between 1980 and 1990; it lost almost the same number of people as it gained in the previous 10 years. In contrast, the number of people residing in Stanfield nearly doubled between 1970 and 1980. Some significant housing developments and the location of several food processing plants in Stanfield during this time may have fueled the population growth.

Estimated at 65,500 in 1997, the population of Umatilla County has grown relatively rapidly since the 1990 Census, with an average annual growth rate of 1.44 percent. Most of the jurisdictions in Umatilla County have grown at a healthy rate, comparable to the annual growth rate of 1.11 percent for the county overall. Adams has grown at a slightly faster rate, 2.6 percent per year, starting from a smaller population base of 223 in 1990.

Projected Growth

The State Office of Economic Analysis prepared long-term population projections by county, but since the county has not yet allocated adopted population numbers to incorporated cities, preliminary population forecasts for the jurisdictions of Adams, Athena, Echo, Helix, Pilot Rock, Stanfield, Ukiah, and Weston were developed in five-year increments based on the initial OEA population forecast. (See Umatilla County Population Discussion – Appendix C.) This was done only for the purpose of producing the future traffic forecast and should not be used for anything other than the intended purpose.

The population forecast for Adams projects continued growth, although at a significantly slower rate than it experienced in the 1990's. It should maintain an average growth rate of .8 percent, which will increase its population to 310 people in the next 20 years, which is an increase of 50 people since 1996 (Table 5-1).

Overall, Umatilla County is also expected to experience healthy rates of population growth, averaging nearly one percent annually over the next 20 years. The western portion of Umatilla County is expected to grow faster than the rest of Umatilla County. However, like much of rural Oregon, the economy of Umatilla County remains largely seasonal, with nearly one-quarter of all employment agriculture-based. This makes population projections difficult, and is not likely to be as stable as the forecasts imply.

TRAFFIC VOLUMES

Traffic volume projections for the year 2018 are based on historic growth trends of highway volumes taking into account current and future land use projections.

Historic

Before projecting future traffic growth, it is important to examine past growth trends on the Adams roadway system. Historic data is only available along OR 11, south of Adams, however, this highway carries far more traffic than any other roads in the City. The Oregon Department of Transportation (ODOT) collects traffic counts data on the state highways (rural and urban sections) every year at the same locations. These counts have been conducted at the east and south city limits along OR 11 in Adams.

Historical growth trends along OR 11 in and around Adams were established using the average annual daily traffic (AADT) volume information presented in the ODOT Traffic Volume Tables for the years 1976 through 1996. The AADT volumes were obtained for each of these years at the east and south city limits along OR 11. Using a linear regression analysis of the average AADT volumes between 1976 and 1996, an average annual growth rate was determined. Table 5-2 summarizes the historic average growth rate on each of these sections.

TABLE 5-2
HISTORIC TRAFFIC GROWTH RATES ON STATE HIGHWAYS

Highway Section	Average Annual Growth Rate 1976- 1996	Total Growth 1976-1996
OR 11		
Rural section- Pendleton to Adams	1.27%	28.8%
Urban section- Adams south city limits	0.79%	17.1%
Urban section- Adams east city limits	0.67%	14.3%
Rural section- Adams to Milton-Freewater	1.77%	42.0%

Source: ODOT 1976-1996 Transportation Volume Tables; information compiled by DEA.

Over the 20-year period from 1976 to 1996, growth on OR 11 in Adams averaged 0.67 and 0.79 percent per year at the south and east city limits, respectively. On the rural section of OR 11 between Pendleton and Adams, traffic has been growing at a rate of nearly 1.3 percent per year. Traffic has been growing at a rate of nearly 1.8 percent per year on the rural section of OR 11 between Adams and Milton-Freewater. The rural highway sections experienced larger average and total growth over the 20-year period as well as larger net increases in the number trips.

In all cases, traffic growth on OR 11 far exceeded the population growth in Adams itself, which averaged 0.1 percent per year. This relationship reflects the modern trend toward an increase in per capita vehicle miles traveled. Also, much of the traffic on OR 11 in Adams is through traffic (with neither an origin nor a destination in the City), whose growth is not directly determined by the population and employment growth in the study area.

Future Traffic Volumes

Based on the official OEA estimates for the county, the population in Adams is forecast to grow at a rate of 0.8 percent per year over the next 20 years. This is much higher than the rate at which the population in Adams grew during the last 20 years, which was 0.1 percent per year. Although the forecast population growth rate is slightly higher than the historic traffic growth rate, which was 0.73 percent per year, future traffic growth along OR 11 was assumed to remain consistent with historical traffic growth trends along the highway. This assumption was made based on the small population size of Adams and the majority of the traffic along OR 11 being through trips. Using the historical traffic growth trend of 0.73 percent per year, this would result in overall growth of 16.1 percent by the year 2018 and traffic volumes near 4,800 vehicles a day on OR 11 at the south city limits of Adams. The forecast future traffic volumes and total growth from 1996 to 2018 are shown in Table 5-3.

**TABLE 5-3
FORECAST TRAFFIC VOLUMES AND TOTAL GROWTH ON STATE HIGHWAYS**

Location	Annual Growth Rate	1996 ADT (vehicles/day)	2018 ADT (vehicles/day)	Total Growth 1996-2018
OR 11				
Adams- south city limits	0.73	4,100	4,760	16.1%
Adams- east city limits	0.73	4,000	4,640	16.1%

Source: ODOT 1976-1996 Transportation Volume Tables; information compiled by DEA.

HIGHWAY SYSTEM CAPACITY

For the year 2018, an unsignalized intersection analysis was performed using the overall growth (16.1 percent) expected on OR 11, at the same intersection in Adams, for which the existing conditions were analyzed. The analysis indicated that the intersection is expected to remain operating at an acceptable level of service (LOS A) over the 20-year forecast period. The results of the unsignalized intersection analyses are shown in Table 5-4. Traffic operations were determined at the intersection using the 1985 Highway Capacity Software for unsignalized intersections. This software is based on the 1985 *Highway Capacity Manual*, Special Report 209, published by the Transportation Research Board.

**TABLE 5-4
SUMMARY OF FUTURE OPERATIONS
AT HWY 11 AND COMMERCIAL STREET**

Intersection Location	Direction	Movement	1996 LOS	2018 LOS
OR 11 (N-S) and Commercial Street (E-W)	Northbound	Left	A(< 0.48)	A(< 0.48)
	Southbound	Left	A(< 0.48)	A(< 0.48)
	Eastbound	Left and Through	A(< 0.48)	A(< 0.48)
		Right	A(< 0.48)	A(< 0.48)
	Westbound	Left and Through	A(< 0.48)	A(< 0.48)
		Right	A(< 0.48)	A(< 0.48)

Note: The level of service is shown for all evaluated movements of the unsignalized intersection.

Analysis Results

Traffic movement volumes at the intersection of OR 11 and Commercial Street are forecast to increase by nearly 16 percent over the 20-year forecast period. However, all traffic movements at the intersection are expected to continue to operate at LOS A (v/c ratio less than 0.48) throughout the 20-year forecast period.

CHAPTER 6: IMPROVEMENT OPTIONS ANALYSIS

As required by the Oregon Transportation Planning Rule (TPR), transportation alternatives were formulated and evaluated for the Adams Transportation System Plan (TSP). These potential improvements were developed with input from the TAC, Management Team, city officials, and the public. Each of the transportation system improvement options was developed to address specific deficiencies, access, or safety concerns and attempt to address the concerns specified in the goals and objectives (Chapter 2).

The following list includes all of the potential transportation system improvements considered. Improvement Options are illustrated in Figure 6-1.

1. Revise zoning code to allow and encourage mixed-use development and redevelopment.
2. Improve streets in the new subdivision to new town road standards.
3. Improve William Street between College Street and East Street consistent with new town road standards.
4. Umatilla County Bridge Replacement (East Commercial Street over Wild Horse Creek). This is a County responsibility.
5. Construct a multi-use path connecting Main Street to Old Highway 11.
6. Implement transportation demand management strategies.
7. Upgrade and improve Main Street to include sidewalks, curbs, bike lanes, and landscaping on both sides of the road, including paving, widening, road alignment, and proper right-of-way alignment.
8. Improve local roadways by improving road surfaces, widening roads, and aligning right-of-way to city's new street standards.
9. Construct bus shelters at the little league baseball field and post office
10. Install bicycle racks at the park, library, and the little league baseball field
11. Construct new sidewalks along East Commercial Street, Main Street, and Wade Street

The proposed transportation system improvements evaluated for the Adams TSP include state highway, county, and local road projects. **It should be noted that not all of the transportation improvement options recommended along the county and state systems have identified funding. Therefore, recommended transportation improvements cannot be considered as committed projects, but are subject to the County and ODOT's abilities to meet the current and future needs financially.**

EVALUATION CRITERIA

The evaluation of the potential transportation improvements in the city of Adams was based on a qualitative review of four factors: 1) safety; 2) access; 3) environmental factors, such as air quality, noise, and water quality; and 4) socioeconomic and land use impacts, such as community livability, right-of-way requirements and impacts on adjacent lands.

A fifth factor in the evaluation of the potential transportation improvements was cost. Costs were estimated in 1998 dollars based on preliminary alignments for each potential transportation system improvement.

STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM PROJECTS

The Oregon Department of Transportation has a comprehensive transportation improvement and maintenance program that covers the entire state highway system. The Statewide Transportation Improvement Program (STIP) identifies all the highway improvement projects in Oregon. The STIP lists specific projects, the counties in which they are located, and their construction year.

There are no further STIP projects identified at this time.

COUNTY TRANSPORTATION IMPROVEMENT PROJECTS

The Umatilla County Roadway Department has identified a potential roadway improvement along Adams Rd. (County Rd. # 973), between the south city limits of Adams and the city of Pendleton. Improvements include realignment of certain sections of road, widening the road to include shoulders, and repaving the entire roadway. The project length is around 11.8 miles and is estimated to cost around \$1.8 million to implement. This county project is also shown in Figure 6-1.

Figure 6-1: Potential Transportation System Improvements



IMPROVEMENT OPTIONS EVALUATION

Through the transportation analysis and input provided from the public involvement program, multiple improvement projects were identified. These options included constructing new and reconstructing existing roadways, replacing structurally deficient bridges, and providing improved pedestrian and bicycle facilities.

Option 1 – Revise Zoning Code to allow and encourage Mixed-Use Development and Redevelopment

One of the goals of the Oregon TPR is to reduce the reliance on the automobile. One way city jurisdictions can do this is through amendments in zoning and development codes to permit mixed-use developments and increases in density in certain areas. Mixed-use refers to development that contains more than one type of land-use, e.g. residential and commercial. Specific amendments would allow small-scale commercial uses within residential zones or residential uses within commercial zones. Such code amendments can encourage residents to walk and bicycle throughout the community by providing shorter travel distances between land uses.

These code revisions are more effective in medium to large sized cities with populations of 25,000 and over, and in cities such as Adams, they may not be appropriate. Because of Adams's size, the decision of what mode of transportation to use when making a trip inside the City is not influenced by distance. The longest distance between city limit boundaries in Adams is around 2/3 mile, a distance short enough to walk, ride a bike, or drive. Distances between different land uses, such as residential and commercial, are even shorter. The city of Adams is also a bedroom community where the bulk of the city's workers commute to other larger cities such as Milton-Freewater, Walla Walla, and Pendleton. Because most of these workers travel outside the City in private vehicles, encouraging mixed-use developments or increased densities will not affect their choice of travel mode.

Increasing density may have some effect on development in Adams. Population is projected to increase by 19 percent (50 additional residents) in the next 20 years.

No direct costs are associated with making the zoning code amendments.

Revisions to zoning and development codes to allow for increased density are recommended.

Option 2 – Improve streets in new subdivision

This improvement option was identified in conjunction with the 29-unit subdivision located in the northwest quadrant of the City. It involves improving the sub-standard gravel roads to a paved standard (table 7-1, option 1) or a gravel standard (table 7-1, Option 3) that will meet Umatilla County rural gravel road guidelines. The roadway improvements include Cleveland Street, High Street, William Street, Commercial Street, and Wade Street. The road standards for this project are identified in table 7-1. Although an asphalt surface is preferred, the City does not have the funding at this time to pave these new roads. Upon further development and/or redevelopment, the Town shall require the developer to pave the roads as part of the development project. The cost for this project varies depending on road treatment and cross-section and is not estimated.

Option 3 – Improve William Street between College Street and East Street

Option 3 involves improving William Street to conform to the city street standards (table 7-1) and improve right-of-way alignment between College Street and East Street (around 1200 feet in length). The purpose of this project is twofold: 1) to provide safer and more convenient access to the 29-unit subdivision west of Main Street, and 2) provide better access to the homes along William Street.

The City already owns a 60-foot right-of-way along William Street so no additional right-of-way is required. Although an asphalt surface is preferred, the city does not have funding to pave the road at this time. A suggested option would include recycled highway or gravel for the road surfaces such that it meets the Umatilla County rural gravel road guidelines.

Because William Street will experience higher traffic volumes from the new development in the area, this project is recommended, allowing vehicles traveling in opposite directions to pass by each other more safely.

The estimated cost of this project is \$60,000 per 1000 feet of finished roadway including paved road, sidewalks, landscaping treatments, and on street parking.

Option 4 – Umatilla County Bridge Replacement Project (East Commercial Street over Wild Horse Creek)

The Wild Horse Creek Bridge on East Commercial Street was built in 1924 and is now in need of replacement. This bridge was identified in the state bridge inspection inventory as being functionally obsolete, which is most likely related to the bridge being very narrow at 22 feet wide. Residents believe this bridge can be a hazard for large agricultural trucks that use this county road to access OR 11.

The total cost to remove and replace the existing bridge was determined using 1997 square foot construction cost estimates, supplied by ODOT, which were taken from the latest prospectus' completed for the federal Highway Bridge and Roadway Rehabilitation (HBRR) fund. These estimates assume a cost of \$6 per square foot for bridge removal and \$54 per square foot for construction of a bridge with a span between zero and 60 feet. With the existing bridge dimensions of 59 feet long by 22 feet wide, the estimated bridge removal cost is around \$7,800. Assuming the new bridge will be 59 feet long and 30 feet wide, the estimated bridge construction cost is around \$95,600. A bridge width of 30 feet will allow for two 11-foot travel lanes and a 5-foot wide sidewalk along one side. The total cost, therefore, for the entire project is estimated at \$103,400. The county should provide funding for this project, since the roadway and bridge are under county jurisdiction.

This project is recommended, as it will be wide enough for large trucks to use safely and will include a sidewalk for pedestrians. The county roadway department should include this project as part of its bridge replacement plan.

Option 5 – Construct A Multi-Use Path Connecting Main Street to Old Highway 11

This project involves establishing a multi-use path linking the downtown area to the Old Highway 11 along the Center Street alignment. The proposed alignment of this path begins at Main Street, in the City Park, and utilizes the footbridge over Wild Horse Creek. It proceeds east to Center Street, where it will follow along the south side of this road to Old Highway 11. The estimated length of this pathway is around 1,100 feet and would be about 6 feet in width.

This path would provide an alternative access to the post office located on Old Highway 11, north of Center Street, and would encourage residents to walk or ride a bike. Because this pathway would encourage walking

and biking in the City and would improve pedestrian and bicycle access to the post office, this option is recommended.

Although it is more preferable to have the pathway paved over with asphalt, city funds may only allow for a gravel path to be constructed.

The estimated cost for an asphalt path at 6 feet wide with 2 inches of asphalt and 4 inches of base aggregate is around \$10 per linear foot, for a total cost of \$11,000. The estimated cost for a gravel path is about half as much, at \$5,500.

Option 6 – Implement Transportation Demand Management Strategies

Transportation demand management (TDM) strategies change the demand on the transportation system by providing facilities for modes of transportation other than single occupant passenger vehicles, implementing carpooling programs, altering work shift schedules, and applying other transportation measures within the community. The TPR recommends that cities evaluate TDM measures as part of their TSPs.

TDM strategies are most effective in large, urban cities; however, some strategies can still be useful in small cities such as Adams. For example, staggering work shift schedules at local businesses may not be appropriate in Adams since there are no large employers in the area. However, provisions for alternative modes of transportation, such as sidewalks and bike lanes, and implementing a countywide carpooling program can be beneficial for residents of the City.

Adams can implement TDM strategies by requiring all future street improvement projects to include the addition of some sort of pedestrian facility, such as new sidewalks or walkways, which will effectively separate pedestrians from motorized traffic. All new street improvement projects should also consider bicycle lanes as well.

Implementing a local carpool program that only serves Adams would not be effective due to the City's geographical size and the people living and working in different locations. However, a countywide carpool program is feasible. Residents who live in Adams and residents who live in other cities and rural areas should be encouraged to carpool with a fellow coworker or someone who works in the same area.

Although the primary goal of these measures is to reduce the number of vehicle trips made within the City, especially during peak periods, street capacity for automobiles and trucks is generally not an issue in Adams. At the same time, providing adequate facilities for pedestrians and bicyclists increases the livability of a city, and improves traffic and pedestrian safety. With more emphasis on walking or biking in the City, conditions such as air quality and noise levels would be improved as well. Therefore, this option is recommended.

Costs associated with implementing TDM strategies were not determined.

Option 7 – Upgrade and Improve Main Street

This project is to bring Main Street up to current road standards, provide safe and convenient pedestrian and bicycle commuting opportunities, and to calm traffic speeds. This project is to include the addition of sidewalks, paved parallel parking, curbs, bike lanes, and landscaping on both sides of the road in addition to paving and widening.

Cost for this project was not determined.

Option 8 – Improve local roadways

There are some areas of the city that the road surfaces and roadways are not to city standards and the right-of-way is not clearly demarcated. These local road improvement projects are meant to bring local roadways to current gravel or paved road standards by improving road surfaces, widening roads, and aligning right-of-way to city's new street standards. These projects are ongoing and may be accomplished when funding (grants, local sources, etc.) become available or when new development or redevelopment occurs.

Cost for these projects was not determined.

Option 9 – Construct Bus Shelters

This project identifies the need for bus shelters for children waiting for the school bus to have a place to get out of inclement weather. One shelter should be constructed near the post office along Old Highway 11. The other shelter should be located near the Little League baseball field located on the West side of Main Street between Wade Street and Commercial Street.

The estimated cost of the project is \$3000 each for the structure plus site preparation and labor costs to install.

Option 10 – Install Bicycle Racks

The lack of safe and convenient bicycle parking can discourage bicycling as a transportation mode. Bicycle racks can also reduce pedestrian obstacles. The purpose of this project is to provide secure bicycle parking at likely bicycle destination in the City of Adams. Bike racks should be installed at the Little League baseball field and at the library. Covered parking under a roof overhang or awnings would be beneficial at public facilities where extended visits may be necessary.

Bicycle rack range in cost from \$50 to \$1000 plus labor costs to install.

Option 11 – Construct Sidewalks

The sidewalk system in Adams should be expanded along the City's existing grid system where there is a significant amount of pedestrian activity. New sidewalks should be constructed along the west side of Main Street near the ball field, south side of Wade Street between Morrison Street and Main Street and Wildhorse Creek. Construction of new sidewalks may occur as funding (grants, local sources) become available or when new development/redevelopment occurs.

A six foot sidewalk costs about \$30 per linear foot. Applying these cost estimates to a typical block in Adams would require about 300 linear feet of sidewalk. For a 6 foot sidewalk the cost would be \$9000. The total cost to build the proposed new sidewalks equals about \$45,000.

SUMMARY

Table 6-1 summarizes the recommendations of the street system modal plan based on the evaluation process described in this chapter. Chapter 7 discusses how these improvement options fit into the modal plans for the Adams area.

**TABLE 6-1
TRANSPORTATION IMPROVEMENT OPTIONS: RECOMMENDATION SUMMARY**

Option	Recommendation
1. Revise Zoning Code to allow and encourage mixed-use development and redevelopment	• Implement
2. Improve Streets in new subdivision	• Implement
3. Widen William Street to a two lane road between College and East Streets	• Implement
4. Umatilla County Bridge Replacement Project (East Commercial St. over Wild Horse Creek).	• Implement; County Jurisdiction.
5. Construct a multi-use path connecting Main St. to Old Highway 11	• Implement
6. Implement Transportation Demand Management Strategies	• Implement
7. Upgrade and Improve Main Street	• Implement
8. Improve local roadways	• Implement
9. Construct bus shelters	• Implement
10. Install bike racks	• Implement
11. Construct new sidewalks	• Implement

CHAPTER 7: TRANSPORTATION SYSTEM PLAN

The purpose of this chapter is to provide detailed operational plans for each of the transportation systems within the community. The Adams Transportation System Plan (TSP) covers all the transportation modes that exist and are interconnected throughout the urban area. Components of the TSP include street classification standards, access management recommendations, transportation demand management measures, modal plans, and a system plan implementation program.

STREET DESIGN STANDARDS

Street design standards ensure the design of a roadway supports its intended function. The function is determined by operational characteristics such as traffic volume, operating speed, safety, and capacity. Street standards institute design parameters necessary to provide a community with roadways that are relatively safe, aesthetic, and easy to administer when new roadways are planned or constructed. They are based on experience, and policies and publications of the profession.

Existing Street Standards

- All city streets — Existing development standards for the city of Adams require a right-of-way of 60 feet for all city streets. The ordinances also require a minimum pavement width of 24 feet, and 8-foot wide graveled parking strips to be placed on both sides of the road.
- Cul-de-sac streets — Current standards specify a maximum street length of 400 feet with a turnaround. Minimum street width is not specified.
- No width specifications are given for alleys or roadways located in commercial or industrial districts.
- There are no designated bikeway requirements.

Recommended Street Standards

The development of the Adams TSP provides the City with an opportunity to review and revise street design standards to more closely fit with the functional street classification, and the goals and objectives of the TSP. The recommended street standards for all types of functional classifications are shown graphically in Figure 7-1 through Figure 7-3, and are summarized in Table 7-1. Further discussion of each type of street standard follows below.

The recommended street standards should be applied to all areas within the UGB. Although some outlying areas may presently have a rural appearance, these lands will ultimately be part of the urban area. Retrofitting rural streets in these areas, as well as all rural streets within the city limits to urban standards in the future is expensive and controversial; it is more efficient to build them to an acceptable urban standard.

**TABLE 7-1
RECOMMENDED STREET DESIGN STANDARDS**

Classification Option	Cross Section	Right-of-way	Turn Lane	Travel Lanes	Bike Lanes	Pedestrian Facilities	On-Street Parking	Landscape Strip
Alley								
	2 Lanes	20 feet	No	Two 8 foot gravel or paved road surface	No	No	No	No
Residential Street								
Option 1	2 lanes	50 feet	No	Two 8 foot paved travel lanes	Shared Roadway	5 foot sidewalk on both sides	7 foot both sides paved or gravel at town discretion	5 foot planting strip
Option 2	2 lanes	45 feet	No	Two 8 foot paved travel lanes	Shared Roadway	5 foot sidewalk on both sides	8 foot on one side paved or gravel at town discretion	5 ½ foot planting strip on both sides of street
Option 3	2 lanes	50 feet	No	Two 8 foot gravel travel lanes	Shared Roadway	5 foot pedestrian facilities on both sides	7 foot gravel swale both sides	5 foot landscaping strip on both sides of street
Collector								
Option 1	2 lanes	60 feet	No	11 foot	Optional or shared roadway	6 foot sidewalk on both sides	8 foot paved both sides	5 foot – Both sides
Option 2	2 lanes	52 feet	No	11 foot	Optional or shared roadway	6 foot sidewalk on both sides	8 foot paved on one side	5 foot – Both sides
Arterial								
Option 1	2 lanes	80 feet	12 foot	12 foot	5 foot	5 foot sidewalk on both sides	7 foot paved on both sides	5 foot – Both sides
Option 2	2 Lanes	80 feet	No	12 foot	6 foot	10 foot sidewalk on both sides	7 foot paved on both sides	5 foot – both sides

Sidewalks should be included on all urban streets as an important component of the pedestrian system. Ideally, sidewalks should be buffered from the street by a planting strip to eliminate obstructions in the walkway, provide a more pleasing design, and provide a buffer from traffic. When sidewalks are located directly adjacent to the curb, they can include impediments such as mailboxes, street lights, and sign poles which reduce the effective width of the walk. To maintain a safe and convenient walkway for at least two adults, a 5-foot sidewalk should be used in residential areas.

Alleys

Alleys can be a useful way to diminish street width by providing rear access and parking to residential, commercial, and industrial areas. Including alleys in a residential subdivision allows homes to be placed closer to the street and eliminates the need for garages to be the dominant architectural feature. This pattern,

once common, has been recently revived as a way to build better neighborhoods. In addition, alleys can be useful in commercial and industrial areas, allowing access by delivery trucks off the main streets. Alleys should be encouraged in the urban area of Adams. Alleys should be 16 feet wide, with a 20-foot right-of-way, and can be either paved or gravel (see Figure 7-1) provided the gravel alley complies with Umatilla County rural gravel road guidelines.

Cul-de-Sac Streets

Cul-de-sac or “dead-end” residential streets are intended to serve only the adjacent land in residential neighborhoods. These streets should be short (less than 400 feet long) and serve a maximum of 20 single-family houses. Because the streets are short and the traffic volumes relatively low, the street width can be narrower than a standard residential street, allowing for the passage of two lanes of traffic when no vehicles are parked at the curb and one lane of traffic when vehicles are parked at the curb.

Because cul-de-sac streets limit street and neighborhood connectivity, they should only be used where topographical or other environmental constraints prevent street connections. Where cul-de-sacs must be used, pedestrian and bicycle connections to adjacent cul-de-sacs or through-streets should be included.

Residential Streets (Public and Private)

The design of a residential street affects its traffic operation, safety, and livability. The residential street should be designed to enhance the livability of the neighborhood while accommodating less than 1,200 vehicles per day. Design speeds should be 15 to 25 mph. When traffic volumes exceed approximately 1,000 to 1,200 vehicles per day, the residents on that street will perceive the traffic as a noise and safety problem.

To maintain neighborhoods, local residential streets should be designed to encourage low speed travel and to discourage through traffic. Narrower streets discourage speeding and through traffic as well as improve neighborhood aesthetics. They also reduce right-of-way needs, construction costs, maintenance costs, stormwater run-off, and the need to clear vegetation.

Three recommended street standard options are provided for residential streets, as shown in Figure 7-1. Each option provides an ample travel lane and varying degrees of on-street parking as well as sidewalks and landscape strips. The City should choose one of these options for each residential street based on the existing right-of-way and neighborhood character.

Option 1

This first option for a local residential street is the preferred option of the city for new development and redevelopment. New subdivisions and other developments will be required to meet this road standard. Option 1 provides a 50 foot right of way for a 16 foot lane of traffic and 7 foot paved parking on both sides of the roadway. This standard also provides 5 foot sidewalks on both sides of the street and 5 foot planting strips on both sides of the street for trees and/or other landscaping treatments. The paved parking area may be gravel if the city finds that it is more appropriate.

This street standard is appropriate for accommodating agriculture and fire equipment that occasionally use local residential roadways, while also providing a safe and convenient environment for pedestrians and bicycle riders.

Option 2

Option 2 provides a 45 foot right-of-way for a paved 16 foot lane of traffic, 8 foot paved parking on one side of the street, 5 ½ foot landscaping strips and 5 foot sidewalks on both sides of the street. The paved parking strip may be gravel if the city determines that a paved parking strip is unnecessary

This street standard is appropriate for new development or redevelopment in residential areas that have low traffic volumes, are not used by agricultural or other oversized equipment, and have less need for on street parking.

Option 3

Option 3 is a gravel road option with a 50 foot right-of-way containing a 16 foot gravel travel lane that complies with Umatilla County's gravel road guidelines. This option provides a 7 foot swale on both sides of the roadway to provide drainage and snow storage as well as parking as needed. Option 3 also provides 5 foot landscaping strips and pedestrian facilities on both sides of the street.

This option is appropriate to provide the city with gravel road guidelines to bring gravel road improvements within the city such as William Street up to a consistent standard. This option is not to be used as a substitute for the paved options within town. Developers are expected to use option 1 as the development standard preference. Option 3 only applies to bringing current gravel roads to a consistent standard, and the occasional single 'rural' residence on the edge of town.

Option 3 also provides planting strips to aid in traffic calming while also designating pedestrian facilities on both sides of the road. Pedestrian facilities may include sidewalks or other hard surface paths. Providing landscaping strips and pedestrian facilities along this road standard allows the city to identify where these facilities are located and eliminate the controversy and challenge of including them during later improvements or development. This standard also provides swales for drainage and snow storage as well as providing parking opportunities.

Figure 7-1 Recommended Street Design Standards – Local Streets and Alleys

Collector Streets

Collectors are intended to carry between 1,200 and 10,000 vehicles per day, including limited through-traffic, at a design speed of 25 to 35 mph. A collector can serve residential, commercial, industrial, or mixed land uses. Collectors are primarily intended to serve local access needs of residential neighborhoods by connecting local streets to arterials. Bike lanes are typically not needed in smaller cities like Adams due to slower traffic speeds and low traffic volumes.

Two recommended street standard options are provided for collectors, as shown in Figure 7-2. Both options provide one lane of moving traffic in each direction and can also be striped to provide two travel lanes plus left-turn lanes at intersections or driveways by removing parking for short distances. The City should choose one of these options for each collector based on the existing right-of-way and neighborhood character.

Option 1

Option 1 provides 60 foot of right-of-way that contains two 11 foot travel lanes, 8 foot parking on both sides of the street, 5 foot landscape strips on both sides of the roadway, and 6 foot sidewalks located on each side of the road.

This is the preferred option of the city and is appropriate for roadways that are commonly used by agricultural equipment or other higher traffic areas.

Option 2

Option 2 provides a 52 foot right-of-way that contains two 11 foot travel lanes, 8 foot parking on one side of the street, 5 foot landscaping strips and 6 foot sidewalks on both sides of the street.

This option is appropriate where agricultural equipment is not commonly used and traffic levels are relatively low.

Figure 7-2: Recommended Street Design Standards – Collectors



Arterial Streets

Arterial streets form the primary roadway network within and through a region. They provide a continuous roadway system that distributes traffic between different neighborhoods and districts. Generally, arterial streets are high capacity roadways that carry high traffic volumes with minimal localized activity. Design speeds should be between 25 and 45 mph (see Figure 7-3).

Option 1

Option 1 provides an 80 foot right-of-way for arterials that contains two 12 foot lanes of traffic, a 12 foot center lane for turning, two 5 foot bike lanes, and two 7 foot parking strips on both sides of the road. This option also provides two 5 foot landscaping strips and two 5 foot sidewalks on both sides of the street.

Option 2

This option is similar to Option 1, but without the 12 foot center-turn lane. This standard provides two 12-foot travel lanes, two 6-foot bike lanes, and curbside parking along both sides of the roadway at 7 feet wide. Sidewalks, 10 feet in width and two 5 foot landscaping strips shall also be provided on each side of the roadway.

Figure 7-3: Recommended Street Design Standard – Arterials



Bike Lanes

In cases where a bikeway is proposed within the street right-of-way, 5- to 6 feet of roadway pavement should be striped on each side of the street and reserved for bike lanes. The striping should be done in conformance with the *State Bicycle and Pedestrian Plan* (1995). In cases where curb parking will exist with a bike lane, the bike lane will be located between the parking and travel lanes. In some situations, curb parking may have to be removed to permit a bike lane.

Bikeways should be added when a new street is built or improvements are made to existing streets.

On arterial and collector streets that are not scheduled to be improved as part of the street system plan, bike lanes may be added to the existing roadway to encourage cycling, or when forecast traffic volumes exceed 2,500 to 3,000 vehicles per day. The striping of bike lanes on streets that lead directly to schools should be high priority.

Sidewalks

A complete pedestrian system should be implemented in the urban portion of Adams. Every urban street should have sidewalks on both sides of the roadway as shown on the cross sections in Figure 7-1 through Figure 7-3. Sidewalks on residential streets should be at least 5 feet wide. In addition, pedestrian and bicycle connections should be provided between any cul-de-sac and other dead-end streets.

Another essential component of the sidewalk system is street crossings. Intersections must be designed to provide safe and comfortable crossing opportunities. Tools to accomplish this include crosswalks, signal timing (to ensure adequate crossing time) when traffic signals are present, and other enhancements such as curb extensions, which are used to decrease pedestrian crossing distance and act as traffic calming measures.

Curb Parking Restrictions

Curb parking should be prohibited at least 25 feet from the end of an intersection curb return to provide adequate sight distance at street crossings.

Street Connectivity

Street connectivity is important because a well-connected street system provides more capacity and better traffic circulation than a disconnected one. Developing a grid system of relatively short blocks can minimize excessive volumes of motor vehicles along roads by providing a series of equally attractive or restrictive travel options. Short block sizes also benefit pedestrians and bicyclists by shortening travel distances and making travel more convenient. The average block size within the City's grid system is around 300 feet square, which is an ideal block size. To ensure that this pattern of development continues into the future, a maximum block perimeter of 1,200 feet is recommended. This feature is critical to Adam's continued livability.

ACCESS MANAGEMENT

Access management is an important tool for maintaining a transportation system. Too many access points along arterial streets lead to an increased number of potential conflict points between vehicles entering and exiting driveways and through vehicles on the arterial streets. This leads to not only increased vehicle delay and deterioration in the level of service on the arterial, but also a reduction in safety. Research has shown a direct correlation between the number of access points and collision rates. Experience throughout the United States has also shown that a well-developed access plan for a street system can minimize local cost for additional capacity and/or access improvements along unmanaged roadways. Therefore, it is essential that all levels of government maintain the efficiency of existing arterial streets through better access management.

The Transportation Planning Rule (TPR) defines access management as measures regulating access to streets, roads and highways from public roads and private driveways and requires that new connections to arterials and state highways be consistent with designated access management categories. As the city of Adam's continues to develop, the arterial/collector/local street system will become more heavily used and relied upon for a variety of travel needs. As such, it will become increasingly important to manage access on the existing and future arterial/collector street system as new development occurs.

One objective of the Adam's TSP is to develop an access management policy that maintains and enhances the integrity (capacity, safety, and level-of-service) of the city's streets. Too many access points along a street can contribute to a deterioration of its safety, and on some streets, can interfere with efficient traffic flow.

Access Management Techniques

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

- Restrictions on spacing between access points (driveways) based on the type of development and the speed along the arterial.
- Sharing of access points between adjacent properties.
- Providing access via collector or local streets where possible.
- Constructing frontage roads to separate local traffic from through-traffic.
- Providing service drives to prevent spillover of vehicle queues onto the adjoining roadways.
- Providing acceleration, deceleration, and right-turn only lanes.
- Offsetting driveways to produce T-intersections to minimize the number of conflict points between traffic using the driveways and through traffic.
- Installing median barriers to control conflicts associated with left-turn movements.
- Installing barriers to the property along the arterial to restrict access width to a minimum.

Recommended Access Management Standards

Access management is hierarchical, ranging from complete access control on freeways to increasing use of streets for access purposes, to including parking and loading at the local and minor collector level. Table 7-2 describes recommended general access management guidelines by roadway functional classification.

**TABLE 7-2
RECOMMENDED ACCESS MANAGEMENT STANDARDS**

Functional Classification	Intersections			
	Public Road		Private Drive ⁽²⁾	
	Type ⁽¹⁾	Spacing	Type	Spacing
Arterial				
OR 11		See Access Management Spacing Standards, Appendix C of the 1999 Oregon Highway Plan		
Other Arterials within UGB	at-grade	250 ft.	L/R Turns	100 ft.
Collector ⁽³⁾				
Old Highway 11, Preston St., Commercial St., Main St., and Center St.	at-grade	250 ft.	L/R Turns	100 ft.
Residential Street	at-grade	250 ft.	L/R Turns	Access to Each Lot
Alley (Urban)	at-grade	100 ft.	L/R Turns	Access to Each Lot

Notes:

1. For most roadways, at-grade crossings are appropriate.
2. Allowed moves and spacing requirements may be more restrictive than those shown to optimize capacity and safety. Also, see section below on "Access Control Rights" along state highways.
3. Some sections of these roads are designated as residential streets, where the residential access management standard applies.

Application

The access management standards above apply mainly to new development accesses. They are not intended to eliminate existing intersections or driveways. It is important to note, however, that existing developments and legal accesses on the transportation network will not be affected by the recommended access management techniques until either a land use action is proposed, a safety or capacity deficiency is identified that requires specific mitigation, a specific access management strategy/plan is developed, existing properties along the highway are redeveloped, or a major construction project is initiated on the street.

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

State Highways

Access management is important to promoting safe and efficient travel for local and long distance users along OR 11 in Adams. The *1999 Oregon Highway Plan* (OHP) specifies access management spacing, standards, and policies for state facilities. The OHP establishes guidelines to be applied when making access management decisions. Future developments on state highways (zone changes, Comprehensive Plan amendments, redevelopment, and/or new development) will be required to meet the Access Management Spacing Standards of the 1999 OHP. Although Adams may designate state highways as arterial roadways within their transportation system, access management for these facilities should follow the Access

Management Standards of the *1999 Oregon Highway Plan*. These spacing standards are based on highway classification, type of area and speed, which are shown in the appendix to this document. This section of the TSP describes the state highway access management objectives and specific highway segments where special access spacing standards apply.

OR 11 along the southern fringes of Adams is categorized in the 1999 Oregon Highway Plan as a Statewide Highway. The primary function of these highways is to provide connections to larger urban areas, ports, and major recreation areas of the state not served by freeways. Access Management to statewide urban highways is to provide high to moderate speed operations with limited interruptions in traffic flow. Additional property frontage along the state highway does not guarantee that additional approach roads will be allowed. Proposed land use actions that do not comply with the designated access spacing standards will be required to apply for an access variance from the city of Adams and/or ODOT. In addition, according to the 1999 OHP, the impact in traffic generation from a proposed change in land use or new development must allow for a v/c ratio of 0.60-0.69 to be maintained 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.

A conditional access permit may be issued by ODOT and the city of Adams for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards. These conditions typically apply to properties that either have no reasonable access or cannot obtain reasonable alternative access to the public road system. The permit should carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. In addition, approval of a conditional permit might require ODOT-approved turning movement design standards to ensure safety and managed access. Under special circumstances, ODOT may be required to purchase property in order to prevent safety conflicts.

ACCESS CONTROL RIGHTS

Historically, owners of property abutting public roadways have enjoyed a common law abutter's right of access to the roadway. However, in order to provide for a transportation system that would accommodate changing public needs, legislation has been passed to modify the rights of access. Oregon Revised Statutes specify among other property rights; the right of access can be purchased or condemned as deemed necessary for rights-of-way. The Oregon Department of Transportation has purchased access control rights from many properties along state highways.

Once the state has acquired the access rights to a property, road approach permits can only be issued at locations on the property where the right of access has been reserved. These "reservations of access" give the property owner the common law right of access to the state highway only at specific locations and they are clearly identified in the deed where the property owner sold the right-of-way to the state. If the owner wants to gain additional access rights to the highway, they must apply for a "grant" of access.

There may be local street connections shown in this Transportation System Plan that will require modifying the existing access rights or gaining additional access rights to the state highway system. Review of this TSP by ODOT does not imply tacit approval to modify or grant additional access rights. This must be accomplished by applying to ODOT for such modification or grant.

An "indenture of access" is used to modify existing access rights such as moving or widening the reservation or lifting other restrictions that may have been placed on it. A "grant of access" is required to gain an

additional access point to the highway and, depending on the circumstances, may require payment to the state for the market value of the grant. Application for both the Indenture and grant of access is made to local ODOT district office.

MODAL PLANS

The Adams modal plans have been formulated using information collected and analyzed through a physical inventory, forecasts, goals and objectives, and input from area residents. The plans consider transportation system needs for Adams during the next 20 years assuming the growth projections discussed in Chapter 5. The timing for individual improvements will be guided by the changes in land use patterns, growth of the population in future years, and available funds. Specific projects and improvement schedules may need to be adjusted depending on when and where growth occurs in Adams.

Street System Plan

The street system plan recommends any changes necessary to the current street classification system and outlines a series of improvements that are recommended for construction within the city of Adams during the next 20 years. These options have been discussed in Chapter 6 (Improvement Options Analysis). Projects that make up the proposed street system plan are summarized in Table 7-3.

Street System Functional Classification

Street system functional classifications relate the design of a roadway to its function. The function is determined by operational characteristics such as travel demand, street capacity, and the operating speed of the roadway. The city of Adams currently classifies all streets within the Urban Growth Boundary as either arterial, collector, or local streets. A review of the existing street system inventory, the recommended street design standards, and all new projects recommended in the street system plan indicates no changes are necessary at this time to the existing roadway functional classification. Therefore, the existing street classification will be maintained as shown in Figure 3-1 and described as follows:

- OR 11 (Along the east side of the UGB) — classified as an arterial roadway, as it is a highway of statewide level of importance, it carries the highest traffic volumes past the City, and it is the primary route to other cities in the county and state.
- Old Highway 11 (OR 11 to Commercial Street) — classified as a collector street, as its function is to connect local neighborhoods with OR 11.
- Preston Street (Main Street to Old Highway 11) — classified as a collector street, as its function is to connect local neighborhoods with OR 11 via Old Highway 11.
- Commercial Street (Main Street to OR 11) — classified as a collector street, as its function is to connect local neighborhoods with OR 11.
- Main Street (Preston Street to north city limits) — classified as a collector street, as its function is to connect local neighborhoods to the downtown area and to Sand Hollow Road, and a county road leading north out of town.
- Center Street (west city limits to Main Street) — classified as a collector street, as its function is to connect local neighborhoods with the downtown area.

- All other roads — classified as local streets.

Street Improvement Projects

Table 7-3 present’s street and bridge improvement projects within the urban areas that compose the street system plan. Prioritization of these projects is at the discretion of the city and/or county, depending on jurisdiction over the project.

Note that the inclusion of a project in the TSP does not constitute a commitment by ODOT or the County for funding of the project. ODOT’s participation will be determined via the biennial updates of the multi-year STIP process, and the construction of any project is contingent upon the availability of future revenues. The county’s participation will be according to project prioritization as indicated in the Capital Improvement Plan, and contingent upon available funding.

**TABLE 7-3
RECOMMENDED STREET SYSTEM PROJECTS**

Project Number	Location/Description	Cost
1.	Improve gravel streets in subdivision in the Northwest quadrant of the City to meet new paved road standards including sidewalks and landscaping.	\$60,000 per 1000 feet of finished roadway
2.	Improve gravel streets in subdivision in the Northwest quadrant of the City to meet Umatilla County gravel road guidelines including pedestrian facilities and landscaping. This is an alternative to project 1 if cost of project 1 remains prohibitive to accomplish.	Gravel standard not estimated
3.	Replace bridge over Wild Horse Creek on East Commercial St. (County responsibility)	\$103,400
4.	Improve William Street between College Street and East Street by improving right-of-way and paving road and including sidewalks and landscaping.	\$60,000 per 1000 feet of finished roadway
5.	Improve William Street between College Street and East Street by improving right-of-way and meeting Umatilla County gravel road guidelines including pedestrian facilities and landscaping. This is an alternative to project 4 if cost of project 4 remains prohibitive to accomplish	Gravel Standard not estimated
6.	Improve Main Street to new road standards including sidewalks, paved diagonal parking, bike lanes, and landscaping, providing safe and convenient pedestrian and bicycle movement and traffic calming opportunities.	Not estimated
7.	Improve local roadways to new paved and/or gravel road standards and improving road surfaces. These project(s) are ongoing and may be accomplished when funding becomes available. Local roadways in need of improvement are:	\$60,000 per 1000 feet of finished paved roadway, gravel improvements not estimated

Pedestrian System Plan

A complete, interconnected pedestrian system should be implemented in the City when feasible. A sidewalk inventory revealed that there are three locations in the City where sidewalks exist: along the west side of Main Street, between Commercial Street and Hale Street, in front of the old school and by City Hall. All remaining streets lack a pedestrian walkway. Every paved street should have sidewalks on both sides of the

roadway, to meet the recommended street standards, except in extenuating circumstances. Continuous pedestrian access on walkways should be provided between businesses, parks, and adjacent neighborhoods. (Ordinances specifying these requirements are included in Chapter 9.)

Because of the small size of Adams and the limited public resources available for transportation system improvements, sidewalk construction on a large scale may not be feasible. However, the City shall require pedestrian facilities (gravel paths, sidewalks, blacktop multiuse paths, or other type of hard surface) to be constructed as part of any major roadway improvements or as adjacent land is developed. The preferred treatment of the City of Adams is the sidewalk.

The primary goal of establishing a pedestrian system is to improve pedestrian safety; however, an effective sidewalk system has several qualitative benefits as well. Providing adequate pedestrian facilities increases the livability of a city. When pedestrians can walk on a sidewalk, separated from vehicular street traffic, it makes the walking experience more enjoyable and may encourage walking, rather than driving, for short trips. Sidewalks enliven a downtown and encourage leisurely strolling and window shopping in commercial areas. This "main street" effect improves business for downtown merchants and provides opportunities for friendly interaction among residents. It may also have an appeal to tourists as an inviting place to stop and walk around.

The cost to construct a concrete sidewalk facility is approximately \$25 per linear foot. This assumes a sidewalk width of 5 feet with curbing. The cost estimate also assumes the sidewalks are composed of 4 inches of concrete and 6 inches of aggregate. As an alternative, asphalt walkways could be provided instead of a concrete sidewalk at a lower initial cost. Construction costs for this type of facility are typically about 40 percent of the costs for concrete sidewalks; however, maintenance, such as sealing and resurfacing the asphalt, must occur more frequently.

All new sidewalk construction in the City should include curb cuts for wheelchairs at every street corner to comply with the Americans with Disabilities Act (ADA). The addition of crosswalks should also be considered at all major intersections. As improvements are made to the existing street system, projects involving the construction of new sidewalks may require implementation of on-street parking in place of parking on grass or gravel shoulders.

In Chapter 6, only one pedestrian related project was identified. This project included the construction of a multi-use pathway, for both bicyclists and pedestrians, to be located between the City Park and the Old Highway 11 along the south side of Center Street. The priority of this project is not high, but the City should consider a plan to secure the necessary funds in order to build the path. The total cost of this project is around \$11,000 if built using asphalt or \$5,500 for a gravel pathway.

Bicycle System Plan

On the collector and local streets in Adams, bicyclists share normal vehicle lanes with motorists. Due to low travel speeds and traffic volumes observed in the City shared usage of the roadway between bicyclists and automobiles is appropriate. However, on highways such as OR 11, where travel speeds and traffic volumes are much higher, the need to separate bicyclists from highway traffic becomes an issue. OR 11 functions as a rural arterial, bordering the east side of Adams. The Oregon Bicycle and Pedestrian Plan recommends that for a facility such as this, a shoulder bikeway should be present. A typical shoulder width is around 8 feet. It should be noted that the STIP project identified to preserve OR 11 would not change the existing paved shoulder width. Existing shoulder widths along the highway in the vicinity of Adams range between 4 feet to over 6 feet. Shoulder widths of this magnitude should be sufficient for bicyclists on the highway.

An alternative for bicycle travel along OR 11 is currently being developed. The Umatilla County Roadway Department has identified a potential roadway improvement along Adams Road (County Road No. 973), as part of the Umatilla County TSP. This project begins in the city of Pendleton and ends at the south city limits of Adams. Improvements include realigning certain sections of the road, widening the roadway to include shoulders, and new pavement. The project length is around 11.8 miles and is estimated to cost around \$1.8 million to implement. Although this project was conceived mainly to preserve the existing roadway, it provides a unique opportunity to establish a bicycle route between Adams and Pendleton. A bicycle route along this road would provide a safer alternative to OR 11 for travel between the two cities.

Along rural roads, such as Adams Road, the typical recommended facility is a shoulder bikeway. According to the Oregon Bicycle and Pedestrian Plan guidelines for rural collectors with an ADT of less than 400 vehicles per day (vpd), the paved shoulder can be as little as 2 feet wide. Adams Road would not meet the traffic volume requirement for a separate bike lane, but a 2-foot wide paved shoulder for bikes will suffice.

Bicycle parking is lacking in Adams. Bike racks should be installed in front of downtown businesses and all public facilities (schools, post office, library, city hall, and parks). Typical rack designs cost approximately \$50 per bike plus installation. An annual budget of approximately \$1,500 to \$2,000 should be established so that Adams can begin to place racks where needs are identified and to respond to requests for racks at specific locations. Bicycle parking requirements are further addressed in Chapter 9 (Policies and Ordinances).

Transportation Demand Management Plan

Through transportation demand management (TDM), peak travel demands can be reduced or spread over time to more efficiently use the existing transportation system, rather than building new or wider roadways. Techniques that have been successful and could be initiated to help alleviate some traffic congestion include carpooling and vanpooling, alternative work schedules, bicycle and pedestrian facilities, and programs focused on high-density employment areas.

In Adams, because traffic volumes are low, capacity of the local street system is not an issue. Therefore, implementing TDM strategies may not be practical in most cases. However, the sidewalk and bicycle improvements recommended earlier in this chapter are also considered TDM strategies. By providing these facilities, the city of Adams is encouraging people to travel by modes other than the automobile.

Because inter-city commuting is a factor in Umatilla County, residents who live in Adams and work in other cities should be encouraged to carpool with a coworker or someone who works in the same area. Implementing a local carpool program in Adams alone is not practical because of the City's small size, however, a countywide carpool program is feasible. The city of Adams should support state and county carpooling and vanpooling programs that could further boost carpooling ridership.

No costs have been estimated for the TDM plan. Grants may be available to set up programs; other aspects of transportation demand management can be encouraged through ordinances and policy.

Public Transportation Plan

As described in Chapter 3, the only inter-city bus service in Umatilla County is provided by Greyhound bus lines which provides service along I-84, US 395, and OR 11 within Umatilla County. Greyhound has terminals located in Hermiston and Pendleton that connect these cities to each other and major population

centers outside of the county. The Hermiston terminal has two departures heading southeast (with stops in Pendleton, La Grande, Boise, and Salt Lake City); three buses running west to Portland; and two buses heading north on US 395 to Pasco and Spokane daily. The Pendleton terminal has three departures southeast (with stops in La Grande, Boise and Salt Lake City); three departures west to Portland; and two departures north to Seattle via Walla Walla, Pasco, and Spokane daily.

Because of the small size of Adams, ridership demand is not high enough for Greyhound bus lines to feasibly provide service to the City. Bus service may be provided in the future to the city of Milton-Freewater, but Adams is located almost equidistant to Milton-Freewater as it is to the city of Pendleton, where service is already provided.

Although Pendleton, Hermiston, Pilot Rock, and the Umatilla Indian Reservation have dial-a-ride type service available for the transportation disadvantaged, Adams does not currently have this service. Dial-a-ride service is defined as door-to-door service initiated by a user's request for transportation service from his/her origin to specific locations on an immediate or advance reservation basis. These services are provided by the Pendleton Senior Center in Pendleton, the Confederated Tribes of the Umatilla Indian Reservation on the Umatilla Indian Reservation, the Hermiston Senior Center in Hermiston, and the Pilot Rock Lions Club in Pilot Rock. A similar kind of service could be appropriate for Adams.

Adams has no local fixed-route transit service at this time. The small size and low traffic volumes on city streets indicate that mass transit is not necessary or economically feasible at this time. The Transportation Planning Rule exempts cities with a population of less than 25,000 from developing a transit system plan or a transit feasibility study as part of their TSPs.

Rail Service Plan

Adams has no passenger or freight rail service. Until recently, Amtrak service was available in Hermiston and Pendleton along the rail line, which follows the I-84 corridor from Portland to Boise, Idaho and points east. Amtrak is currently experiencing a funding crisis. As a result, passenger service between Portland and Denver, including service to cities within Umatilla County, was discontinued in May 1997. This line now serves only freight traffic.

The nearest freight line to Adams is the Union Pacific main line that runs through Pendleton. There is also a major freight line owned and operated by Union Pacific Railroad, a Class I line-haul freight railroad, which stops in Hermiston. In addition, there is a switch line out of Pendleton which hauls freight from Pilot Rock two to three days per week, and a line between Milton-Freewater and Weston on the Blue Mountain Railroad consisting of one freight train per day (maximum) or some local switching.

Air Service Plan

Adams does not have its own air service within the City. However, there are many airport facilities nearby. Eastern Oregon Regional Airport is located in Pendleton, approximately 20 miles southwest of Adams, and provides commercial air service. Hermiston Municipal Airport is located in Hermiston, approximately 45 miles west of Adams, and provides chartered flights. Other small nearby airports in the county includes Barrett Field northwest of Athena, the Pea Growers' Field south of Athena, and Curtis Airfield northwest of Pendleton. These airports are small, private, uncontrolled airstrips mainly used for crop dusting operations.

Pipeline Service

There are currently no pipelines serving Adams.

Water Transportation

Adams has no water transportation services.

TRANSPORTATION SYSTEM PLAN IMPLEMENTATION PROGRAM

Implementation of the Adams TSP will require changes to both the city Comprehensive Plan and the zoning code and preparation of a 20-year Capital Improvement Plan (CIP). These actions will enable Adams to address both existing and emerging transportation issues throughout the urban area in a timely and cost effective manner.

One part of the implementation program is the formulation of a 20-year CIP. The purpose of the CIP is to detail what transportation system improvements will be needed as Adams grows and provide a process to fund and schedule the identified transportation system improvements. It is expected that the Transportation System Plan Capital Improvement Plan can be integrated into the existing city and county CIP and the ODOT STIP. This integration is important since the TSP proposes that city, county, and state governmental agencies fund all or some of the transportation improvement projects.

Model policy and ordinance language that conforms to the requirements of the Transportation Planning Rule is included in Chapter 9. The proposed ordinance amendments will require approval by the Adams City Council and those that affect the unincorporated urban area will also require approval by the Umatilla Board of County Commissioners.

20-Year Capital Improvement Program

Table 7-4 summarizes the CIP projects and provides cost information. The cost estimates for all the projects listed in the CIP were prepared on the basis of 1998 dollars. These costs include design, construction, and some contingency costs. They are preliminary estimates and generally do not include right-of-way acquisition, water or sewer facilities, or adding or relocating public utilities. The following schedule is not a prioritized list and scheduled implementation of these projects is at the discretion of the City and/or county, depending upon jurisdiction over the project.

**TABLE 7-4
CAPITAL IMPROVEMENT PROGRAM**

Project No.	Location/Description	Costs				Total
		City	County	State	Private	
1.	Revise Zoning Code to allow and encourage mixed-use development and redevelopment	No cost to City				No cost to City anticipated
2.	Improve Streets in new subdivision (paved or gravel)	\$60,000 per 1000' finished paved road surface; gravel standard not estimated				Cost dependent on treatment and length of roadway
3.	Widen William Street to a two lane road between College and East Streets	\$60,000 per 1000' finished paved road surface; gravel standard not estimated				Cost dependent on treatment and length of roadway
4.	Umatilla County Bridge Replacement Project (East Commercial St. over Wild Horse Creek).		\$10,340	\$93,060		\$103.4
5.	Construct a multi-use path connecting Main St. to Old Highway 11	\$11,000				\$11,000
6.	Implement Transportation Demand Management Strategies					No cost to City anticipated
7.	Upgrade and Improve Main Street	No cost estimated				No cost estimated
8.	Improve local roadways	\$60,000 per 1000' finished paved road surface; gravel standard not estimated				Cost dependent on treatment and length of roadway
9.	Construct bus shelters	\$6,000				\$6,000
10.	Install bike racks	\$1,000				\$1,000
11.	Construct Sidewalks	\$45,000				\$45,000
Total						

Note: Costs are expressed in terms of 1998 Dollars.

CHAPTER 8: FUNDING OPTIONS AND FINANCIAL PLAN

The Transportation Planning Rule requires Transportation System Plans to evaluate the funding environment for recommended improvements. This evaluation must include a listing of all recommended improvements, estimated costs to implement those improvements, a review of potential funding mechanisms, and an analysis of existing sources' ability to fund proposed transportation improvement projects. Adams' TSP identifies over \$165,000 in four specific projects over the next 20 years. This section of the TSP provides an overview of Adams' revenue outlook and a review of some funding and financing options that may be available to the city of Adams to fund the improvements.

Pressures from increasing growth throughout much of Oregon have created an environment of estimated improvements that remain not funded. Adams will need to work with Umatilla County and ODOT to finance the potential new transportation projects over the 20-year planning horizon. The actual timing of these projects will be determined by the rate of population and employment growth actually experienced by the community. This TSP assumes Adams will grow at a rate comparable to past growth, consistent with the countywide growth forecast. If population growth exceeds this rate, the improvements may need to be accelerated. Slower than expected growth will relax the improvement schedule.

HISTORICAL STREET IMPROVEMENT FUNDING SOURCES

In Oregon, state, county, and city jurisdictions work together to coordinate transportation improvements. Table 8-1 shows the distribution of road revenues for the different levels of government within the state by jurisdiction level. Although these numbers were collected and tallied in 1991, ODOT estimates that these figures accurately represent the current revenue structure for transportation-related needs.

TABLE 8-1
SOURCES OF ROAD REVENUES BY JURISDICTION LEVEL

Revenue Source	Jurisdiction Level			All Funds
	State	County	City	
State Road Trust	58%	38%	41%	48%
Local	0%	22%	55%	17%
Federal Road	34%	40%	4%	30%
Other	9%	0%	0%	4%
Total	100%	100%	100%	100%

Source: ODOT 1993 Oregon Road Finance Study.

At the state level, nearly half (48 percent in Fiscal Year 1991) of all road-related revenues are attributable to the state highway fund, whose sources of revenue include fuel taxes, weight-mile taxes on trucks, and vehicle registration fees. As shown in the table, the state road trust is a considerable source of revenue for all levels of government. Federal sources (generally the Federal Highway Trust account and Federal Forest revenues) comprise another 30 percent of all road-related revenue. The remaining sources of road-related revenues are generated locally, including property taxes, LIDs, bonds, traffic impact fees, road user taxes, general fund transfers, receipts from other local governments, and other sources.

As a state, Oregon generates 94 percent of its highway revenues from user fees, compared to an average of 78 percent among all states. This fee system, including fuel taxes, weight distance charges, and registration fees, is regarded as equitable because it places the greatest financial burden upon those who create the greatest need for road maintenance and improvements. Unlike many states that have indexed user fees to

inflation, Oregon has static road-revenue sources. For example, rather than assessing fuel taxes as a *percentage* of per gallon costs, Oregon's fuel tax is a fixed amount (currently 24 cents) per gallon.

Transportation Funding in Umatilla County

Historically, sources of road revenues for Umatilla County have included federal grants, state revenues, intergovernmental transfers, interest from the working fund balance, and other sources. Transportation revenues and expenditures for Umatilla County are shown in Table 8-2 and Table 8-3.

TABLE 8-2
UMATILLA COUNTY TRANSPORTATION-RELATED REVENUES

	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Actual	Actual	Budget	Budget
Beginning Balance	\$1,187,957	\$992,044	\$903,997	\$1,762,230	\$1,600,000	\$1,300,000
DMV License & Gas Tax Fees	\$2,956,777	\$3,145,649	\$3,258,762	\$3,356,616	\$3,400,000	\$3,400,000
Misc. State Receipts			\$635,655	\$222,990	\$209,000	\$219,000
National Forest Rental	\$1,061,341	\$589,248	\$534,150	\$189,902	\$180,000	\$180,000
Mineral Leasing 75%				\$125		
Misc. Federal Receipts	\$1,968	\$1,670	\$1,208	\$77,681		
Interest on Invested Funds	\$72,834	\$38,672	\$77,885	\$92,220	\$75,000	\$75,000
Refunds & Reimbursements		\$75		\$338		
Sale of Public Lands	\$20,144	\$14,363	\$5,443	\$102	\$15,000	\$5,000
Rentals/Sale of Supplies	\$15,318	\$16,565	\$51,748	\$74,498	\$45,000	\$27,000
BLM Maintenance Agreement		\$2,000				
Misc. Receipts-Local	\$26,662	\$102,916	\$143,691	\$48,997		
Service Center	\$46,996	\$55,961	\$53,361	\$61,189	\$58,500	\$64,000
Rural Address fund					\$30,000	
	\$5,389,996	\$4,959,163	\$5,665,900	\$5,886,887	\$5,612,500	\$5,270,000

Source: Umatilla County.

As shown in Table 8-2, revenues remained relatively stable (between a low of just under \$5 million in 1993-1994 to a high of nearly \$5.9 million in 1995-1996). Approximately \$3 million of the annual revenues come from the state highway fund, rising slightly from \$3 million in 1992-1993 to an estimated \$3.4 million in 1996-1997. A declining amount has come from federal apportionment (mostly federal forest receipts). Twenty-five percent of federal forest revenue (the 25-percent fund) is returned to the counties based on their share of the total acreage of federal forests. West side national forests in Oregon and Washington are subject to the Spotted Owl Guarantee, which limits the decline of revenues from these forests to three percent annually. Oregon Forests under the Owl Guarantee include the Deschutes, Mt. Hood, Rogue River, Siskiyou, Siuslaw, Umpqua, and Willamette National Forests. Forest revenues distributed to Umatilla County are from the Umatilla and Whitman forests, not subject to the Owl Guarantee and therefore more difficult to predict. With a healthy working capital balance, the county has also been able to generate between \$40,000 and \$90,000 annually in interest on its invested funds.

TABLE 8-3
UMATILLA COUNTY TRANSPORTATION-RELATED EXPENDITURES

	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Actual	Actual	Budget	Budget
Personal Services	\$1,908,211	\$1,878,969	\$1,956,968	\$2,077,603	\$2,260,676	\$2,304,704
Materials and Services	\$1,897,273	\$1,961,106	\$1,564,591	\$1,735,853	\$2,131,925	\$1,972,800
Capital Outlay	\$601,846	\$225,074	\$385,176	\$404,357	\$400,000	\$400,000
Contingency					\$568,840	\$334,224
Transfer to Road Improvement Fund					\$11,555	
Transfer to General Fund						\$58,272
	4,407,330	\$4,065,149	\$3,906,735	\$4,217,813	\$5,372,996	\$5,070,000

Source: Umatilla County.

As shown in Table 8-3, Umatilla County has spent between \$225,000 and \$600,000 annually in capital improvements. The county also transfers money to a road improvement fund for larger-scale capital improvements. The bulk of expenditures in the road fund are for personal services, materials, and services relating to maintenance.

In addition to the road department fund, Umatilla County has a separate bicycle path fund. Its revenues and expenditure history are shown below in Table 8-4. Like the road fund, the bicycle path fund is developing a healthy working capital balance, supporting additional interest income, thereby reducing its dependence on the gas taxes collected through the state highway fund.

TABLE 8-4
UMATILLA COUNTY BICYCLE PATH FUND REVENUES AND EXPENDITURES

	1994-1995	1995-1996	1996-1997	1997-1998
	Actual	Actual	Budget	Budget
Beginning Fund Balance	\$230,059	\$260,652	\$299,775	\$349,775
Resources				
DMV License & Gas Tax Fees	\$32,917	\$32,946	\$34,000	\$34,000
Interest	\$13,073	\$16,251	\$16,000	\$18,000
	\$45,989	\$49,197	\$50,000	\$52,000
Expenditures				
Materials & Services	\$15,396		\$150,000	\$100,000
Capital Outlay				
	\$15,396	\$-	\$150,000	\$100,000

Source: Umatilla County.

Revenues and Expenditures in the City of Adams

Like most jurisdictions in Oregon, the city of Adams funds street operations, maintenance, and improvements through revenue from the state highway funds, interest from its working capital balance, and grants for specific projects. Generally, the state highway fund provides a large proportion of the revenues available for local jurisdiction's roadway moneys. Spending is typically disaggregated in the following

categories: personal services, materials and equipment, and capital improvements, with the bulk of the expenditures used for maintenance and operations.

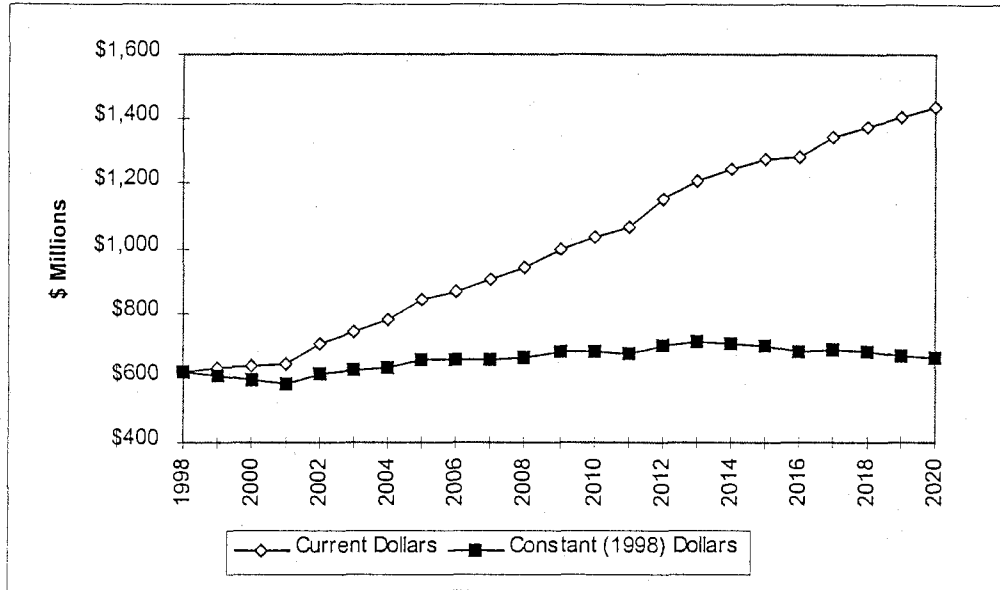
Transportation Revenue Outlook in the City of Adams

ODOT's policy section recommends certain assumptions in the preparation of transportation plans. In its *Financial Assumptions* document prepared in May 1998, ODOT projected the revenue of the state highway fund through year 2020. The estimates are based on not only the political climate, but also the economic structure and conditions, population and demographics, and patterns of land use. The latter is particularly important for state-imposed fees because of the goals in place under Oregon's Transportation Planning Rule (TPR) requiring a 10-percent reduction in per-capita vehicle miles of travel (VMT) in Metropolitan Planning Organization (MPO) areas by year 2015, and a 20-percent reduction by year 2025. This requirement will affect the 20-year revenue forecast from the fuel tax. ODOT recommends the following assumptions:

- Fuel tax increases of one cent per gallon per year (beginning in year 2002), with an additional one cent per gallon every fourth year;
- Vehicle registration fees would be increased by \$10 per year in 2002, and by \$15 per year in year 2012;
- Revenues will fall halfway between the revenue-level generated without TPR and the revenue level if TPR goals were fully met;
- Revenues will be shared among the state, counties, and cities on a "50-30-20 percent" basis rather than the previous "60.05-24.38-15.17 percent" basis; and
- Inflation occurs at an average annual rate of 3.6 percent (as assumed by ODOT).

Figure 8-1 shows the forecast in both current-dollar and inflation-deflated constant (1998) dollars. As highlighted by the constant-dollar data, the highway fund is expected to grow slower than inflation early in the planning horizon until fuel-tax and vehicle-registration fee increases occur in year 2002, increase to a rate somewhat faster than inflation through year 2015, and continue a slight decline through the remainder of the planning horizon.

FIGURE 8-1
STATE HIGHWAY FUND (IN MILLIONS OF DOLLARS)



Source: ODOT Financial Assumptions.

As the state highway fund is expected to be a significant source of funding for Adams, the City is highly susceptible to changes in the state highway fund. In order to analyze the City’s ability to fund the recommended improvements from current sources, DEA applied the following assumptions:

- ODOT state highway fund assumptions as outlined above;
- The state highway fund will account for the majority of the City’s street fund;
- Interest and other local sources continue to provide stable revenue streams; and
- The proportion of revenues available for capital expenditures for street improvements is estimated to have averaged \$1,000 annually.

Communities of similar size to Adams tend to have between \$1,000 and \$5,000 available annually to fund capital improvements from existing sources. To be conservative, this analysis will assume that the city of Adams has had approximately \$1,000 annually from existing sources to fund capital improvements. Applying this and the assumptions about the state highway fund as recommended by ODOT yields total resources between \$900 and \$1,200 as shown in Table 8-5.

TABLE 8-5
ESTIMATED RESOURCES AVAILABLE TO CITY OF ADAMS
FROM STATE HIGHWAY FUND, 1998 DOLLARS

Year	Estimated Funds Available for Capital Outlay
1999	\$1,000
2000	\$1,000
2001	\$1,000
2002	\$900
2003	\$1,000
2004	\$1,000
2005	\$1,000
2006	\$1,100
2007	\$1,100
2008	\$1,100
2009	\$1,100
2010	\$1,100
2011	\$1,100
2012	\$1,100
2013	\$1,100
2014	\$1,200
2015	\$1,100
2016	\$1,100
2017	\$1,100
2018	\$1,100
2019	\$1,100
2020	\$1,100

The amount actually received from the state highway fund will depend on a number of factors, including the actual revenue generated by state gasoline taxes, vehicle registration fees, and other sources, and the population growth in Adams (since the distribution of state highway funds is based on an allocation formula which includes population).

REVENUE SOURCES

In order to finance the recommended transportation system improvements requiring expenditure of capital resources, it will be important to consider a range of funding sources. Although the property tax has traditionally served as the primary revenue source for local governments, property tax revenue goes into general fund operations, and is typically not available for road improvements or maintenance. Despite this limitation, the use of alternative revenue funding has been a trend throughout Oregon as the full implementation of Measures 5 and 47 have significantly reduced property tax revenues (see below). The alternative revenue sources described in this section may not all be appropriate in Adams; however, this overview is being provided to illustrate the range of options currently available to finance transportation improvements during the next 20 years.

Property Taxes

Property taxes have historically been the primary revenue source for local governments. However, property tax revenue goes into general fund operations, and is not typically available for road improvements or maintenance. The dependence of local governments on this revenue source is due, in large part, to the fact that property taxes are easy to implement and enforce. Property taxes are based on real property (i.e., land and buildings) which has a predictable value and appreciation to base taxes upon. This is as opposed to income or sales taxes, which can fluctuate with economic trends or unforeseen events.

Property taxes can be levied through: 1) tax base levies, 2) serial levies, and 3) bond levies. The most common method uses tax base levies, which do not expire and are allowed to increase by six percent per annum. The amounts and times they can be imposed limit serial levies. Bond levies are for specific projects and are limited by time based on the debt load of the local government or the project.

The historic dependence on property taxes is changing with the passage of Ballot Measure 5 in the early 1990s. Ballot Measure 5 limits the property tax rate for purposes other than payment of certain voter-approved general obligation indebtedness. Under full implementation, the tax rate for all local taxing authorities is limited to \$15 per \$1,000 of assessed valuation. As a group, all non-school taxing authorities are limited to \$10 per \$1,000 of assessed valuation. All tax base, serial, and special levies are subject to the tax rate limitation. Ballot Measure 5 requires that all non-school taxing districts' property tax rate be reduced if together they exceed \$10 per \$1,000 per assessed valuation by the county. If the non-debt tax rate exceeds the constitutional limit of \$10 per \$1,000 of assessed valuation, then all of the taxing districts' tax rates are reduced on a proportional basis. The proportional reduction in the tax rate is commonly referred to as compression of the tax rate.

Oregon voters passed measure 47, an initiative petition, in November 1996. It is a constitutional amendment that reduces and limits property taxes and limits local revenues and replacement fees. The measure limits 1997-98 property taxes to the lesser of the 1995-96 tax minus 10 percent, or the 1994-95 tax. It limits future annual property tax increases to three percent, with exceptions. Local governments' lost revenue may be replaced only with state income tax, unless voters approve replacement fees or charges. Tax levy approvals in certain elections require 50 percent voter participation.

The state legislature created Measure 50, which retains the tax relief of Measure 47 but clarifies some legal issues. Voters approved this revised tax measure in May 1997.

The League of Oregon Cities (LOC) estimated that direct revenue losses to local governments, including school districts, would total \$467 million in fiscal year 1998, \$553 million in 1999, and increase thereafter. The actual revenue losses to local governments will depend on actions of the Oregon Legislature. LOC also estimates that the state will have revenue gains of \$23 million in 1998, \$27 million in 1999, and increase thereafter because of increased personal and corporate tax receipts due to lower property tax deduction.

Measure 50 adds another layer of restrictions to those which govern the adoption of tax bases and levies outside the tax base, as well as Measure 5's tax rate limits for schools and non-schools and tax rate exceptions for voter approved debt. Each new levy and the imposition of a property tax must be tested against a longer series of criteria before the collectible tax amount on a parcel of property can be determined.

System Development Charges

System Development Charges (SDCs) are becoming increasingly popular in funding public works infrastructure needed for new local development. Generally, the objective of systems development charges is to

allocate portions of the costs associated with capital improvements upon the developments, which increase demand on transportation, sewer, or other infrastructure systems.

Local governments have the legal authority to charge property owners and/or developer fees for improving the local public works infrastructure based on projected demand resulting from their development. The charges are most often targeted towards improving community water, sewer, or transportation systems. Cities and counties must have specific infrastructure plans in place that complies with state guidelines in order to collect SDCs.

SDCs are collected when new building permits are issued. Transportation SDCs are based on trip generation of the proposed development. Residential calculations would be based on the assumption that a typical household will generate a given number of vehicle trips per day. Nonresidential use calculations are based on employee ratios for the type of business or industrial uses. The SDC revenues would help fund the construction of transportation facilities necessitated by new development.

State Highway Fund

Gas tax revenues received from the state of Oregon are used by all counties and cities to fund road and road construction and maintenance. In Oregon, the state collects gas taxes, vehicle registration fees, overweight/overheight fines, and weight/mile taxes and returns a portion of the revenues to cities and counties through an allocation formula. Like other Oregon cities, the city of Adams uses its state gas tax allocation to fund street construction and maintenance.

Local Gas Taxes

The Oregon Constitution permits counties and incorporated cities to levy additional local gas taxes with the stipulation that the moneys generated from the taxes will be dedicated to road-related improvements and maintenance within the jurisdiction. At present, only a few local governments (including the cities of Woodburn and The Dalles and Multnomah and Washington counties) levy a local gas tax. The city of Adams may consider raising its local gas tax as a way to generate additional road improvement funds. However, with relatively few jurisdictions exercising this tax, an increase in the cost differential between gas purchased in Adams and gas purchased in neighboring communities may encourage drivers to seek less expensive fuel elsewhere. Any action will need to be supported by careful analysis to minimize the unintended consequences of such an action.

Vehicle Registration Fees

The Oregon vehicle registration fee is allocated to the state, counties, and cities for road funding. Oregon counties are granted authority to impose a vehicle registration fee covering the entire county. The Oregon Revised Statutes would allow Umatilla County to impose a biannual registration fee for all passenger cars licensed within the county. Although both counties and special districts have this legal authority, vehicle registration fees have not been imposed by local jurisdictions. In order for a local vehicle registration fee program to be viable in Umatilla County, all the incorporated cities and the county would need to formulate an agreement which would detail how the fees would be spent on future road construction and maintenance.

Local Improvement Districts

The Oregon Revised Statutes allow local governments to form Local Improvement Districts (LIDs) to construct public improvements. LIDs are most often used by cities to construct localized projects such as streets,

sidewalks, or bikeways. The statutes allow formation of a district by either the city government or property owners. Cities that use LIDs are required to have a local LID ordinance that provides a process for district formation and payback provisions. Through the LID process, the costs of local improvements are generally spread out among a group of property owners within a specified area. The cost can be allocated based on property frontage or other methods such as traffic trip generation. The types of allocation methods are only limited by the Local Improvement Ordinance. The cost of LID participation is considered an assessment against the property which is a lien equivalent to a tax lien. Individual property owners typically have the option of paying the assessment in cash or applying for assessment financing through the City. Since the passage of Ballot Measure 5, cities have most often funded local improvement districts through the sale of special assessment bonds.

GRANTS AND LOANS

There are a variety of grant and loan programs available, most with specific requirements relating to economic development or specific transportation issues, rather than for the general construction of new streets. Many programs require a match from the local jurisdiction as a condition of approval. Because grant and loan programs are subject to change and statewide competition, they should not be considered a secure long-term funding source. Most of the programs available for transportation projects are funded and administered through ODOT and/or the Oregon Economic Development Department (OEDD). Some programs that may be appropriate for the city of Adams are described below. The primary contact for information on the following programs is ODOT Region 5, which can be reached at (541) 963-3177.

Bike-Pedestrian Grants

By law (ORS 366.514), all road, street or highway construction or reconstruction projects must include facilities for pedestrians and bicyclists, with some exceptions. ODOT's Bike and Pedestrian Program administers two programs to assist in the development of walking and bicycling improvements: local grants, and Small-Scale Urban Projects. Cities and counties with projects on local streets are eligible for local grant funds. An 80 percent state and 20 percent local match ratio is required. Eligible projects include curb extensions, pedestrian crossings and intersection improvements, shoulder widening and restriping for bike lanes. Projects on urban state highways with little or no right of way taking and few environmental impacts are eligible for Small-Scale Urban Project Funds. Both programs are limited to projects costing up to \$100,000. Projects that cost more than \$100,000, require the acquisition of ROW, or have environmental impacts should be submitted to ODOT for inclusion in the STIP.

Access Management

The Access Management Program sets aside approximately \$500,000 a year to address access management issues. One primary component of this program is an evaluation of existing approach roads to state highways. These funds are not committed to specific projects, and an evaluation process establishes priorities and projects.

Enhancement Program

This federally funded program earmarks \$8 million annually for projects in Oregon. Projects must demonstrate a link to the intermodal transportation system, compatibility with approved plans, and local financial support. A 10.27 percent local match is required for eligibility. Each proposed project is evaluated against all other

proposed projects in its region. Within the five Oregon regions, the funds are distributed on a formula based on population, vehicle miles traveled, number of vehicles registered and other transportation-related criteria. The solicitation for applications was mailed to cities and counties the last week of October 1998. Local jurisdictions have until January 1999 to complete and file their applications for funding available during the 2000-2003 fiscal years that begin October 1999.

Highway Bridge Rehabilitation or Replacement Program

The Highway Bridge Rehabilitation or Replacement Program (HBRR) provides federal funding for the replacement and rehabilitation of bridges of all functional classifications. A portion of the HBRR funding is allocated for the improvement of bridges under local jurisdiction. A quantitative ranking system is applied to the proposed projects based on sufficiency rating, cost factor, and load capacity. They are ranked against other projects statewide, and require state and local matches of 10 percent each. It includes the Local Bridge Inspection Program and the Bridge Load Rating Program.

Transportation Safety Grant Program

Managed by ODOT's Transportation Safety Section (TSS), this program's objective is to reduce the number of transportation-related accidents and fatalities by coordination a number of statewide programs. These funds are intended as seed money, funding a program for three years. Eligible programs include programs in impaired driving, occupant protection, youth, pedestrian, speed, enforcement, bicycle, and motorcycle safety. Every year, TSS produces a Highway Safety Plan that identifies the major safety programs, suggests countermeasures to existing safety problems, and lists successful projects selected for funding, rather than granting funds through an application process.

Federal Transit Administration (FTA) Section 5311-Non-urbanized Area Formula Program

Section 5311 is a federally sponsored program for general public transit services in small urban and rural areas. It supports both capital and operation needs. The ODOT Public Transit Division distributes these funds. In FY00, the cities of Pendleton and Milton-Freewater received these funds to support transportation programs for the general public. The city of Adams would be eligible for these funds if it implemented inter-city service or intra-city services open to the general public. The recipient of these funds must provide matching funds of up to 50 percent for operating uses and up to 20 percent for capital expenses.

Section 5311(f) – Part of 5311 funds is allocated to inter-city services. Inter-city transit services connect communities to rail, bus, and air hubs. These funds can be used for both capital and operating expenses. Local revenues must match these funds. Match requirements are the same as those for 5311 funds.

Surface Transportation Program (STP) Funds

TEA-21, the Federal Transportation Efficiency Act for the 21st Century, that funds programs for highways and transit, permits surface transportation program funding flexibility between modes. This gives the state more latitude in selecting the modal alternatives that would best address local congestion problems. STP funds are generally limited to capital projects with a few exceptions. In non-urbanized areas ODOT has the responsibility of allocating these funds. In Adams, ODOT Region 5 makes funding decisions with public input.

Department of Labor Welfare-to-Work Program

The US Department of Labor provides grants to communities to give transitional assistance to move welfare recipients into unsubsidized employment. One of the areas applicants are encouraged to consider is the development of responsive transportation systems to move people to work or to career training. These grants must serve at least 100 welfare recipients. The Department of Labor expects the grants to range from one million to five million dollars over a period of three years. Applications must be a coordinated effort between transportation providers and Oregon Adult and Family Services. The funding can be used for capital and operating expenses and will cover up to 50 percent of the cost of a program.

ODOT has submitted a grant application for funding for Oregon programs. ODOT identified the Bend/Redmond area as the first demonstration program. Other areas of the state may be eligible after that. To be eligible for this funding, it is essential that communities bring together local ODOT staff, transit providers and AFS staff to begin the coordination process.

FTA Section 5310 Discretionary Grants

This program funds vehicles and other capital projects for programs that serve elderly and disabled people. In FY99 the city of Pendleton received \$36,000 to purchase a new vehicle.

Special Transportation Fund

The Special Transportation Fund (STF) awards funds to maintain, develop, and improve transportation services for people with disabilities and people over 60 years of age. Financed by a two-cent tax on each pack of cigarettes sold in the state, the annual distribution is approximately \$5 million. Three-quarters of these funds are distributed on a per-capita formula to mass transit districts, transportation districts, where such districts do not exist, and counties. The remaining funds are distributed on a discretionary basis.

County Allotment Program

The County Allotment Program distributes funds to counties on an annual basis; the funds distributed in this program are in addition to the regular disbursement of state highway fund resources. The program determines the amount of total revenue available for roads in each county and the number of road miles (but not lane miles) of collectors and arterials under each county's jurisdiction. Using these two benchmarks, a "resource-per-equivalent" ratio is calculated for each county. Resources from the \$750,000 program are provided to the county with the lowest resource-per-equivalent road-mile ratio until they are funded to the level of the next-lowest county. The next-lowest county is then provided resources until they are funded to the level of the third-lowest county, and so on, until the fund is exhausted.

Immediate Opportunity Grant Program

The Oregon Economic Development Department (OEDD) and ODOT collaborate to administer a grant program designed to assist local and regional economic development efforts. The program is funded to a level of approximately \$7 million per year through state gas tax revenues. The following are primary factors in determining eligible projects:

- Improvement of public roads.
- Inclusion of an economic development-related project of regional significance.
- Creation or retention of primary employment.
- Ability to provide local funds (50/50) to match grant.
- Improvement to the quality of the community.

The maximum amount of any grant under the program is \$500,000. Local governments that have received grants under the program include Washington County, Multnomah County, Douglas County, the city of Hermiston, port of St. Helens, and the city of Newport.

Oregon Special Public Works Fund

The Special Public Works Fund (SPWF) program was created by the 1995 State Legislature as one of several programs for the distribution of funds from the Oregon Lottery to economic development projects in communities throughout the state. The program provides grant and loan assistance to eligible municipalities primarily for the construction of public infrastructure, which support commercial and industrial development that result in permanent job creation or job retention. To be awarded funds, each infrastructure project must support businesses wishing to locate, expand, or remain in Oregon. SPWF awards can be used for improvement, expansion, and new construction of public sewage treatment plants, water supply works, public roads, and transportation facilities.

While SPWF program assistance is provided in the form of both loans and grants, the program emphasizes loans in order to assure that funds will return to the state over time for reinvestment in local economic development infrastructure projects. Jurisdictions that have received SPWF funding for projects that include some type of transportation-related improvement include the cities of Baker City, Bend, Cornelius, Forest Grove, Madras, Portland, Redmond, Reedsport, Toledo, Wilsonville, Woodburn, and Douglas County.

Oregon Transportation Infrastructure Bank

The Oregon Transportation Infrastructure Bank (OTIB) program is a revolving loan fund administered by ODOT to provide loans to local jurisdictions (including cities, counties, special districts, transit districts, tribal governments, ports, and state agencies). Eligible projects include construction of federal-aid highways, bridges, roads, streets, bikeways, pedestrian accesses, and right of way costs. Capital outlays such as buses, light-rail cars and lines, maintenance yards and passenger facilities are also eligible.

ODOT FUNDING OPTIONS

The state of Oregon provides funding for all highway related transportation projects through the Statewide Transportation Improvement Program (STIP) administered by the Oregon Department of Transportation. The STIP outlines the schedule for ODOT projects throughout the state. The STIP, which identifies projects for a three-year funding cycle, is updated on an annual basis. In developing this funding program, ODOT must verify that the identified projects comply with the Oregon Transportation Plan (OTP), ODOT Modal Plans, Corridor Plans, local Comprehensive Plans, and federal planning requirements. The STIP must fulfill

federal planning requirements for a staged, multi-year, statewide, intermodal program of transportation projects. Specific transportation projects are prioritized based on a review of the TEA-21 planning requirements and the different state plans. ODOT consults with local jurisdictions before highway related projects are added to the STIP.

The highway-related projects identified in Adams' TSP will be considered for future inclusion on the STIP. The timing of including specific projects will be determined by ODOT based on an analysis of all the project needs within Region 5. The city of Adams, Umatilla County, and ODOT will need to communicate on an annual basis to review the status of the STIP and the prioritization of individual projects within the project area. Ongoing communication will be important for the city, county, and ODOT to coordinate the construction of both local and state transportation projects.

ODOT also has the option of making some highway improvements as part of their ongoing highway maintenance program. Types of road construction projects that can be included within the ODOT maintenance programs are intersection realignments, additional turn lanes, and striping for bike lanes. ODOT field crews usually do maintenance projects using state equipment. The maintenance crews do not have the staff or special road equipment needed for large construction projects.

An ODOT funding technique that will likely have future application to Adams' TSP is the use of state and federal transportation dollars for off-system improvements. Until the passage and implementation of ISTEA, state and federal funds were limited to transportation improvements within highway corridors. ODOT now has the authority and ability to fund transportation projects that are located outside the boundaries of the highway corridors. The criteria for determining what off-system improvements can be funded has not yet been clearly established. It is expected that this new funding technique will be used to finance local system improvements that reduce traffic on state highways or reduce the number of access points for future development along state highways.

Financing Tools

In addition to funding options, the recommended improvements listed in this plan may benefit from a variety of financing options. Although often used interchangeably, the words financing and funding are not the same. Funding is the actual generation of revenue by which a jurisdiction pays for improvements, some examples include the sources discussed above: property taxes, SDCs, fuel taxes, vehicle registration fees, LIDs, and various grant programs. In contrast, financing refers to the collecting of funds through debt obligations.

There are several debt financing options available to the city of Adams. The use of debt to finance capital improvements must be balanced with the ability to make future debt service payments and to deal with the impact on its overall debt capacity and underlying credit rating. Again, debt financing should be viewed not as a source of funding, but as a time shifting of funds. The use of debt to finance these transportation-system improvements is appropriate since the benefits from the transportation improvements will extend over the period of years. If such improvements were to be tax financed immediately, a large short-term increase in the tax rate would be required. By utilizing debt financing, local governments are essentially spreading the burden of the costs of these improvements to more of the people who are likely to benefit from the improvements and lowering immediate payments.

General Obligation Bonds

General obligation (GO) bonds are voter-approved bond issues, which represent the least expensive borrowing mechanism available to municipalities. GO bonds are typically supported by a separate property tax levy specifically approved for the purposes of retiring debt. The levy does not terminate until all debt is paid off. The property tax levy is distributed equally throughout the taxing jurisdiction according to assessed value of property. GO debts typically used to make public improvement projects that will benefit the entire community.

State statutes require that the GO indebtedness of a city not exceed three percent of the real market value of all taxable property in the city. Since GO bonds would be issued subsequent to voter approval, they would not be restricted to the limitations set forth in Ballot Measures 5, 47, and 50. Although new bonds must be specifically voter approved, Measure 47 and 50 provisions are not applicable to outstanding bonds, unissued voter-approved bonds, or refunding bonds.

Limited Tax Bonds

Limited tax general obligation (LTGO) bonds are similar to GO bonds in that they represent an obligation of the municipality. However, a municipality's obligation is limited to its current revenue sources and is not secured by the public entity's ability to raise taxes. As a result, LTGO bonds do not require voter approval. However, since the LTGO bonds are not secured by the full taxing power of the issuer, the limited tax bond represents a higher borrowing cost than GO bonds. The municipality must pledge to levy the maximum amount under constitutional and statutory limits, but not the unlimited taxing authority pledged with GO bonds. Because LTGO bonds are not voter approved, they are subject to the limitations of Ballot Measures 5, 47, and 50.

Bancroft Bonds

Under Oregon Statute, municipalities are allowed to issue Bancroft bonds, which pledge the City's full faith and credit to assessment bonds. As a result, the bonds become general obligations of the City but are paid with assessments. Historically, these bonds provided a city with the ability to pledge its full faith and credit in order to obtain a lower borrowing cost without requiring voter approval. However, since Bancroft bonds are not voter approved, taxes levied to pay debt service on them are subject to the limitations of Ballot Measures 5, 47, and 50. As a result, since 1991, municipalities that were required to compress their tax rates have not used Bancroft bonds.

FUNDING REQUIREMENTS

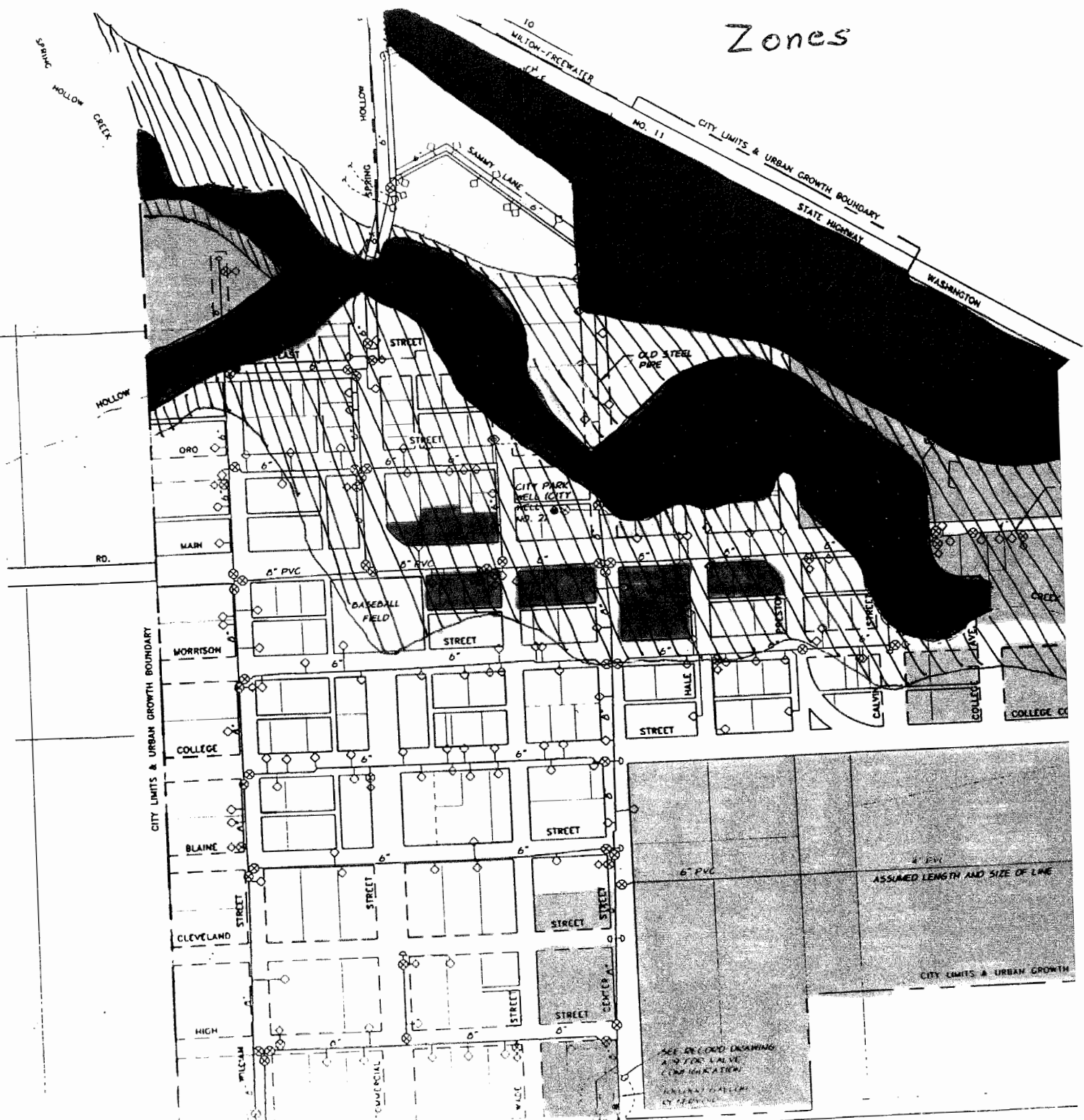
Adams' TSP identifies both capital improvements and strategic efforts recommended during the next 20 years to address safety and access problems and to expand the transportation system to support a growing population and economy. The TSP identifies several projects over the 20-year planning horizon. Several of these projects will require funding from the. Estimated costs by project are shown in Figure 7-4.

A portion of the cost to replace the East Commercial Street bridge is eligible for funding through the Highway Bridge Rehabilitation and Replacement Fund, as described earlier in this chapter. Administered by ODOT, this program distributes federal funds for the replacement and rehabilitation of bridges. It requires local and state matches of 10 percent each.

Based on current revenue sources for the city of Adams and the improvements identified in this Transportation System Plan, the City is expected to experience a budget shortfall, but projects may be taken on if supplemented by other alternative funding. For example, the multi-use pathway between the City Park and the old Highway 11 may be eligible for bike and pedestrian funding from ODOT and Umatilla County as it serves to enhance the pedestrian network.

This Transportation System Plan recommends several projects though many are difficult to estimate cost at this time. Based on estimates of existing funding sources and opportunities, and the estimates of capital outlay required to implement the recommended projects, the city of Adams is expected to be able to address the capital requirements, with assistance from state and federal programs. The city of Adams will need to continue to work with Umatilla County and ODOT in order to fully implement this TSP and the projects identified within.

Zones



RD.

SEE RECORD DRAWINGS
AND FOR LAYOUT
CONTRIBUTION
AND FOR LAYOUT
BY TOWN

ASSUMED LENGTH AND SIZE OF LINE

CITY LIMITS & URBAN GROWTH