COPY

City of Vale

Transportation System Plan

February 1998

Prepared for:
City of Vale

W&H PACIFIC
8405 SW Nimbus Avenue
Beaverton, OR 97008

Chapter 7 Updated June 2001
by TriLand Design Group, Inc.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF TABLES (Continued)

I:\project\32110101\rptvlfin\tocfeb98.doc

1 Introduction

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 1:
INTRODUCTION

The City of Vale Transportation System Plan (TSP) guides the management of existing and future transportation facilities for the next 20 years. This TSP document satisfies the requirements of the Oregon Transportation Planning Rule (TPR).

PLANNING AREA

The City of Vale TSP study area includes all lands inside the Vale Urban Growth Boundary. Streets studied in this plan fall under several jurisdictions:

- State of Oregon,
- Malheur County,
- City of Vale.

The primary streets through the city include State Highways 20 (Washington Street and "A" Street), 26 (Glenn Street) and 451 (Graham Boulevard). The City of Vale is the county seat of Malheur County and houses most county offices. In 1995, Vale's population reached 1600.

Located in the northeastern portion of the county, as shown in Figure 1-1, Vale lies approximately 14 miles west of Ontario and 14 miles northwest of Nyssa. The city itself borders the Malheur River to the southeast and extends west to Ash Street, approximately one mile to the west of the Highway 20/Vale-West Highway intersection. Bully Creek roughly follows the city's southern boundary, while Ellsworth Street generally defines the city's northern edge. Vale's Urban Growth Boundary extends beyond the City of Vale, mainly to the north and west as Figure 1-2 shows.

Major economic activities include retail commerce, farming and agricultural, and mineral processing. Malheur County, the Bureau of Land Management (BLM), the Oregon Trail Mushroom Company and the Eagle-Picher Company together act as the city's largest employers. Named for the valley in which it has developed, Vale is surrounded by prime farm land. This area also contains geothermal resources (i.e., hot springs), which both can support related industry as well as reflects the potential for adverse seismic activity. In addition, soil types in and around Vale may limit the types and extent of development.

PLANNING PROCESS

The Oregon Department of Transportation (ODOT) funded the preparation of the City of Vale TSP in 1997-98 as part of the Malheur County TSP effort. The plan was developed through a series of technical analyses combined with input from City Council, ODOT staff, and the Vale Planning Commission. Key elements of the process included:

- Involving the City of Vale (Chapter 1)
- Reviewing existing plans and policies (Chapter 2)
- Establishing goals and objectives (Chapter 3)
- Describing the existing transportation system (Chapter 4)
- Developing population, employment and travel forecasts (Chapter 5)
- Developing, analyzing and evaluating potential transportation system improvements (Chapter 6)
- Writing the Transportation System Plan elements (Chapter 7)
- Reviewing and summarizing a capital improvements program (chapter 8)
- Developing recommended policies and ordinances (Chapter 9)

Community Involvement

The City of Vale Planning Commission, which served as the citizen advisory committee for the TSP development, provided policy input and served as a sounding board for local transportation issues. They met three times during the planning process. They received copies of materials for review as they were developed. A member of the Planning Commission assisted in the project by conducting a buildable lands analysis and providing that information to the project team. Additionally, an public open house was held to review the draft plan with the general public.

Review and Inventory of Existing Plans, Policies and Public Facilities

The following documents have been reviewed and summarized as a part of the TSP:

City of Vale
- City of Vale Comprehensive Plan, 1992
- City of Vale Zoning Ordinance, 1995
- City of Vale Subdivision Ordinance
- City of Vale Industrial Site Access Study, 1996

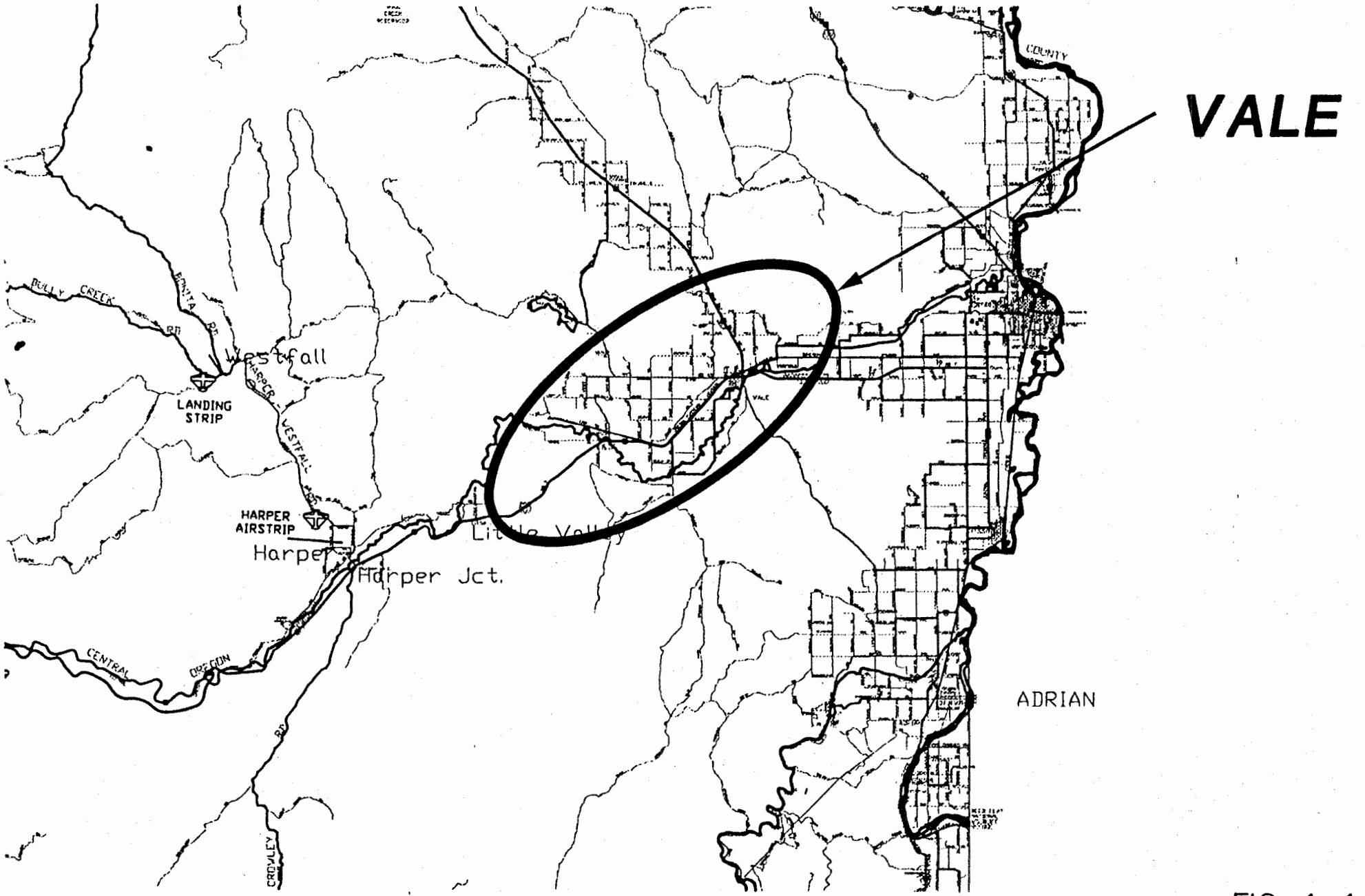
Malheur County
- Malheur County Comprehensive Plan, 1982
- Public Facilities and Services Report, 1976
- Malheur County Strategic Plan, 1996

State of Oregon
- ODOT Statewide Transportation Improvement Program, 1998-2001 Draft
- Oregon Transportation Plan
- Draft Interim Corridor Strategy for the Sisters to Ontario Corridor (OR 126/US Highway 26), September 1997
- Draft US Highway 20 Corridor Strategy (Bend - Vale), June 1996

CITY OF VALE TRANSPORTATION SYSTEM PLAN

VICINITY MAP

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455



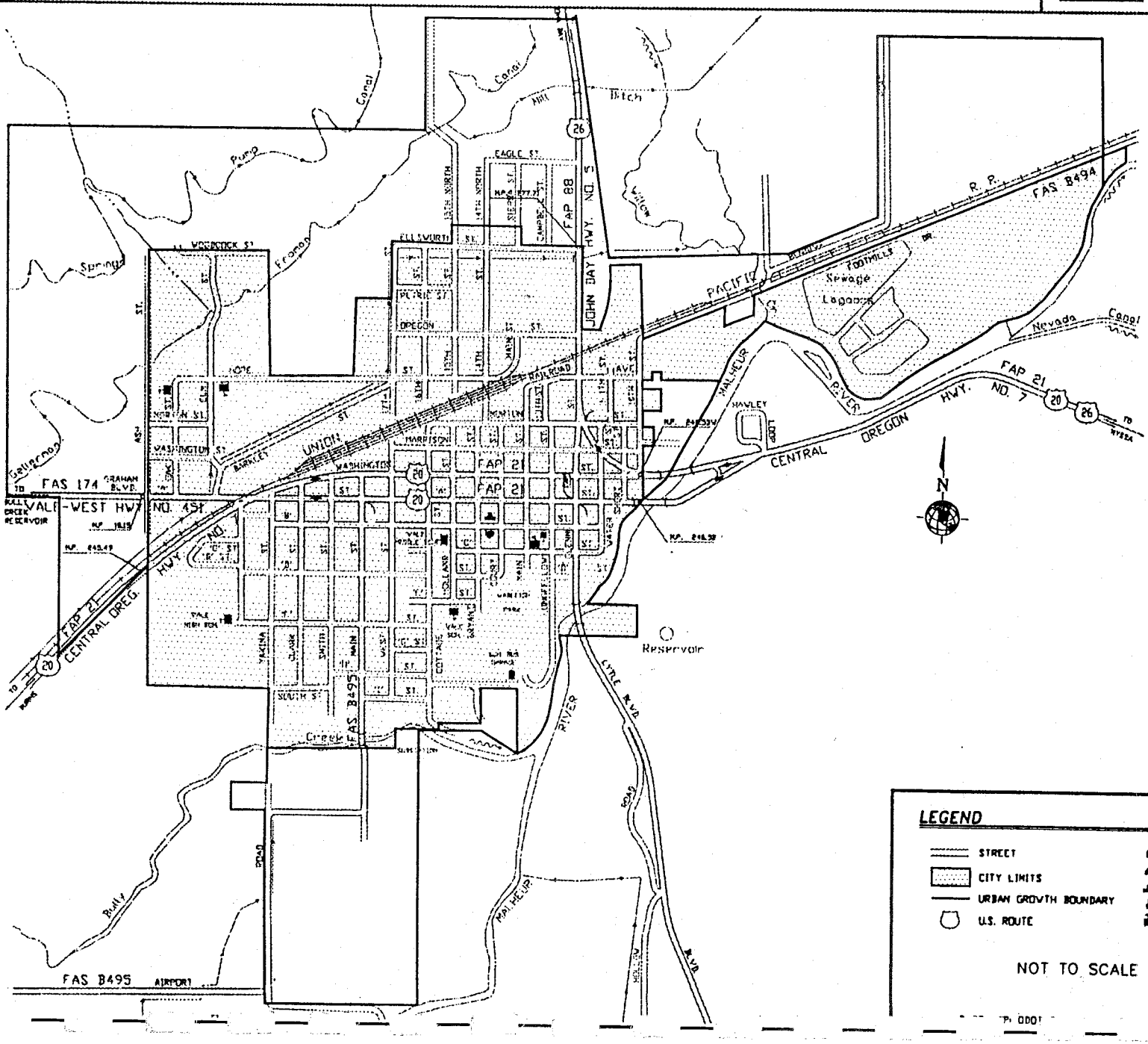
PMALVM04. dwg

FIG. 1-1

CITY OF VALE TRANSPORTATION SYSTEM PLAN

STUDY AREA

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455



LEGEND

- STREET
- CITY LIMITS
- URBAN GROWTH BOUNDARY
- U.S. ROUTE
- PUBLIC BUILDING
- COURT HOUSE
- CITY HALL
- POST OFFICE
- SCHOOL

NOT TO SCALE

FIG. 1-2

PMALVM01. dwg

Federal Government

- Intermodal Surface Transportation Efficiency Act of 1991

Goals and Objectives

A set of draft goals and objectives is outlined in Chapter 3. These goals and objectives were used to make decisions about potential improvement projects.

Inventory of Existing Transportation System

Chapter 4 provides a summary of the existing conditions of transportation facilities in the City of Vale. This inventory was completed in August 1997.

Future Transportation System Demands

The Transportation Planning Rule (TPR) requires that all TSPs address a 20-year forecasting period. Future traffic volumes for the existing and committed transportation systems were projected using *ODOT's Level 1 analysis -- PDIA*. Chapter 5 summarizes and illustrates the travel demand forecasting analysis.

Transportation System Potential Improvements

Once the travel forecasts were developed, the consultant team evaluated a series of potential transportation system improvements. Chapter 6 elaborates on each project alternative, and the rationale for the final selection of a projects which comprise the preferred alternative.

Transportation System Plan

Chapter 7 addresses each mode of transportation and provides an overall implementation program. The elements include a street system, a bicycle and pedestrian plan, a public transportation element/discussion, as well as airport, pipeline and rail elements.

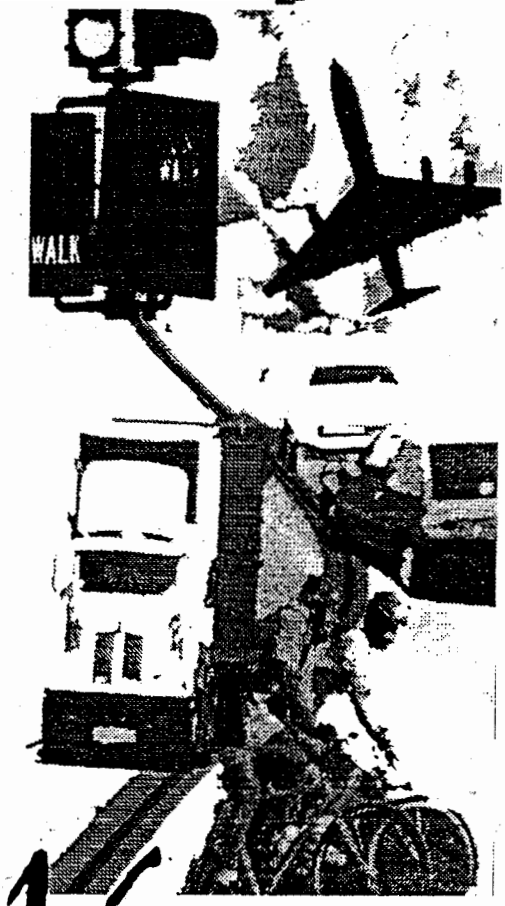
Funding Options

The City of Vale may need additional funding mechanisms, and the funding options chapter reviews existing and potential financing opportunities. The financing and funding options available to the city are described in Chapter 8.

Recommended Policies and Ordinance Amendments

Suggestions for specific changes to the Comprehensive Plan policies and implementation of revised zoning and subdivision/road standards are contained in Chapter 9.

2 Existing Plans, Policies and Codes



Vale Transportation System Plan

W&H PACIFIC

CHAPTER 2:
EXISTING PLANS, POLICIES AND CODES

The City of Vale TSP started with a review and summary of all existing plans, policies and codes relevant to transportation in the county. They are summarized below in the following order:

- City of Vale
- Malheur County,
- State of Oregon,
- Federal government.

Recommendations for amendments to various County plans and policies are found in Chapter 9 of this document.

CITY OF VALE PLANS, POLICIES AND CODES

City Of Vale Comprehensive Plan, 1992

The City of Vale Comprehensive Plan briefly addresses the transportation system (pages 36-39), categorized by facility type.

Streets

This portion of the plan describes the adequacy of the existing transportation system, citing few traffic or facility problems with the following exceptions:

- Congestion is recognized along West Main Street north of the Bully Creek Bridge, and the Plan discusses the option of widening that facility.
- Most city street in the northern part of town are not adequately maintained, nor contribute revenue to the City.
- Plats in the northern part of town may restrict future development patterns.

To address some of these issue, the Comprehensive Plan states the need to coordinate street rights-of-way and alignment well prior to development.

Airport

The Miller Memorial Airport serves the City of Vale, and is located one mile to the southwest. Although the airport is not included in the National Aviation Systems Plan, and is therefore not eligible for Federal Aviation Authority funds, the City of Vale has expressed interest in

improving the facility. Private sources would most likely fund and develop these improvements, which include paved runways and a new telephone.

City Of Vale Zoning Ordinance (Title VIII) 1995

With respect to transportation, the City of Vale Zoning Ordinance contains the stated purpose of lessening congestion. It includes definitions of "parking space", "street", and "vision clearance area" and establishes building height, lot coverage standards, and allowable uses by zone. Zones include: "Residential", "Residential/Professional Offices", "General Commercial", and "Industrial". In terms of encouraging mixed use, residential uses are permitted in "General Commercial". Off-street parking and loading standards are included for all uses.

Some general access management standards are included for industrial uses and for conditional uses. For conditional uses, the ordinance notes that "the City may limit or prohibit vehicle access from a conditional use to a residential street and it may limit or prohibit building openings within fifty feet (50') of residential property in a residential zone if the openings will cause glare or excessive noise or otherwise adversely affect adjacent property.

The ordinance includes an Airport Overlay Zone. The Airport Overlay Zone defines a Airport Approach Safety Zone which allows all otherwise allowable uses with the following exceptions: (1) landfills, garbage dumps, water impoundments or other uses that attract birds, (2) Churches, auditoriums, school facilities, hospitals, day care centers and other public or private meeting places designed to accommodate more that twenty-five persons at one time, (3) Uses that interfere with aviation due to height of structures, glare from buildings, smoke, lights that shine upwards and radio interference from transmissions. A Clear Zone is also defined within which no buildings or structures are allowed.

The ordinance also includes an Historic Preservation Zone which is intended to implement the historic preservation policies of the Vale Comprehensive Plan. Permitted uses are the same as would be permitted by the underlying zone. However, a permit is required for the alteration of the exterior appearance or for the demolition or the removal on any site or structure listed on the Vale Comprehensive Plan Inventory of Historic Sites and Structures.

Requirements for public facilities and services are included in section 8.15A.3.2. This section states that generally the cost of extensions or improvement shall be borne by the developer and that "creation of a new street or improvements of existing streets or rights of way shall conform to the City's existing street patterns and shall be engineered and constructed to City specifications." The section also notes that "road maintenance shall be the responsibility of the County or appropriate road district, if and only if, the road is formally accepted into the road system pursuant to State statute."

City Of Vale Subdivision Ordinance

In this ordinance, the City of Vale outlines the requirements for developing new subdivisions, as well as addresses transportation infrastructure design standards, as described in Table 2-1. The Subdivision Ordinance also dictates street spacing and facility improvement standards.

Table 2-1
Current Street Design Standards

Street Type	Minimum Right of Way	Minimum Roadway Width	Maximum Grade	Minimum Curve Radius	Minimum Length of Tangent to Intersection	Maximum Length	Sidewalks[5]	Surface Drainage	Median
Arterial	80 ft[1]	60 ft	6 %	200 ft[3]	100 ft[4]		Required	Required	8 ft
Collector	60 ft[1]	38 ft	10 %	100 ft	100 ft[4]		Required	Required	
Continuos Minor Street	60 ft[1]	38 ft	12%	100 ft	50 ft[4]		Required	Required	
Cul-de-Sac	60 ft[1,2]	40 ft	12%	100 ft	50 ft[4]	400 ft	Required	Required	
Alley	20 ft	16 ft	12%	100 ft			Required	Required	

[1] Where constrained by topography or other conditions, narrower right-of-way may be acceptable, generally not less than 50 ft.
[2] Minimum radius for turn-around is 50 ft.
[3] Minimum curve radius on 300 ft. on major arterials, 200 ft. on minor arterials.
[4] Intersections which contain an angle less than 80 degrees or which include an arterial street have a minimum 20 ft roadway radius.
[5] Sidewalks shall be installed on both sides of a public street and in any special pedestrian way within the subdivision, except that in the case of primary or secondary arterials, or special type industrial districts, the Planning Commission may approve a subdivision without sidewalks if alternative pedestrian routes are available; and provided further, that in case of streets serving residential areas having single-family dwellings located on lots equivalent to two and one-half (2.5) or less dwelling units per gross acre, the requirement for sidewalks shall not apply, provided there is no evidence of special pedestrian activity along the streets involved.

City of Vale Industrial Site Access Study, 1996

This report studied alternatives to improve truck traffic access to industrial sites north and south of the Oregon Eastern Railroad. The recommended improvement entails the construction of a new railroad crossing on 17th Street and the installation of crossing gates at that location and at the existing crossing on 14th Street. The access study breaks the project into a series of nine phases of development, at a total cost of approximately $950,000.

MALHEUR COUNTY PLANS, POLICIES AND CODES

Malheur County Comprehensive Plan, 1982

The transportation chapter of the County's Comprehensive Plan (pages 193 to 208) identifies a roadway classification system, describes the responsibility of the County and the four road

districts for maintenance, lists planned improvements, describes public transportation, and discusses bicycle, pedestrian and horse trails.

Functional Classification

The comprehensive plan lists the following roadway classifications:

> Principal Arterial: Roadway of national, interstate and statewide significance
> Minor Arterial: Roadways of statewide and interstate significance
> Major Collector: Roadways of intraregional and intracounty significance
> Minor Collector: Roadways of local and intracounty significance serving areas not already served by a higher-order roadway.
> Local Roads: Roadways of local significance that provide access to adjacent properties. Local roads may be divided into Primary local roads, Secondary local roads, and Special-use local roads.
>
> > Primary local roads: Roadways providing access to adjacent property within an urban growth boundary or serving an urban/non-rural situation. (Includes but not limited to cul-de-sacs, commercial/industrial streets, and minor streets).
> > Secondary local roads Roadways providing access to adjacent property in a rural situation. (Includes rural minor roads, rural cul-de-sacs, and rural public roads).
> > Special-use local roads: Roadways established by the county as having a special purpose and not intended for unrestricted public use.

Maintenance Responsibility

The comprehensive plan distinguishes between the repair and maintenance responsibilities of the County and the four road districts Ironside, Juntura, Ontario and Nyssa. The road districts are responsible for roads within their boundaries and the County maintains all major bridges and dedicated public right-of-way (except state roadways) in the remainder of the County.

Public Facilities And Services Report, 1976

The Transportation section of this report (pages 24 to 29) summarizes the services (related to construction and maintenance of roads) provided by the State, County, four road districts and the cities of Ontario, Nyssa and Vale. The report summarizes the financing mechanisms and pertinent policies of each jurisdiction. The report also lists the following problems and issues:

- The lack of coordinated decisions and advance planning of streets and roads leads to traffic problems and expensive solutions.
- Maintenance of roads is often frequently inefficient, due to lack of coordination and illogical boundaries.
- Road construction standards are not consistent, which leads to problems for the cities as they annex new areas.

- Advance planning of street layout and size could help reduce public expenditures, reduce traffic problems, give the county knowledge of city intentions, and help support other elements of Comprehensive Plans.
- Malheur County is the only county in Oregon with autonomous road districts. This arrangement should be carefully reviewed to determine whether there is unnecessary duplication of equipment and personnel and inefficient road maintenance due to the shaping of jurisdictional boundaries.

Malheur County Strategic Plan, 1996

The Strategic Plan recently adopted by the County includes Physical Infrastructure and Business Development goals that call for transportation improvements. These include the following suggested strategies:

General Transportation Planing

- Collaborate with the Community Solutions Team, Oregon Department of Transportation, and NOVA Transportation Committee to forge a Transportation Master Plan outlining development plans and implementation schedules to complete the transportation projects in Malheur County.
- Coordinate with ODOT and other responsible public jurisdictions the priority for project funding, engineering and implementation.

Park and Ride Program

- Inventory the destinations of all commuters in the potential park and ride service areas.
- Explore and use tax enhancements to motivate private enterprise to become involved in a park and ride program.
- Create and advertise incentives for the use of the Park and Ride Program.
- As in the development of the Park and Ride program by obtaining grants to off-set the initial development costs.
- Encourage business to develop "staggered" shifts for employees.

Rail Improvements

- Inventory and promote the expansion of existing rail services that contribute to the use of rail service in the county.
- Develop a container transfer yard along a rail line in Malheur County.

New Financing Mechanisms

- Investigate the benefits and feasibility of establishing a Port District in Malheur County to fund infrastructure improvements for industrial site development projects.
- Investigate the merits of increasing the use of development fees to finance infrastructure improvements in the City of Ontario.

Airport Improvements/Construction

- Obtain funding for the construction of Vale airport improvements.
- Outline a development plan and implementation schedule for the Vale airport improvements.
- Obtain all necessary permit approvals from Oregon Department of Transportation (Aeronautics) to construct a state airport at Jordan Valley.

OREGON STATEWIDE PLANS, POLICIES AND PROGRAMS

ODOT Statewide Transportation Improvement Program 1998-2001 Draft

A project is identified for a thirty five mile stretch of Highway 20 (mp 223.1 - mp 258.2), including the portion which runs through the City of Vale. The project, which includes preservation and safety corrections, is scheduled to begin in 1998 and continue through 1999 at a projected cost of $7,210,000 (reference: STIP Project - Central Oregon Highway (US-20) Solution Package).

Oregon Transportation Plan

The Oregon Transportation Plan (OTP), in a policy element, defines the goals, policies and actions for the state over the next forty years. It directs the coordination of transportation modes and the relationship of transportation to land use, economic development, the environment and energy use. It also addresses the coordination of transportation with federal, state, regional and local plans. In its system element, the OTP identifies a coordinated multimodal transportation system, a network of facilities and services for air, rail, highway, public transit, pipeline waterways, marine transportation, bikeways and other modes of transportation.

The OTP was adopted by the Oregon Transportation Commission on September 15, 1992. The financing program and legislation needed to implement the plan was submitted to the 1993 legislature, however, the financing plan failed to gain the support of the legislature at that time.

The OTP is part of an ongoing transportation planning process within the Oregon Department of Transportation (ODOT). ORS 184.168(1) requires the state agencies to use the OTP to guide and coordinate transportation activities. The goals and policies stated in the OTP define a balanced and efficient transportation system that promotes accessibility for all potential users.

Along with its associated modal plans (described subsequently), the OTP must comply with the state agency coordination program and the state-wide planning goals. The Land Conservation and Development Committee's (LCDC's) Transportation Planning Rule (TPR) which implements Goal 12 (transportation) requires ODOT to identify a system of transportation facilities and services adequate to meet identified state transportation needs to prepare a transportation system plan. The OTP, including the policy and system elements and adopted

modal and facility plans, is intended to meet the requirements for the state TSP. Transportation Planning Rule requirements will be reviewed and listed in the development of Chapter 9.

Oregon Bicycle and Pedestrian Plan (1995)

The Oregon Bicycle and Pedestrian Plan outlines the general principles and policies that ODOT follows to provide bikeways along state highways and describes the framework for cooperation between ODOT and local jurisdictions. The Plan also offers guidance to cities and counties for the development of local plans. It also states ODOT's commitment to providing wide, paved shoulders in rural areas as a part of its standard construction practices. The state priority is to complete the bicycle and pedestrian networks within urban areas and to accommodate recreational improvements as a part of rural road improvements.

Oregon Highway Plan (1991)

The Oregon Highway Plan (OHP), adopted by the Oregon Transportation Commission in 1991, outlines the policies which enable the Department of Transportation to better manage the highway system for the period 1991-2010. A key component of the OTP, it merits special consideration. The adopted policies of the OHP that pertain to the City of Vale include:

Level of Importance (LOI)
Access Management

Level Of Importance (LOI) Policy

Background and Purpose: The ODOT has devised a "level of importance" classification system to prioritize highway improvement needs and define operational objectives.

The highway classification system defines four levels of importance including:

1. Interstate
2. Statewide
3. Regional
4. District

The level of importance concept is based on the premise that the more important routes require a higher level of service. Interstate routes, for example, should maintain a higher level of service than district routes.

1. **Interstate Highways:** The primary function of highways in this level is to provide connections and links to major cities, regions of the state, and other states. A secondary function in metropolitan areas is to provide connections and links for regional trips within the metropolitan area. Connections are primarily with roadways that serve areas of

regional significance or scope. The management objective is to provide for safe and efficient high-speed continuous-flow operation in urban and rural areas. *Vale does not contain Interstate Highway facilities.*

2. **Statewide Highways:** The primary function of highways in this level is to provide connections and links to larger urban areas, ports and major recreation areas that are not directly served by interstate highways. Statewide highways provide links to the interstate system and alternate links to other states. A secondary function is to provide links and connections for intra-urban and intra-regional trips. Connections are primarily with roadways that serve areas of regional significance or scope.

   Statewide routes generally serve centers of 5,000 or more population, have route lengths of 50 miles or more, do not parallel other statewide routes within 25 miles, connect at each end with interstate routes, statewide routes or major recreational areas, and carry at least 500 vehicles per day. The management objective 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. *Highway 20 and Highway 26 in the City of Vale fall into the Statewide category.*

3. **Regional Highways:** The primary function of highways in this level is to provide connections and links to areas within regions of the state, between small urbanized areas and larger population centers, and to higher level facilities. A secondary function is to serve land uses in the vicinity of these highway. The management objective is to provide for safe and efficient high-speed continuous-flow operation in rural areas, except where there are significant environmental constraints, and moderate to low-speed operation in urban and urbanizing areas with moderate interruptions to flow. *Vale contains no Regional Highway facilities.*

4. **District Highways:** The primary function of highways in this level is to serve local traffic and land access. Highways included in this level primarily serve local functions and are of relatively low significance from a statewide perspective. They are often routes that held a higher function during the early development of Oregon's highway system. With the passage of time and the construction of other through routes the importance of District highways from a statewide perspective has diminished. They now serve a similar function to county roads and city streets. The management objective is to provide for safe and efficient moderate to high-speed continuous-flow operation in rural areas reflecting the surrounding environment, and moderate to low-speed operation in urban and urbanizing areas with a moderate to high level of interruptions to flow. *Included in this level is Highway 451 (Vale-West Highway).*

Table 2-2 summarizes the LOI designation for state highways in the City of Vale.

Table 2-2
Level Of Importance Designation For State Highways In The City Of Vale

LEVEL OF IMPORTANCE	ROADWAY
Statewide	Highway 20
	Highway 26
District	Vale-West Highway

Level of Service (LOS) Standards: The LOI policy includes operational level of service (LOS) standards as summarized in Table 2-3. These standards are to be used by ODOT when making operating decisions (such as access management decisions) and when coordinating with local comprehensive planning. The ODOT's objective is to maintain LOS at or above the listed standards.

The standards depend on the highway level of importance and general land use characteristics. Special standards are provided for areas where highways are located in exclusive transitway corridors and where highways, other than interstate highways, pass through special transportation areas such as dense transit or pedestrian-oriented business districts. Other allowances are made for highway sections that are severely constrained by intensive land use development or major environmental limitations, and for highway sections that are operating at a substandard level but are not scheduled for improvement in the Six-Year Transportation Improvement Program.

Table 2-3
Operating Level Of Service Standards Levels for Design Hour Operating Conditions through a 20-Year Horizon[1]

Level of Importance	Type of Area Surrounding the Highway					
	Urban[2] Parts of Metropolitan Areas[3]	Urban Parts of Other Cities	Urbanizing[4] Areas and Rural Development Centers[5]	Rural Areas[6]	Special Transportation Areas[7]	Within Exclusive Transit Corridor[8]
Interstate	D	C	C	B	NA	D/E[9]
Statewide	D	C	C	B	E	E
Regional	D	D	C	C	E	E
District	E	D	D	C	E	E

Heavily outlined cells indicate LOS standards for the City of Vale.

1 Operating standards are not design standards. Operating standards are used by ODOT when making operating decisions, such as access management decisions. Design standards, which are used to guide the design of highway improvements, are often higher to provide acceptable operating conditions in the future.

2 Urban areas are those areas within an urban growth boundary that are generally developed at urban intensitiesas allowed by the comprehensive plan.

3 Metropolitan areas include Portland, Salem, Eugene, Medford, Ranier (part of Longview-Kelso) urban areas.

4 Urbanizing areas are those within an urban growth boundary that are undeveloped or are developing. They may include vacant lands and areas developed well below urban intensities as allowed by the local comprehensive plan.

5 Rural development centers are concentrations of development outside of urban growth boundaries. Included are rural unincorporated communities.

6 Rural areas are areas outside of urban growth boundaries but not including rural development centers.

7 Special Transportation Areas (STAs) are compact areas in which growth management considerations outweigh this policy. STAs include central business districts, transit-oriented development areas and other activity or business centers oriented to non-auto (principally pedestrian) travel. They do not apply to whole cities or strip development areas along individual highway corridors.

8 Exclusive transit corridors are corridors within which the highway runs generally parallel to an exclusive transitway, such as a light rail line or exclusive busway.

9 LOS 'D' applies when the facility is located in an urbanizing area. LOS 'E' applies in an urbanized area.

Table 2-4
Access Management Classification System

Category	Access Treatment	LOI[10]	Urban/ Rural	Intersection: Public Road Type[13]	Intersection: Public Road Spacing	Intersection: Private Drive[12] Type	Intersection: Private Drive[12] Spacing	Signal Spacing[11]	Median Control
1	Full Control (Freeway)	Interstate/ Statewide	U	Interchange	2-3 Mi	None	NA	None	Full
			R	Interchange	3-8 Mi	None	NA	None	Full
2	Full Control (Expressway)	Statewide	U	At grade/ Intch	½-2 Mi	None	NA	½-2 Mi	Full
			R	At grade/ Intch	1-5 Mi	None	NA	None[14]	Full
3	Limited Control (Expressway	Statewide	U	At grade/ Intch	½-1 Mi	Rt Turns	800'	½-1 Mi	Partial
			R	At grade/ Intch	1-3 Mi	Rt Turns	1200'	None[5]	Partial[15]
4	Limited Control	Statewide/ Regional	U	At grade/ Intch	1/4 Mi	Lt/Rt Turns	500'	½ Mi	Partial/None[16]
			R	At grade/ Intch	1 Mi	Lt/Rt Turns	1200'	None[5]	Partial/None[7]
5	Partial Control	Regional/ District	U	At grade	1/4 Mi	Lt/Rt Turns	300'	1/4 Mi	None
			R	At grade	½ Mi	Lt/Rt Turns	500'	½ Mi	None
6	Partial Control	District	U	At grade	500'	Lt/Rt Turns	150'	1/4 Mi	None
			R	At grade	1/4 Mi	Lt/Rt Turns	300'	½ Mi	None

Access Management Policy

Purpose: Several factors, including the number, spacing, type and location of accesses, intersections, and traffic signals have a significant effect on the capacity, speed, safety and general operational efficiency of highways. These factors need to be effectively managed in order to operate the highway system. Collectively these factors comprise access management. The OHP Access Management policy provides a framework for making access decisions which will be consistent with the function and operating levels of service identified in the LOI Policy.

10 The Level of Importance (LOI) to which the Access Category will generally correspond. In cases where the access category is higher than the LOI calls for, existing levels of access control will not be reduced.

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

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

13 The basic intersection design options are as listed. Special treatments may be considered in other than category 1. These include partial interchanges, jughandles, etc. The decision on the design should be based on function of the highway, traffic engineering, cost-effectiveness and need to protect the highway. Interchanges must conform to the interchange policy.

14 In some instances, signals may need to be installed. Prior to deciding on a signal, other alternatives should be examined. The design should minimize the effect of the signal on through traffic by establishing spacing to optimize progression. Long-range plans for the facility should be directed at ways to eliminate the need for the signal in the future.

15 Partial median control will allow some well-defined and channelized breaks in the physical median barrier. These can be allowed between intersections if no deterioration of highway operation will result.

16 Use of physical median barrier can be interspersed with segments of continuous left-turn lane or, if demand is light, no median at all.

It will be used by the ODOT to carry out its responsibilities for managing access under statutes and administrative rules. It will also be used by the OSHD to guide the design of highways and coordination with local comprehensive planning.

Policy: The OHP Access Management Policy standards are defined by roadway category in Table 2-4. Table 2-5 summarizes the access management category designation for state highways in the City of Vale.

Table 2-5
Access Management Category Designation For State Highways In The City Of Vale

ACCESS MANAGEMENT CATEGORY	LOI	ROADWAY
4 - Urban	Statewide	Highway 20
4 - Urban	Statewide	Highway 26
6 - Urban	District	Highways 451

* Subject to change upon completion of the TSP

Oregon Benchmarks (1994)

The Oregon Benchmarks (updated in 1994) is a planning guide used by all State agencies to track quality of life issues throughout the State. In 1992, the Governor's Task Force on State Government recommended in their report, New Directions, that Oregon Benchmarks be integrated into the goals of state agencies, and their planning and budgeting be directed towards addressing the significant Benchmarks.

A number of transportation related Benchmarks guide ODOT planning efforts. One of the core benchmarks is to provide livable communities, a component of which entails providing transportation facilities to points near where people live and work. This same theme on improving transportation access options appears under the Developed Communities Benchmark. In addition, this Benchmark emphasizes access to alternative transportation modes. Under this same Developed Communities Benchmark, specific goals exist for improving state highways, transit facilities, and air service. Under the Benchmark to maintain Oregon's capacity for expansion and growth, transportation related goals are considered to be critical. Specifically, this Benchmark calls for improvements to telecommunication networks throughout the State. All of these goals are considered important to improving the livability, the developed environment, and the capacity for expansion and growth of communities throughout Oregon.

Oregon Aviation System Plan (1991)

The Oregon Aviation System Plan (ASP) provides state policy guidance and a framework for the planning and operation of a safe, convenient, and economic system of airports. The ASP will contain the following elements:

- A classification of public and private airports;
- An analysis and projection of state and regional aeronautical facility and service needs;
- A strategic plan designed to carry out the purpose and policy of the aviation system planning rule (OAR 660-13);
- Policies that promote planning, coordination, and technical assistance in airport development and safety; and
- A mechanism to change the classification of an airport, including coordination with affected local governments.

A city or county with planning jurisdiction for an airport identified in the state ASP is required to prepare a local TSP. The city or county has the option of requiring the local airport owner or manager to prepare the TSP. Local TSPs must be coordinated with transportation system plans. In Malheur County, there are five general aviation airports identified in the state ASP. Table 2-6 summarizes the five airports by classification. Numerous other private airstrips are located throughout Malheur County.

Table 2-6
Oregon Aviation System Plan Malheur County General Aviation Airports

AIRPORT	CLASSIFICATION
Ontario Municipal	NPIAS*
McDermitt State	NPIAS
Miller Memorial Airpark (Vale)	Non-NPIAS (publicly owned)
Owyhee Reservoir State	Non-NPIAS (maintain only)
Rome State	Non-NPIAS (maintain only)

* National Plan of Integrated Airport Systems

Oregon Rail Freight Plan (1994)

The Oregon Rail Freight Plan (ORFP) presents an overview of the state's rail system, how it operates and how it is used. The Plan also examines rail lines that may be eligible for state or federal assistance. State and local government have little authority over rail, as it is privately owned.

Rail carrier service in Malheur County identified in the ORFP includes Union Pacific connecting Ontario, Nyssa, and Adrian to Portland and Boise and spur service between Ontario and Vale via the Oregon Eastern (OE) Spur.

Oregon Rail Passenger Policy and Plan (1992)

With the closure of Amtrak's Pioneer Line, there is no passenger rail service in Malheur County. The Oregon Rail Passenger Policy Plan focuses on intercity rail options. The Plan does not consider commuter rail opportunities.

Section 1.6.7 - Oregon Transportation Safety Action Plan (1995)

The Oregon Transportation Safety Action Plan (OTSAP) is the safety component of the OTP. The OTSAP identifies 70 specific actions which constitute a safety agenda to guide ODOT and the state over the next 20 years. Of the 70 actions, the following 11 respond to most traffic-related deaths and injuries or other key areas of concern:

- Develop a traffic law enforcement strategic plan;
- Seek a dedicated funding source for traffic law enforcement services and support needs;
- Continue a sustained research-based transportation safety public information/education program;
- Support the expansion of local transportation safety programs;
- Complete a strategic plan for traffic records improvements and establish a traffic records system that will serve the needs of state and local agencies;
- Recognize the prevalence of driving under the influence of a controlled substance and revise DUII standards;
- Pass legislation to establish 0.04 percent blood alcohol count (BAC) as the standard for measuring alcohol impairment for all drivers 21 years and over. Continue zero tolerance law for persons under 21;
- Establish and fund a statewide accident management program designed to minimize traffic congestion and secondary crashes by clearing incidents as quickly as possible;
- Ensure access to child safety seats to all young children;
- Develop and implement a comprehensive youth transportation safety strategy for youth to age 21; and
- Increase emphasis on programs that will encourage pedestrian travel and improve pedestrian safety.

Corridor Planning

Corridor Planning is a program to develop a long-range "vision" and plan for improving and managing the state transportation system. The program aims to assure consistency of land use plans and transportation plans in these corridors. Corridor planning will identify the functions and levels of service of each corridor, needed transportation facility and service improvements, transportation management actions, priorities for actions, and any changes in comprehensive land use plans needed to make transportation improvements and to protect the integrity of the transportation investments.

Draft Interim Corridor Strategy for the Sisters to Ontario Corridor (OR Highway 126/US Highway 26), September 1997

This draft plan, prepared by ODOT Region 5 Office, proposes an interim strategy and objectives for the operation, preservation and enhancement of transportation facilities within the Sisters to Ontario Corridor. Key finding include:

- Automobiles are the primary mode of passenger transportation in the corridor and public transportation services in the corridor primarily provide mobility for senior and disabled citizens who otherwise would not have a reliable means of transportation.
- The corridor is a popular route for bicycle touring enthusiasts. Sidewalks and paved shoulders are inadequate throughout the corridor.
- There is no rail freight through out the corridor. Rail freight service is limited to the western and eastern ends of the corridor.
- Amtrak service to Ontario was discontinued in 1997.
- There is no intercity bus service along the corridor east of Prairie City.
- Connections between modes of travel are minimal and could be improved.
- At the present rate of population and traffic growth, moderate congested areas will become more congested with high congestion stop-and-go traffic expected in Redmond, Prineville, and Ontario in the next 20 years.
- Investment in geometric and capacity improvements and facilities management techniques such as signal timing and driveway consolidation in urban areas would not substantially improve travel times in the corridor.
- The majority of accidents in the urban areas of the corridor are attributed to intersection or driveway access. Nighttime and icy conditions account for the majority of accidents in the rural mountainous segments of the corridor.
- Pavement conditions in the corridor are below the statewide average.
- Timber, agriculture and tourism generate a traffic mix that is often in conflict because of speed differentials, familiarity with the corridor and the ability to climb steep grades.
- There are numerous areas throughout the corridor that have a history of vehicle collision with deer and elk.
- Geometric limitation of US Highway 26 restrict local freight shipments and affect local economies.

Draft U.S. Highway 20 Corridor Strategy (Bend - Vale), June 1996

This draft plan was prepared by ODOT. Key issues include:

- Non-Highway transportation facilities within the corridor are very limited.
- Favorable highway level of service is expected to persist over the 20-year planning horizon.
- Accidents in urban areas are primarily intersection-related.
- There are limited alternatives to the private automobile for the mobility-disadvantaged population in this corridor.
- Trucking is the only alternative for freight movement in the corridor.

- Partnering may be a viable solution to facilitating implementation of specific objectives within the corridor (i.e., rest stops, scenic waysides) which otherwise may not be completely funded by government sources in the near term.

FEDERAL TRANSPORTATION PLANNING REPORTS, CURRENT PLANNING EFFORTS AND RECENT AND FUTURE TRANSPORTATION IMPROVEMENTS

Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

ISTEA set maximum funding levels for federal-aid highway and transit programs through the fiscal year 1997. The funding levels set by ISTEA could be reduced by congress each year as part of the appropriation process and were proposed to increase significantly in later years of the act. For Malheur County, the prioritization of projects and funding would not change significantly from past practice in that the County's priorities must compete with statewide priorities and needs.

The major programs funded under ISTEA that applied to Malheur County include:

National Highway System

Which includes the interstate system and other major highways. These other major highways are those routes designated in the Oregon Highway Plan as "statewide" significant routes.

Surface Transportation Program

Funds under this program can be used for any transportation project on any road except those classified as local or rural minor collector. The act sets aside 10% at this fund for safety improvements, 10% for transportation enhancement activities, 50% to be distributed to areas within the state based upon the states relative share of population between urbanized areas over 200,000 population and other areas, with the remaining 30% available to use in any area of the state.

Bridge Program

This program provides for inspection, maintenance, rehabilitation or replacement of bridges on any highway system.

Safety

As stated above, 10% of the surface Transportation Program funds are set aside for safety projects.

Although there are a number of other programs funded by ISTEA, such as Congestion Mitigation, IVHS and Mass Transit, these programs would generally not apply directly to the City of Vale.

In order for any needed project to balance the transportation and land use requirements, a thorough description of each project as well as its benefits, estimated cost and alternatives must be prepared in order to compete with the statewide needs. In addition, potential funding sources must be identified for each project.

The enactment of the ISTEA began moving decision-making for federal programs to states and this program and other state policies incorporated in the Oregon Transportation Plan encourage reassessment of responsibilities and obligations for funding. These changing relationships have resulted in significant issues for state and local governments. There is no clear definition of state responsibility. At one time, the state operated on an informal consensus that it should provide one-half the match on federally funded local and other projects that served statewide needs. No similar consensus seems to exist today. The state's responsibility for transit, airports and other local transportation infrastructure and services is not clear.

Congress will deliberate the reauthorization of the surface transportation legislation, and must reauthorize ISTEA by September 30, 1997.

3 Goals and Objectives

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 3:
GOALS AND OBJECTIVES

The purpose of the TSP is to provide a guide for the City of Vale to meet its transportation goals and objectives. The following goals and objectives were developed for the scope of work for this project. Each element in the plan was evaluated against these goals and objectives.

GOAL STATEMENT

The City of Vale Transportation System Plan (TSP) shall meet all specifications and requirements set out in the 1995 DLCD Transportation Planning Rule (TPR) and the 1995 ODOT Transportation Plan.

OVERALL TRANSPORTATION GOAL

Develop a transportation system that enhances the livability of the City of Vale and accommodates growth and development through careful planning and management of existing and future transportation facilities.

Goal 1
Improve and enhance safety and traffic circulation

Objectives

- Develop an efficient road network
- Improve and maintain existing roadways, bridges and railroad crossings
- Identify truck routes to reduce truck traffic in residential areas
- Identify local problem spots and recommended solutions

Goal 2
Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the agricultural character of the surrounding area.

Objectives

- Adopt policies and standards that address street connectivity, spacing and access management
- Coordinate rights-of-way and alignments between the City and County well in advance of street projects
- Improve access into and out of commercial and industrial areas
- Improve the access onto and off of arterial roadways to encourage growth
- Promote railroad freight service to reduce truck-related traffic

Goal 3
Preserve the function, level of service and safety of City streets.

Objectives:

- Develop access management standards
- Promote alternative modes of transportation
- Promote transportation system management
- Develop procedures to minimize impacts to and protect transportation facilities, corridors or sites during the development review process
- Promote railroad freight service

Goal 4
Increase the use of alternative modes of transportation (walking and bicycling) through improved access, safety and service.

Objectives

- Provide sidewalks and safe crossings on arterial and collector streets
- Provide shoulders on rural collector and arterial streets
- Provide appropriate bikeways
- Promote alternative modes through community awareness and education

Goal 5:
Improve safety and decrease potential conflicts with other land uses at airport facilities in the vicinity of the City of Vale.

Objectives

- Work with the County to extend and improve the runway at Miller Memorial Airport.

4 Existing Transportation System

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 4:
EXISTING TRANSPORTATION SYSTEM

A detailed assessment of the existing transportation system has been conducted for the City of Vale. This section of the City of Vale Transportation System Plan (TSP) provides a summary of the existing system conditions within the City, and includes the following:

- physical characteristics and existing traffic control measures on arterials and collectors;
- existing traffic operations (levels-of-service) and safety characteristics of state highway facilities within the City;
- existing traffic volumes;
- characteristics of existing pedestrian facilities;
- characteristics of existing bicycle facilities;
- existing public transit service; and
- existing rail, air, pipeline and water service.

ROADWAY FACILITIES

The transportation system in the City of Vale consists almost entirely of roadway facilities for motorized vehicles, serviced by the City. The emphasis on automobile, truck and farm vehicle travel is unlikely to change within the 20-year planning horizon. As the foundation of the most significant portion of the transportation network, state highways and collectors and a portion of the local streets, were driven to collect and verify inventory information. Appendix A lists the complete inventory information gathered through the Oregon Department of Transportation, Malheur County, the City of Vale and an extensive roadway survey.

Functional Classification

Three street types have been identified within the City of Vale: arterial, collector and local. Figure 4-1 illustrates the location of these facilities.

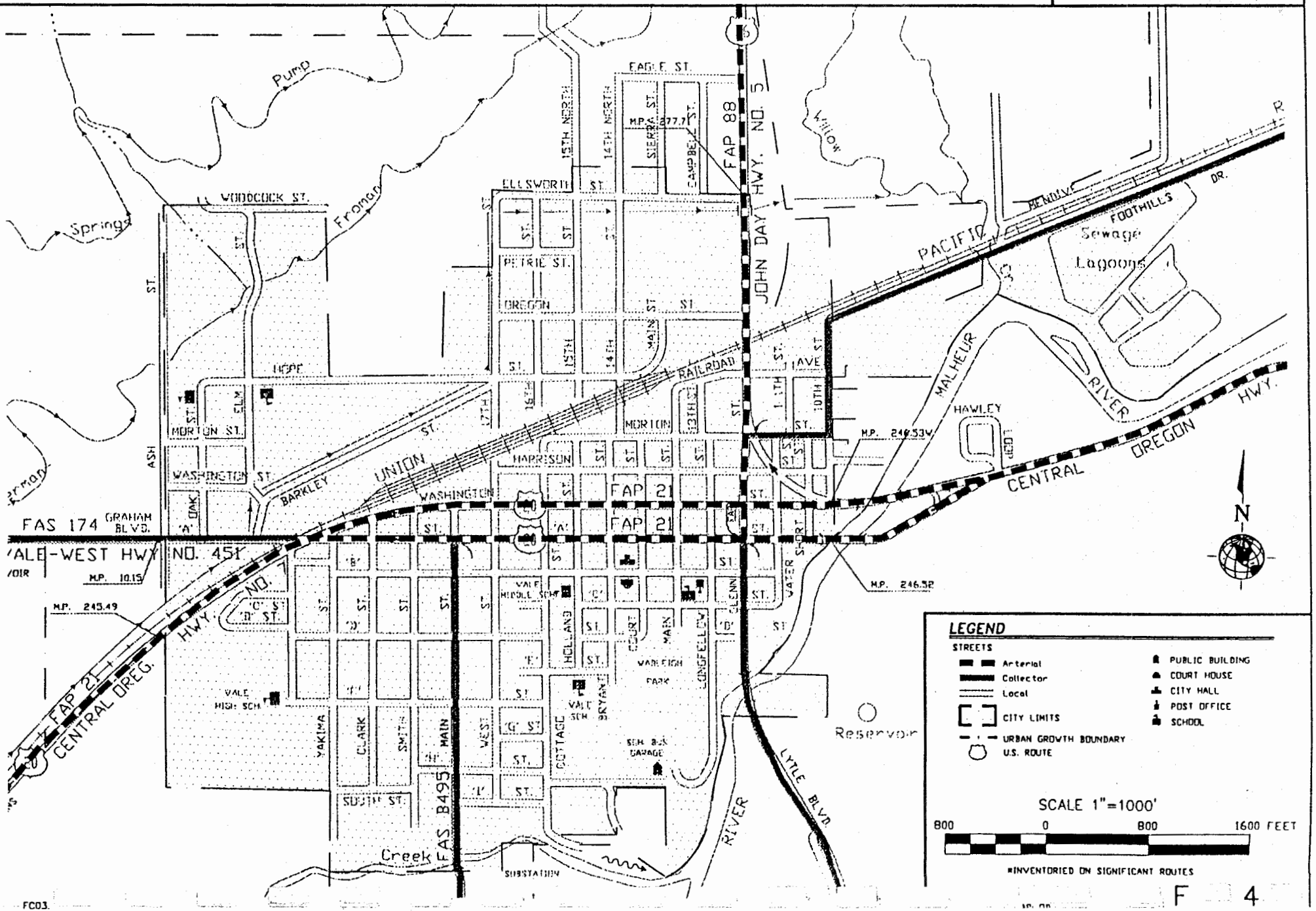
Arterials

Arterials form the primary roadway network within and through a region. In Malheur County, arterials generally link major cities in the County. Within cities, arterials act as conduits through town. These arterials typically function as main streets, operating at lower travel speeds with moderate land access. In the City of Vale, Glenn Street, Washington Street and "A" Street form the arterial network, passing through the commercial core and connecting Vale with Ontario to the east, Burns in Harney County to the west and Nyssa to the south.

CITY OF VALE TRANSPORTATION SYSTEM PLAN

Existing Functional Classification

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455



Collectors

In the City of Vale, collectors connect other collectors and local streets to major or minor arterials, and activity centers. Collector streets in the City of Vale include West Main Street, Graham Boulevard, Lytle Boulevard, Lagoon Drive and portions of Morton Street and 10th Street.

Local Streets

Local streets allow private residences and businesses to access any other type of roadway facility, except interstates. In the City of Vale, local streets connect local residents with the arterial and collectors described previously, as well as with significant destinations, such as schools and business/commercial activities.

State Highways

Highway 20 serves as the primary east-west route through the City of Vale. The City of Vale owns the right-of-way, and ODOT has responsibility for maintenance between the curbs. Highway 20 functions as part of the foundation of City transportation and supports commercial and industrial development in Vale. Between the eastern City Limits and just east of Graham Boulevard, Highway 20 operates as a one-way couplet. Washington Street becomes its westbound leg, while 'A' Street serves eastbound traffic. Both segments of the couplet contain two travel lanes, often with parallel parking on both sides, and with a surface width between 43 and 54 feet. Posted speeds on the couplet are set at 25 mph. West of the one-way couplet, Highway 20 operates as a two-lane facility with 32 feet of pavement and a posted speed of 35 mph.

Highway 26 enters Vale from the north and joins Highway 20 in Vale's commercial core. This two-lane facility travels through areas of relatively high residential density and supports heavy vehicle traffic on an adjacent truck route. The posted speed on Highway 26 is 30 mph to 40 mph.

Vale-West Highway (Graham Boulevard) terminates at Highway 20 in Vale, just east of the Oregon Eastern Railroad crossing. Vale-West Highway largely serves agriculture-based traffic, providing a conduit into Vale for rural growers. In addition, the highway brings residential traffic into town. Vale-West Highway functions as a 22-foot wide, two-lane road with no shoulders, and a posted speed of 35 mph.

Other Roadways

The majority of streets in Vale are maintained by the City and serve local traffic. North of the Oregon Eastern Railroad, collectors and local streets provide residential and industrial access and

circulation, but south of the major residential areas, streets which include Elm Street, Barkley Street and Hope Street span the designated truck routes serving the City's most concentrated industrial area. As a result, these streets support a larger percentage of heavy vehicles than most of Vale's transportation facilities.

South of the Oregon Eastern Railroad and to the east of Highway 20 and Lytle Road, Vale's street network supports both residential and agricultural-based traffic. Streets within the vicinity of the downtown one-way couplet serve primarily commercial traffic, but also connect northern residents with Vale's primary and secondary schools located in the south. South of the one-way couplet, 'D' Street, 'F' Street and Cottage Street allow traffic to flow directly between Vale Elementary School, Vale Middle School, Vale High School and Wadleigh Park, as well as provide a connection with rural areas south of the City.

Collector and local streets are generally posted at either 15 mph or 25 mph, and consist of two travel lanes. Newer streets in southern Vale and near Ellsworth Street usually have curbs and gutters, while older streets generally do not. The total pavement surface widths on collector and local streets is generally either 32 feet or 54 feet, a reminder of original streets wide enough for the turn of a horse and carriage.

Existing Traffic Control

The majority of traffic control in Vale consists of stop signs on minor street approaches at significant intersections. Intersections along arterial and collector streets are considered significant.

Signalized intersections on roadways in the City of Vale are limited to two flashing lights at the intersections of Highway 20 (Washington Street and 'A' Street) and Highway 26. Both lights allow continuous flow along Highway 20, and show a blinking red light to drivers traveling north and south. Three additional control devices regulate traffic at the Oregon Eastern Railroad crossings. The single track crosses Graham Boulevard within 30 feet of Highway 20, where crossing gates regulate the intersection. Crossing gates also control traffic on Glenn Street at the rail line. Crossbucks warn drivers at the 14th Street crossing, which is part of Vale's existing designated truck route.

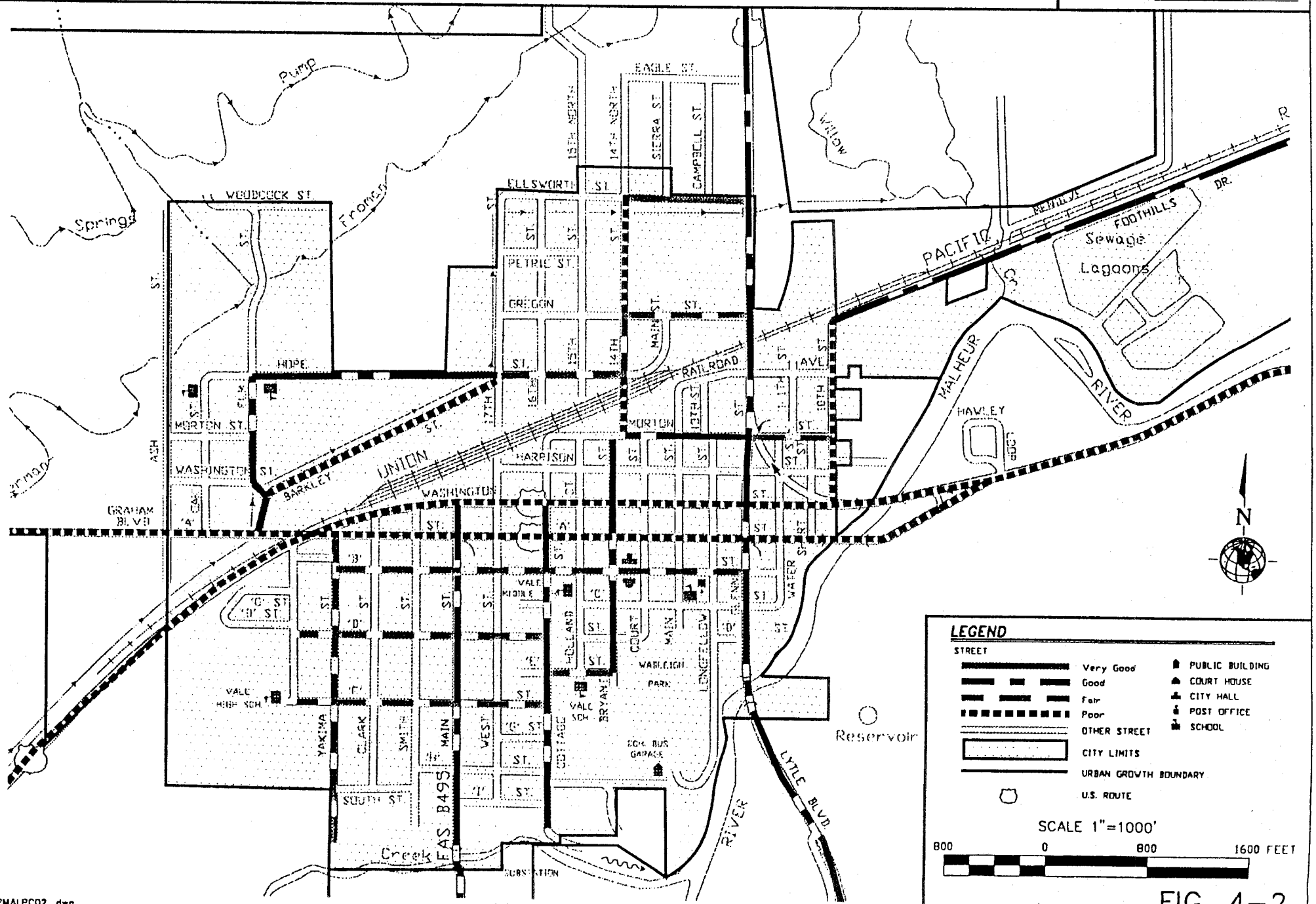
Pavement Condition

Pavement conditions along the arterial and collector streets vary throughout the city. In keeping with ODOT's general condition categorization, all recognized arterials and collectors, and other streets which serve these functions have been classified by pavement condition, and are shown in Figure 4-2.

CITY OF VALE TRANSPORTATION SYSTEM PLAN

Pavement Condition

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455



LEGEND

STREET
- Very Good
- Good
- Fair
- Poor
- OTHER STREET
- CITY LIMITS
- URBAN GROWTH BOUNDARY
- U.S. ROUTE

- PUBLIC BUILDING
- COURT HOUSE
- CITY HALL
- POST OFFICE
- SCHOOL

SCALE 1"=1000'

800 0 800 1600 FEET

BASE MAP: ODOT TDB

PMALPC02. dwg

FIG. 4-2

The majority of streets inventoried in Vale are in *Good, Fair* or *Poor* conditions. Some are in *Very Good* condition. No arterial or collector street exhibited *Very Poor* pavement, nor did any other streets inventoried.

Bridges

The state and county own two bridges, each in the City of Vale. These bridges include:

- Highway 20 (2) over the Malheur River (milepost 246.55);
- Glenn Street over the Malheur River (milepost 0.24);
- West Main Street over Bully Creek (milepost 0.40); and

ODOT ranks bridges according to the status of their functionality. Bridges are either "functionally obsolete", "structurally deficient" or "not deficient", determined through state or county inspection. All of the state and county-owned bridges in the City of Vale are considered "not deficient."

TRAFFIC VOLUMES

Traffic volumes along Highway 20, Highway 26 and Vale-West Highway through the City of Vale in 1996 are shown in Table 4-1.

Turn movement volume counts also exist for eight intersections along "A" Street and Washington Street. PM peak hour level-of-service (LOS) analyses based on these counts are summarized in Table 4-2. See Appendix C for description of level of service. Under current traffic conditions, all eight intersections perform within the level-of-service "C" standard set by the Oregon Highway Plan for Statewide facilities, as described in Chapter 2.

TRAFFIC SAFETY

A summary of recent[1] reported accidents indicate that a total of 46 accidents occurred on city streets and state highways. Dividing the average number of accidents per year by the product of the street volume and segment length in miles, produces an accident rate.

[1] ODOT accident records for US 20, US 26 and Vale-West Highway, excluding "A" Street, pertain to January 1992 through December 1996. ODOT records on "A" Street contain information form April 29, 1994 through January 23, 1996. City of Vale Police Department records include information from January 1995 through September 1997.

Table 4-1
City of Vale 1996 Average Daily Traffic Volumes on Highway 20, Highway 26 and Vale-West Highway

Location	Milepost	Average Daily Traffic
Highway 20		
West City Limits	245.49	2,600
Highway 20 – Eastbound		
0.01 miles east of Vale-West Highway	245.77	2,000
0.01 miles west of West Street	246.02	3,300
0.01 miles west of Bryant Street	246.19	3,400
0.01 miles east of Bryant Street	246.21	3,600
0.01 miles west of Highway 26	246.38	3,100
0.01 miles east of Highway 26	246.40	2,900
East City Limits	246.52	2,600
Highway 20 – Westbound		
0.01 miles east of Vale-West Highway	245.76W	2,500
0.01 miles west of West Street	246.03W	3,100
0.01 miles west of Bryant Street	246.20W	3,500
0.01 miles east of Bryant Street	246.22W	3,600
0.01 miles west of Highway 26	246.40W	3,400
0.01 miles east of Highway 26	246.42W	2,800
East City Limits	246.55W	2,600
Highway 26		
North City Limits	277.71	2,400
0.01 miles north of Oregon Street	277.87	2,200
0.01 miles north of Washington Street	278.11	2,200
0.01 miles north of 'A' Street	279.16	2,100
Vale-West Highway		
West City Limits	10.15	1,500
0.07 miles west of Highway 20	10.32	2,500

The accident rate along US 26, based on accident information described in Appendix B, in the City of Vale is roughly 0.9 accidents per million vehicle miles (ACC/MVM). Compared to similar state facilities[2], accidents on US 26 correspond to a below-average accident rate, indicating that this segment of the highway does not have significant traffic safety problems.

Table 4-2
Existing (1997) Level-of-Service PM Peak Hour

Intersection	Major Street	Level-of-Service Minor St.
Washington Street / 10th Street	A	A
Washington Street / Glenn Street	A	B
"A" Street / Glenn Street	A	B
Washington Street / Bryant Street	A	B
"A" Street / Bryant Street	A	B
Washington Street / West Main Street	A	B
"A" Street / West Main Street	A	B
US 20 / Graham Boulevard	A	B

Washington Street and "A" Street appear to have a disproportionate number of accidents. However, no apparent pattern exists regarding accident location and cause. (See Appendix B). Volumes on local streets are not known, however, reported accidents do not show a pattern of unsafe street performance.

PEDESTRIAN FACILITIES

Pedestrian travel occurs throughout the City of Vale between residences and schools, commercial areas, public service buildings and churches. Existing pedestrian generators and facilities are shown in Figure 4-3.

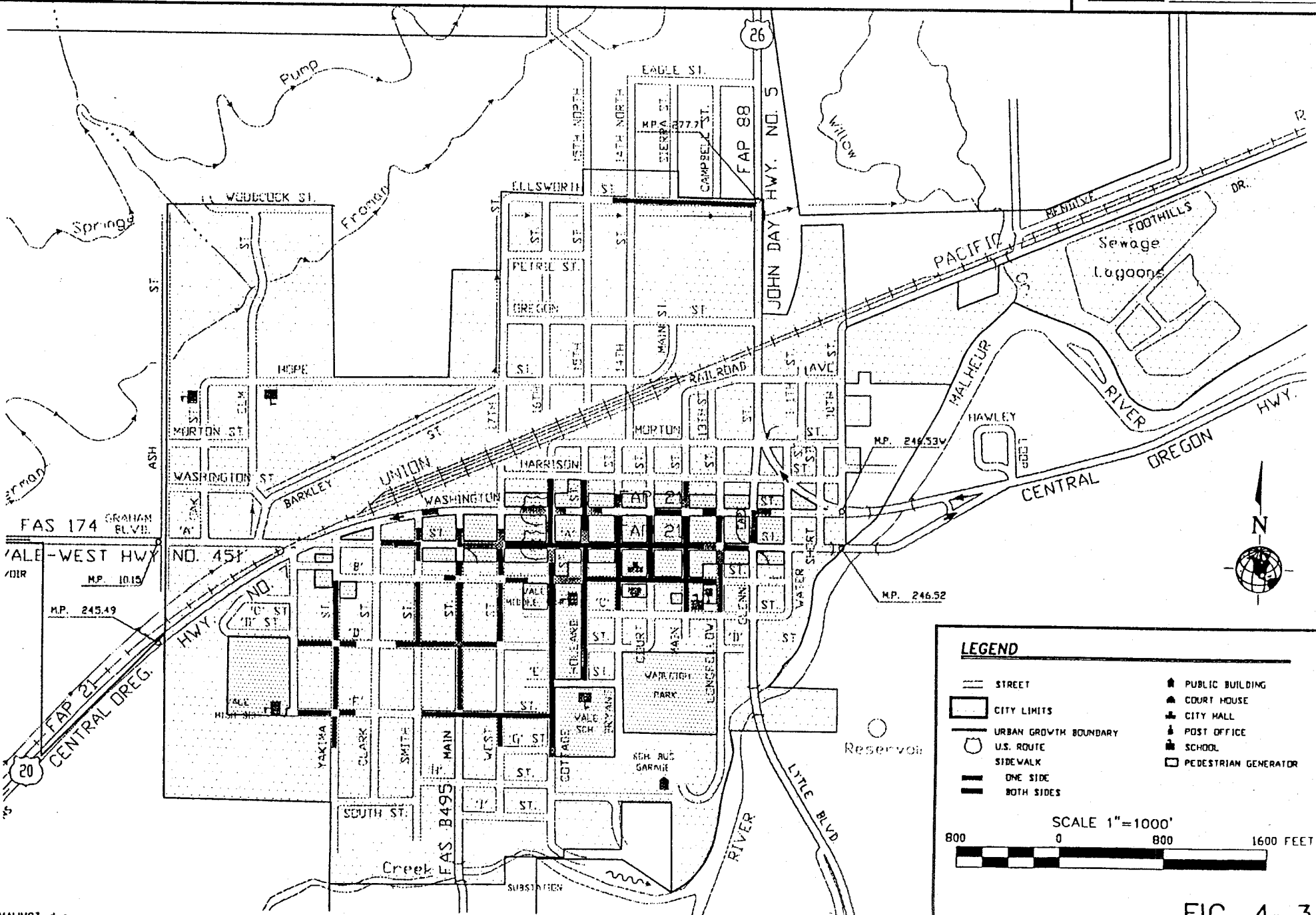
In areas of major pedestrian traffic, the City of Vale has generally constructed adequate sidewalks, particularly between the Vale Elementary, Middle and High Schools and in the downtown core. However, gaps do exist in the sidewalk network of these regions. Newer streets and residential developments, such as the project north of Ellsworth Street, usually contain sidewalks. The newest areas also provide wheelchair access ramps[3], as do reconstructed areas near the City of Vale Courthouse and City Hall and on East Main Street. Sidewalks throughout Vale normally range between four and eight feet in width.

[2] The 1995 state highway accident rate for Primary, Non-Freeway facilities is 1.86 ACC/MVM.
[3] Not all ramps have been constructed to ADA standards.

CITY OF VALE TRANSPORTATION SYSTEM PLAN

Pedestrian Generator and Sidewalk Inventory

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455



LEGEND

- STREET
- CITY LIMITS
- URBAN GROWTH BOUNDARY
- U.S. ROUTE
- SIDEWALK
  - ONE SIDE
  - BOTH SIDES
- PUBLIC BUILDING
- COURT HOUSE
- CITY HALL
- POST OFFICE
- SCHOOL
- PEDESTRIAN GENERATOR

SCALE 1"=1000'

800 0 800 1600 FEET

BASE MAP: ODOT TDB

PMALIM03. dwg

FIG. 4-3

Older residential areas, particularly north of Washington Street, lack sidewalks, although the streets are often extremely wide. Streets in the southwest portion of Vale frequently contain partial sidewalks, some of which show signs of wear.

Along Highway 26, where traffic volumes are relatively heavy and speeds are moderate, four- to six-foot shoulders exist between the City Limits and Washington Street. Between Washington Street and 'A' Street on Glenn Street, four-foot sidewalks exist on the east and half of the west side of the street. Graham Boulevard, which also carries relatively high traffic volumes at moderate speeds, does not contain sidewalks.

Table 4-3
Malheur County Public Transportation Services, 1996

Service Area	Name	Services Provided	Funding Source
Malheur County	DHR Volunteer Program	Volunteer Driver Prgm	STF Title XIX
Malheur County	Malheur County Transportation Service	Dial-A-Ride, Scheduled Trips	16(B)(2) STF
Malheur County	Malheur Council on Aging	Dial-A-Ride, Volunteer Driver Program	STF
Nyssa	Nyssa Senior Center	Dial-A-Ride, Volunteer Driver Prgm, Fixed Route	16(B)(2) STF
Ontario	Courtesy Cab Company	Schedule Trips	Fares for profit
Ontario	Ontario Senior Center	Dial-A-Ride, Volunteer Driver Prgm	16(B)(2) STF
Ontario	Ontario, City of	Fixed Route	S18 STF
Vale	Vale Senior Center	Dial-A-Van, Volunteer Driver Prgm	STF 16(B)2

BICYCLE FACILITIES

Bicycle travel in the City of Vale generally occurs along the same routes as pedestrian travel. Because of the low volume and low speeds of traffic along Glenn Street, Washington Street, "A" Street and Graham Boulevard, separate bicycle travel facilities would not significantly impact safety; bicyclists typically share the travel lane with motorized vehicles in a fairly safe environment.

Along Washington Street through Vale's downtown core, shoulder lanes do not exist. Likewise, 'A' Street does not contain shoulders. In addition, most blocks accommodate parallel parking on both sides of the street. Four to six foot shoulders exist on Glenn Street within City Limits. Graham Boulevard consists solely of two 11-foot travel lanes and does not have paved shoulder.

PUBLIC TRANSPORTATION

There are several local private and community-based transit providers within the Treasure Valley Area. Table 4-3 identifies those listed in ODOT's *Directory of Public Transportation (January 1996).*

In addition to the services described in the table above, the Special Transportation Advisory Board is working with Acorn Pacific, Inc. to develop a referral service for carpooling. The focus of the program would be to inform the employees of the companies and organizations in Malheur County of the benefits of car pooling; to provide a centralized service for those employees who wish to join a car pool; and, to build a base for future van pool service for intercity transportation.

RAIL SERVICE

Running east-west through the City of Vale, the Oregon Eastern Railroad operates a spur line which connects Vale to the Union Pacific main railroad line just south of Ontario. This spur terminates at the Eagle-Picher mineral processing plant west of Vale, from which it carries mineral products and local agricultural products picked up along the route to a more extensive network of transportation facilities and to market and distribution centers. The tracks serve approximately one train (six to eight cars) less than once per day.

AIR TRANSPORTATION

The City of Vale is served by Miller Memorial Airport, located one mile to the southwest. The facility contains two gravel runways, suitable for primarily recreational aircraft. The runways are wide enough to support emergency and other medical transport, fire fighting and search and rescue services. The airport is attended during daylight hours between May and October.

For international commercial and passenger air service, potential airport users can travel through Ontario, approximately 60 miles east of Malheur County along Interstate 84 to the Boise Air Terminal.

WATER

The City of Vale supports no waterborne transportation. The Malheur River, Bully Creek and Willow Creek are used for local irrigation and do not offer recreational opportunities.

PIPELINE

Pipelines in the City of Vale transport water and sewage, serving local residents and businesses. The City now contains approximately 23,300 feet of pipe which carries water from five wells and connects with a storage tank. This water supply is expected to meet Vale's needs throughout the 20-year planning horizon. In addition, the City maintains a network of sewer pipes, the entire system of which will serve a population as great as 3,900.

Privately owned, natural gas pipelines exist within the City of Vale, having tapped off of a main pipeline running northeast-southwest through Ontario. Cascade Natural Gas serves area residents on demand.

Impacts of Growth and Future Needs

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 5:
IMPACTS OF GROWTH
AND FUTURE TRANSPORTATION FACILITY NEEDS

The City of Vale's future transportation facility needs presented in this chapter are based on several factors: historic and projected population change, historic and projected economic change, and historic and projected traffic growth on state highways and major streets within Vale.

POPULATION

Existing and Historic Population

Land use and population change are key factors in projecting future facility needs. However, preparing accurate projections in a small community such as Vale can be challenging. As Figure 5-1 illustrates, historically Vale has experienced significant population shifts. The population increased from 992 in 1910 to 1,510 in 1996; however this increase was not steady. The population reached a low of 922 in 1930 and then increased rapidly to 1,518 in 1950 before tapering off again. Table 5-1 shows the county's population from 1960 to 1996 as well as the percent change between those year. As this table shows, after peaking in 1980, the population of Vale again began to decline, although now appears to be increasing again.

Figure 5-1 City of Vale Population, 1910-1996

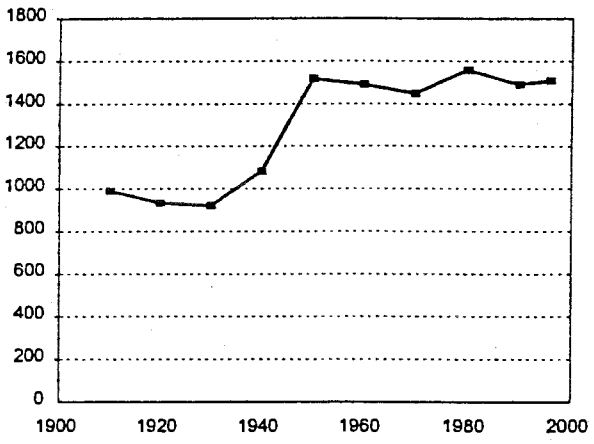


Table 5-1:[1]
Vale Population, 1960-1996

	1960	1970	1980	1990	1996	Percent Change 1990-96
Vale	1,491	1,448	1,558	1,491	1,510	1.27%
Malheur Co.	22,764	23,169	26,896	26,038	28,700	10.22%

[1] Oregon Economic Development Department, data current and valid as of 9/8/97.

W&H PACIFIC

Seasonal Variations

Time of year may affect the amount of traffic on a roadway system. For example, tourism, harvest and closure due to snow or flooding are generally seasonal events. In order to assess seasonality, monthly ADT data for 1996 at Highway 20/26 @ Cairo Junction are presented in Table 5-4. Also included is "Percent of 1996 AADT". This percentage describes the relationship between Monthly ADT and AADT. For example, the January, 1996, ADT at Highway 20/26 @ Cairo Junction is 4,500 trips, This number represents 86% of the 1996 AADT of 5,232. The more extreme the highs and lows of the percentages, the more seasonal the roadway usage. As the data show, the peak traffic season is from June to August.

Table 5-4
1996 Monthly ADT
Highway 20/26 @ Cairo Junction

	Monthly ADT	Percent of 1996 AADT
January	4,500	86%
February	4,800	92%
March	5,197	99%
April	5,429	104%
May	5,622	107%
June	6,008	115%
July	6,394	122%
August	6,372	122%
September	5,983	114%
October	5,600	107%
November	4,800	92%
December	4,540	87%

Type of Vehicle

Malheur County roadways are not uniformly utilized by the same type of vehicles. The proportion of trucks, autos and other vehicles varies by location. Table 5-5 shows the 1996 percentage of truck trips on Highway 20/26 @ Cairo Junction. For comparison, two other Malheur County ATR location are also included. The figure illustrates how the percentage of 1996 AADT at the three Malheur County ATR locations is distributed amongst three generalized vehicle categories: (1) passenger cars and other 2-axle 4-tire vehicles; (2). trucks (including trailers); and (3) other vehicles (including buses, motorcycles and scooters). As Table 5-5 shows, in 1996, US 20/26 at Cairo Junction had the lowest percentage but highest number of trucks trips of the three Malheur County locations.

Table 5-5
Distribution of 1996 AADT by Vehicle Type

Oregon Highway:	US 20/26	US 95	US 20
ATR Station:	Cairo Junction	Basque	Juntura
1996 AADT:	5233	1117	1194
Vehicle Classification:			
Autos/Pick-ups:	4374 (84%)	626 (56%)	769 (64%)
Trucks:	644 (12%)	395 (35%)	308 (26%)
Other (Motorcycles/Buses):	215 (4%)	96 (9%)	117 (10%)

Future Traffic Conditions

Level of service analyses were performed at each of Vale's major intersections based on the future traffic conditions. Table 5-6 summarizes the future LOS analysis. None of the major intersections in Vale exceed the LOS "C" threshold.

Table 5-6
Future Intersection Level-of-Service PM Peak Hour

Intersection	Major Street	Minor Street
Washington Street / 10th Street	A	A
Washington Street / Glenn	A	B
A / Glenn	A	C
Washington Street / Bryant Street	A	B
"A" Street / Bryant Street	A	B
Washington Street / West Main Street	A	B
"A" Street / West Main Street	A	B
US 20 / Graham Boulevard	A	C

FUTURE FACILITY NEEDS

Based on the travel demand forecast, outstanding safety issues (as described in Chapter 4, Existing Transportation System), the special needs of the transportation-disadvantaged (e.g., the elderly and disabled), as well public input, the following needs have been identified:

Roadway

- Work with ODOT to address issues on Highway 20 and Highway 26 in Vale, including reducing speeding and improving truck route signage;
- Repair pavement in poor or failing condition; and
- Improve access management in the Highway 20 and Highway 26 corridor.
- Improve truck routing (ISAS and East -West, Farm - to - Market).
- Improve highway to/Gresham Boulevard intersection.
- Widen Highway 26 (Glenn Street) to State/City Standards.
- Improve street connectivity to new development.
- Improve Washington Street/Glenn Street and "A" Street/Glenn Street intersections.

Bus

- Improve intercity passenger bus service;
- Enhance rideshare opportunities for commuters; and
- Better meet the local and regional transportation needs of the transportation-disadvantaged.

Bicycle/Pedestrian

- Extend and improve pedestrian/bicycle facilities in downtown commercial area and near schools.
- Improve pedestrian crossings at Washington Street and "A" Street.

Airport

- Work with Malheur County to improve the airport near Vale.

Alternatives Analysis

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 6:
ALTERNATIVES ANALYSIS

As required by the Oregon Transportation Planning Rule, transportation alternatives were developed and explored for the Vale Transportation System Plan. The alternatives reflect the potential project options which might be considered for inclusion in the final TSP (Chapter 7). The alternatives were developed with input from the community in order to address the goals and objectives identified in Chapter 3.

The potential transportation system improvements described in this chapter address specific problems or concerns. Table 6-1, identifies all potential transportation system improvements evaluated during the TSP development process and their relationship to the TSP goals.

Table 6-1
Transportation Planning Goals and Potential Transportation Improvement Projects

Goal 1: Improve and enhance safety and traffic circulation	
Project 1	Improve truck routing and infrastructure to support industrial development
Project 2	Realign the intersection of Graham Boulevard and Highway 20
Project 3	Improve Washington/Glenn Street and "A" Street/Glenn Street intersections
Project 4	Implement measures to reduce speeding on Glenn Street, Washington Street and "A" Street in Vale
Project 5	Enhance street network connectivity
Project 6	Enhance one-way couplet circulation
Goal 2: Identify the 20-year roadway system needs to accommodate developing or undeveloped areas without undermining the agricultural character of the surrounding area	
Project 7	Adopt and implement access management for all arterials in Vale
Project 8	Adopt and implement a street classification and design program
Project 9	Work with Malheur county to improve farm-to-market truck routes
Goal 3: Preserve the function, level of service and safety of City streets and State highways	
Project 10	Widen Highway 26 (Glenn Street)
Project 11	Repair pavement in poor condition
Goal 4: Increase the use of alternative modes of transportation (walking and bicycling) through improved access, safety and service	
Project 12	Extend and improve pedestrian facilities
Project 13	Extend and improve bicycle facilities
Project 14	Increase availability and usage of public transportation and ridesharing as appropriate (through coordination with county-wide programs and intercity bus services)
Project 15	Revise zoning and development codes to permit mixed use development
Goal 5: Enhance the safety and compatibility of Miller Memorial Airport near Vale	
Project 16	Extend and modify the runway at Miller Memorial Airport (through coordination with Malheur County)

EVALUATION OF POTENTIAL PROJECTS

Each of the potential transportation system improvements was qualitatively evaluated based on its safety, environmental, socioeconomic and land use impacts, cost and its effectiveness at meeting the transportation planning goals. (See Chapter 3). Detailed cost estimates are provided in Appendix D.

Project 1: Improve truck routing and infrastructure to support industrial development

The City of Vale Industrial Site Access Study (ISAS), described in Chapter 3, examined truck access in Vale's industrial area north of the Oregon Eastern Railroad tracks. In this area, the City has established a specific truck route. The route directs truck traffic between Graham Boulevard and Glenn Street along Elm Street, Barkley Street, Hope Street, 14th Street, and Oregon Street. With the relocation of the existing railroad crossing from 14th Street to 17th Street, the latter will also serve truck traffic. This route would allow trucks to access businesses while minimizing the impact to residential neighborhoods.

In order for trucks to circulate efficiently and safely on this route, the streets should be reconstructed to collector street standards. (See Chapter 9). The City's 1996 ISAS recommends reconstructing these streets to include curb, gutter, sidewalk and drainage, and an appropriate curb return radii to accommodate truck movements. When installing the curb returns, Vale should also install wheelchair ramps in accordance with ADA standards. The ramps will enhance pedestrian access and safety along the truck route.

Specific improvements and their costs per the 1996 ISAS are shown in Table 6-2.

Table 6-2
Industrial Site Access Improvements

Street Reconstruction Projects	Cost[1] (1996 $)
17th Street (Washington Street to Barkley Street)	$217,817
Barkley Street Realignment (to a 90° intersection with 17th Street)	$30,257
Barkley Street (290 feet east from the west side of the beet dump)	$99,117
Yakima Street Construction (Hope Street to Barkley Street)	$64,687
Hope Street (Yakima Street to 17th Street)	$127,287
Hope Street (14th Street to 17th Street)	$91,813
14th Street (Morton Street to Hope Street)	$39,647
14th Street (Hope Street to Oregon Street)	$43,820
Oregon Street (14th Street to Glenn Street)	$88,683
Total	$803,128

[1] Holladay Engineering Co., *City of Vale Industrial Site Access Study*, 1996.

Project 2: Realign the intersection of Graham Boulevard, Washington Street and "A" Street

The intersection of Graham Boulevard, Washington Street and "A" Street currently poses a circulation and safety challenge to drivers, bicyclists and pedestrians. The intersection alignment is skewed causing awkward sight lines. Potential safety conflicts may arise from the railroad crossing on Graham Boulevard at the intersection. The intersections of Highway 20 with Nachez Street and of "A" Street with Yakima Street occur in close proximity to the Graham Boulevard intersection as well. The intersection serves as a farm-to-market connection between Vale-West Highway and Ontario and anchors Vale's industrial area truck route.

As later shown in Chapter 7, the re-alignment of Graham Boulevard to Highway 20 at a 90 degree angle will improve traffic and rail crossing safety through better sight lines, and will accommodate truck traffic more efficiently. A new center, left-turn lane on Highway 20 at Graham Road will be needed at the new intersection. The railroad crossing on Graham Boulevard would be relocated or replaced as needed with new traffic control equipment (rail signal and crossing arms). This project will cost an estimated $696,300.

Project 3: Improve Washington Street/Glenn Street and "A" Street/Glenn Street Intersections

During the public participation process of the TSP development, a concern was raised regarding the safety at the Washington Street/Glenn Street and "A" Street/Glenn Street intersections. A cursory review of accidents reported at these locations indicate the most frequent causes to be improper movement through the intersection and failure to obey the posted traffic control devices.

Project options which have been considered include:

- Installing signs or otherwise increasing driver awareness near the intersections;
- Installing full traffic signals at both intersections, if warranted by traffic volumes; and
- Constructing a one-way couplet - south on Glenn Street, north on Water Street.

Option A

Drivers may not be adequately aware of existing traffic control measures at the Glenn Street intersections. For example, drivers traveling south on Glenn Street might see the flashing signal at "A" Street and visually miss the signal at Washington Street. A relatively inexpensive solution to this problem would be to install better advanced warning signs or pavement treatments to increase driver awareness. The cost of new sign installation or pavement treatment would be minimal.

Option B

Other drivers may recognize the traffic control, but misjudge the time and space they have in which to enter the intersection safely. The installation of actuated (i.e., traffic-activated) signals

would control left and through-movements, with the possibility of minimizing opportunities for driver error. However, to work safely and effectively, traffic signals should only be installed when standards are met. At the two intersections in question, future traffic volumes do not appear to justify the installation of new traffic signals, which would cost approximately $300,000 ($150,000 each).

It is important to note that the installation of signals would not address the geometric constraints of the intersections. Further options have been raised by the City and ODOT to remove the sweeping curve from Highway 20 (westbound) to Highway 26, roughly between Short Street and Morton Street. Removing the existing curve should only be conducted following intersection (curb, gutter, and sidewalk) improvements at the Washington Street/Glenn Street intersection to safely accommodate truck movements. This project should be constructed as part of ODOT's STIP project in Vale.

Option C

In lieu of the East-West, farm-to-market truck route improvements (see Project 9), an alternative option involves constructing a north - south, one-way couplet along Water Street and Glenn Street. The couplet would eliminate right-turn truck movements from Washington Street to Glenn Street, and allow two full lanes for north and south traffic, thereby improving traffic circulation for trucks and autos. In conjunction with the construction of a new one-way couplet, the curve connection between Glenn Street and Washington Street could be partially abandoned.

The cost of the one-way couplet improvement is estimated to be $925,500. This cost includes right-of-way acquisition and the construction of a connection between Lytle Boulevard and Water Street south of "C" Street. The actual cost of the one-way couplet will depend on the final facility location, particularly regarding the connection between Water Street and Glenn Street. This project would significantly impact residential lands along Water Street.

Project 4: Implement measures to reduce speeding on Highway 20 (Washington Street and "A" Street) and Highway 26 (Glenn Street)

The Highway 20/26 corridor planning effort identifies speeding on the highways as a concern in Vale. Various measures could be implemented to discourage motorists from exceeding the posted speed limit. These include:

- Physical measures such as curb extenders, speed bumps, and road narrowing;
- Passive measures such as stop signs and speed limit signs (size); and
- Controls based on driver perception, such as police enforcement and crosswalks (striping/pavement texture).

Implementation of some of these measures may not be desirable as they would conflict with other transportation goals and may create unexpected safety problems. For example, speed bumps, while effective at reducing traffic can create a safety hazard, increase noise, and cause

problems for snowplows. However, it is likely that a combination of appropriate measures could increase speed limit compliance in Vale.

As a traffic and pedestrian safety enhancement measure, approximately sixteen curb extenders should be installed on the one-way couplet in the downtown area at: West Main Street, Cottage Street, Court Street and Main Street. These extenders will be located to enhance pedestrian crossings of Highway 20, while also reducing speeds in the downtown commercial core. The project will cost approximately $32,600 and provide two-fold results:

- calming of highway to traffic without limiting circulation; and
- pedestrian crossing enhancements.

This project should be constructed in coordination with the historic standards and concepts recommended by the Main Street Historical project.

Project 5: Enhance street connectivity

The TPR requires cities to consider street network connectivity, the ability for transportation users to move efficiently about town without having to rely on only one route or mode of travel. Because Vale's street system lies mainly on a grid, the city provides good connectivity in general. However, Vale would benefit from increased connectivity in certain locales as new development occurs.

Specifically, the western extension of Ellsworth Street and northern extension of Yakima Street provide adequate access to new developments in the city's northwest areas. The Ellsworth Street and Yakima Street extensions should be constructed concurrent with development following annexation to the City of Vale, and will cost approximately $825,000.

The southern extension of Yakima Street south of South Street (approximately 500') would serve future development in that area. This improvement will likely be required as development occurs, following the annexation of land by the City of Vale. Yakima Street could eventually be extended south to Airport Road, across the Malheur River, connecting the southwest area of Vale. The cost is approximately $1,167,500. The need for this improvement is unlikely in the next 20 years, based on projected levels of development as defined in the *City of Vale Comprehensive Plan*. This improvement is not recommended for implementation in Vale within the TSP time frame.

Project 6: Enhance one-way couplet circulation

Recent construction of a new supermarket at 10th Street and Washington Street will change traffic patterns in Vale. Drivers traveling east on "A" Street will use eastern Water Street or Short Street to reach the supermarket. Neither street is suitably constructed or posted with appropriate traffic control signs. Outbound traffic from the new supermarket site destined for

Highway 20/26 to the east will also use Water Street or Short Street. These new traffic movements could create unsafe conditions for users of all modes of transportation, and would reduce transportation system efficiency in the immediate area.

No one street circulation alternative presents itself as a viable option in the area. Hence, ODOT and the City of Vale should coordinate and identify appropriate local and collector street connections to Highway 20 as land redevelopment proposals are prepared.

Project 7: Adopt and implement access management standards for all arterials in Vale

Access management is an important tool for maintaining the efficiency and safety of a transportation system. Too many access points can diminish the functionality of an arterial by creating delays and hazards due to turning movements.

Highway 20 (Glenn Street) and Highway 26 (Washington Street and "A" Street) constitute the arterial roadway network in Vale. Through Vale's downtown core, the areas adjacent to these highways are fully developed. The access management standards described here and in Chapter 7 are generally intended to guide new development, not to remove existing street intersections or driveways.

The Oregon Highway Plan specifies an access management classification system for state facilities. Although the City of Vale may designate state highways as arterial streets within its transportation systems, the access management categories for these facilities should generally follow the guidelines of the Oregon Highway Plan. Highway 20 and Highway 26 are currently designated as highways of Statewide Importance. This designation permits: at-grade intersections or interchanges with 1/4 mile spacing for intersections with public roads, left or right turns with 500' spacing for intersections with private roads, signal spacing of 1/4 mile, and either partial or no median control.

While the access management described above can be applied to some portions of Highway 20 and Highway 26 within City Limits, in the developed, downtown core, these spacing distances may be excessive. Shorter block lengths and a well-developed grid system are important to small cities, along with convenient and safe pedestrian facilities. To address this issue, the Oregon Highway Plan allows for the designation of Special Transportation Area (STA) for compact areas in which growth management considerations outweigh the need to limit access. The STA allows for redevelopment with exception to the proposed access management standards. STAs can include central business districts, however, they do not apply to whole cities or strip development areas along individual highway corridors.

Project 8: Adopt and implement a street classification and design program

The function of a street is determined by operational characteristics such as traffic volume and capacity. By classifying streets according to their function, the City of Vale can provide for

consistency in construction, operation and maintenance. These classifications should be reflected in street design standards which link the design of the street to its function. Street design standards should establish desired street widths and amenities (e.g., sidewalks and bike lanes) for the various street classifications at a scale appropriate for the City of Vale. Adoption of a TSP which includes street classification and design standards will allow the City of Vale to implement this program. Chapter 7 describes the recommended street classification system for Vale.

Project 9: Improve farm-to-market truck routes (through coordination with Malheur County) and infrastructure to enhance industrial development opportunities

Vale currently serves as a hub for farm-to-market trucking. Local farmers as well as through trucks traveling on US 20 and US 26 pass through Vale en route to destinations east. A connection between Highway 26 and the east-west, farm-to-market truck route, just inside the city's north Urban Growth Boundary would facilitate transportation between those areas. As described in the Malheur County TSP (Draft, January 1998), the County plans to improve an east-west truck route roadway between Vale and Ontario and State within the next 10-15 years. In coordination with the County, Vale should construct the truck route connection to relieve congestion on Highway 20/26. In Vale there are two major options:

Option A

Parallel the OERR (north) with a new connection between Lagoon Avenue and Highway 26 at Oregon Street. This connection also provides access to planned industrial lands in Vale's northeast corner of the UGB.

Option B

Parallel portions of Vale's UGB northern boundary with a new connector between Lagoon Avenue and Highway 26 at Ellsworth Street. Portions of this project are located outside Vale's UGB (as is much at the East-West farm - to - market truck route), and will require exceptions to Oregon's Statewide Planning Goal #3. Each of the options includes crossing Willow Creek, but provide direct access to industrial lands without crossing the OERR. Most importantly, the east-west truck route connector will reduce the level of local and regional truck traffic through Vale. Estimated cost of the new truck route is $2,250,000 and will likely include ODOT, County, City of Vale, and private partnership in paying for the project.

Project 10: Widen Highway 26 (Glenn Street)

There are two major options to widening Highway 26 in Vale:

Option A

US 26 (Glenn Street) currently consists of two lane travel and shoulders (north of Oregon Eastern Railroad) in Vale. The street serves through and local traffic at a rate of approximately 2,200 vehicles per day. During the TSP planning process it was suggested that Glenn Street be widened to four lanes. An upgrade of Glenn Street to a four-lane facility would allow that facility to accommodate a greater number of vehicles. However, projected volumes on Glenn Street indicate that two lanes will remain sufficient to serve traffic at acceptable levels-of-service throughout the 20-year planning horizon. The East-West, farm-to-market truck route improvement (see Project 9), will further reduce volumes on Glenn Street. Widening US 26 to four lanes would cost approximately $1,644,000.

Option B

An alternative to a four-lane widening project includes reconstructing Highway 26 to urban standards, with new left-turn lanes at major intersections like Oregon Street and Ellsworth Street. This option will improve safety and circulation for through traffic and local auto/truck traffic. This project should include bike lanes, curbs, and sidewalk improvements consistent with State and City street standards. The cost of these improvements is estimated to be $1,475,000.

Project 11: Repair pavement in poor condition

Pavement conditions on streets within Vale were identified in Chapter 4. No streets were identified as having "Very Poor" conditions. The street sections in "Poor" condition are shown in Figure 4-2 and in Table 6-3. That table also provides a rough estimate of the repair costs. It is recommended that the City of Vale schedule the repair of city streets in "Poor" condition within the next five years at a cost of $22,500. These costs are likely borne through the existing street maintenance program. This recommended schedule should be modified based on factors such as traffic volumes and funding availability. ODOT already has prioritized pavement improvements in Vale on Washington and "A" Streets as part of the Statewide Transportation Improvement Program.

Table 6-3
Recommended Pavement Improvements

Poor Condition	Length	Average Width	Cost/Lineal Ft[2]	Cost
Barkley Street	2000'	19'	$27.50	$0[3]
14th Street[4]	840'	14'	$25.00	$0[5]
Washington Street[6]	5400'	35'	$35.50	$191,700
"A" Street[6]	4100'	28'	$32.00	$131,200
Graham Boulevard (Vale West Hwy)	1000'	20'	$28.00	$28,000
10th Street	900'	14'	$25.00	$22,500
	Subtotal - City Streets			**$22,500**
	Subtotal - State Highways			**$350,900**
TOTAL				**$373,400**

Project 12: Extend and improve pedestrian facilities

Providing a safe, pedestrian-friendly environment is critical to retaining vibrant and successful, small-town environment. Pedestrian safety on Washington Street and "A" Street, in particular, has been a concern in Vale, as these facilities, along with "B" Street, serve most of the downtown, commercial core. Sidewalks should be provided adjacent to commercial developments. Likewise, historic areas of Vale, particularly those on the established walking tour, should provide adequate facilities for foot traffic. With the widening of Glenn Street, per Project 10, sidewalks should be added to that facility and to Lytle Boulevard between Morton Street and "C" Street. Other areas of concern center around the routes used frequently by children; routes near to and which connect schools should contain sidewalks. In addition, all new development should include sidewalks along city streets in accordance with the street design standards recommended in Chapter 7.

Sidewalks at least five feet wide are desirable to allow pedestrians to walk side by side and to pass each other safely. Wider sidewalks also enable pedestrians to stop without blocking others. To accommodate a greater density of pedestrians and to encourage patronage in the downtown commercial core, sidewalk widths should be between six and ten feet. In those cases where existing constraints limit available space, sidewalks may be a minimum of four feet wide. New sidewalks and improvements to existing sidewalks should incorporate access ramps per ADA standards. Table 6-4 lists proposed sidewalk improvement locations and their costs. Improvements to existing sidewalks are warranted where those sidewalks are in poor condition or are less than four feet wide. Project 4 also identifies pedestrian enhancements for crossings on Washington Street and "A" Street at major intersections.

[2] Based on planning cost estimates for 2" pavement overlay.
[3] This cost is included in Project 2.
[4] This project does not include the railroad crossing, which will be moved to 17th Street.
[5] This cost is included in Project 8.
[6] Included as part of ODOT's Statewide Transportation Improvement Program for year 1999.

Table 6-4
Proposed Sidewalk Improvements

Location	Length (ft)	Construction Cost[7]
New Sidewalks		
Washington Street (Yakima Street to 10th Street)[8]	6,750	$150,000
"A" Street (Yakima Street to 10th Street)[8]	3,300	$73,330
Glenn Street/Lytle Boulevard (Morton Street to "C" Street)	900	$12,500
"B" Street (Cottage Street to Longfellow Street)	750	$10,420
17th Street (Barkley Street to "D" Street)	625[9]	$8,680
"D" Street (Nachez Street to Cottage Street)	1,875	$26,040
"F" Street (Nachez Street to Cottage Street)	1,125	$15,630
Longfellow Street (Washington Street to "C" Street)	500	$6,940
Cottage Street (Harrison Street to "G" Street)	250	$3,470
Holland Street (Harrison Street to "E" Street)	190	$2,640
Bryant Street (Washington Street to "D" Street)	375	$5,210
Short Street Washington Street to "A" Street	300	$6,670
	Subtotal	**$321.530**
Upgrade of Existing Sidewalks		
Cottage Street (Washington Street to "A" Street)	400	$5,560
"D" Street (Smith Street to West Main Street)	250	$3,470
"F" Street (West Main Street to West Street)	500	$6,940
Washington Street (West Street to Holland Street)	300	$6,670
Washington Street (Court Street to Main Street)	250	$5,560
"A" Street (Cottage Street to Holland Street)	250	$5.560
	Subtotal	**$33,760**
	TOTAL	**$355,290**

Project 13: Extend and improve bicycle facilities

Like pedestrian paths and sidewalks, bicycle facilities encourage people to use alternate modes of travel and contribute to a small-town environment. From the standpoint of safety, bicycle facilities are most critical in areas of high traffic volume and in areas used by children. Bicycle paths can also provide alternative routes for cyclists, allowing them to simultaneously avoid conflict with automobiles and take advantage of recreational opportunities.

Most local streets in Vale serve relatively low traffic volumes and are wide enough to allow bicyclists and motorist to share a travel lane. Notable exceptions occur along the designated truck route north of the Oregon Pacific Railroad line. As these streets are improved (see Project 1), they should include separate bicycle lanes.

[7] The cost of new sidewalks is assumed to be $25/sy. Average sidewalk width on Washington Street and "A" Street is assumed to be 8 feet. All other sidewalks are assumed to be 5 feet wide.

[8] The installation of new sidewalks or upgrade at existing sidewalks on Washington Street and "A" Street are not included in ODOT's current STIP.

[9] The installation of sidewalks on 17th Street between Barkley Street and Washington Street is already included in Project 1.

Also, Glenn Street south of "A Street is substandard today and will continue to serve as a principal collector route in Vale for all modes. Hence, Glenn Street should be reconstructed in this section to include new bike lanes and sidewalk to safely separate modes. The cost of this project is estimated at $464,000.

Additional exceptions exist in areas used frequently by children. Children do not possess the fully developed peripheral vision of adults, and may not see nearby vehicles as well. Therefore, bicycle lanes should be delineated on "D" Street, "F" Street, Cottage Street and Bryant Street. (The former three streets are collectors.) These streets serve Vale's public elementary, middle and high schools, and Wadleigh Park.

Collector streets provide connectivity for auto and bicycle traffic alike. Where possible, these streets should be striped in each travel direction to include six-foot bicycle lanes, where such striping does not reduce travel lanes to less than 11 feet in width. Where existing constraints preclude a six-foot bicycle lane, a four foot minimum bicycle lane width is permissible. Again, the resulting travel lane width must be at least 11 feet. New collectors should include bicycle/parking lanes, as defined in Vale's proposed street standards. The recommended plan for collector streets in Vale include Graham Boulevard, West Main Street, Main Street and Glenn Street (Lytle Blvd.). To the extent possible, these routes should be re-striped or reconstructed to include bicycle lanes.

Arterial streets, which serve the city's highest volumes of traffic, require separate travel lanes to most safely accommodate bicyclists. In Vale, the proposed arterial network consists of Highways 20 and 26, including Washington Street and "A" Street. Glenn Street (Highway 26) is also designated as a Statewide Bicycle Route in the Oregon Bicycle and Pedestrian Plan. These facilities should be striped to include bicycle lanes as part of Vale's existing street maintenance program.

The delineation of bicycle lanes on existing streets should be incorporated into Vale's current maintenance program at negligible cost. Vale already has an extensive grid network; existing streets need not be widened solely to add bicycle capacity. New streets, however, should be constructed according to Vale's proposed street standards, which require bicycle facilities on all collectors and arterials.

During the TSP planning process, a bicycle path was proposed along the Malheur River from Cottage Street to the north City Limits. This path would accommodate recreational bicyclists and offer an alternative route between south and northeast Vale. The 2.5-mile path would cost approximately $594,000 to construct, not including right-of-way acquisition. This project would require significant financial contribution from Federal and State programs (see Chapter 8). The City would need to work with Malheur County to construct and maintain those sections of the proposed path in County jurisdiction.

Project 14: Increase availability and usage of public transportation and ridesharing as appropriate (through coordination with Malheur County and intercity bus services)

Malheur County is responsible under state law for administration of the Special Transportation Fund program in Malheur County. This program, which is funded by cigarette tax moneys, is intended to provide transportation services to the elderly and disabled. Statewide, 75% of the available funds are distributed by formula (for FY 1998 Malheur County received $34,533), and the remaining 25% are discretionary funds available through a competitive grant program. Generally, the discretionary funds are used for capital purchases (e.g., new vehicles) with the other moneys going to operations.

Currently, Malheur County provides limited Dial-a-Ride service for the elderly and disabled. Some limited public transportation service is also provided by the City of Ontario, the Department of Human Resources, Malheur Council on Aging, Nyssa Senior Center, Ontario Senior Center, and Vale Senior Center. However, service in the Vale area is extremely limited. In order to increase available service, Vale should work with ODOT and the County either to develop a new senior van program or to extend the services of an existing provider. Additional opportunities may also exist through enhanced interstate coordination to provide improved service in conjunction with nearby Idaho jurisdictions.

Project 15: Revise Zoning and Development Codes to support alternative travel modes

The Oregon Transportation Planning Rule (TPR) includes the goal of reducing reliance on the automobile. One way cities can do this is through amendments to zoning and development codes to permit mixed use developments and increased density in certain areas (e.g., allowing neighborhood commercial uses within residential zones). Such code amendments can encourage residents to walk and bicycle by providing shorter travel distances between land uses.

These types of code revisions are much more effective in medium- to large-sized cities (greater than 25,000 population) than in smaller cities such as Vale. Because of the compact size of the developed area within Vale, few trips are greater than one mile, and uses are already in relatively close proximity. Additionally, as these revisions would only effect new development, the relatively slow rate of projected growth in Vale further reduces their potential effectiveness within the 20-year planning period.

This project option is not recommended for implementation in Vale.

Project 16: Extend and modify the runway at Miller Memorial Airport (through coordination with Malheur County)

This project would extend (by approximately 500 feet) the runway at Miller Memorial Airport in Vale. Due to incompatible land uses near the north end of the runway, modifications to this

facility have been recommended in the *Malheur County Transportation System Plan (1998)*. This project would extend and essentially move the runway 500 feet to the south. Planning level project costs are estimated at approximately $50,000. The City of Vale's portion has been estimated at 25% ($12,500).

SUMMARY

Table 6-5, summarizes the project option recommendations described in this chapter. Chapter 7 goes into greater detail about how the recommended project options will fit into the modal plans for the City of Vale.

Table 6-5
Transportation Project Options: Summary of Recommendations and Costs

Project	Recommendation	Cost
1. Improve truck routing and infrastructure to support industrial development	Implement	$803,128
2. Realign the intersection of Graham Boulevard and Highway 20	Implement	$696,300
3. Improve Washington/Glenn Street and "A" Street/Glenn Street intersections		
Option A: Installing signs or otherwise increasing driver awareness near the intersections	Implement	Low Cost
Option B: Installing full traffic signals at both intersections; and	Continued Monitoring Do not implement	
Option C: Constructing a one-way couplet - south on Glenn Street, north on Water Street.	Do not implement	
4. Implement measures to reduce speeding on Glenn Street, Washington Street and "A" Street in Vale	Implement	$32,600
5. Enhance street network connectivity		
Option 1: New Ellsworth Street / Yakima Street collector	Implement	$825,000
Option 2: Extension of Yakima Street south	Do not implement	
6. Enhance one-way couplet circulation	Implement	
7. Adopt and implement access management for all arterials in Vale	Implement	Low Cost
8. Adopt and implement a street classification and design program	Implement	Low Cost
9. Work with Malheur county to improve farm-to-market truck routes	Implement	$2,250,000[2]
10. Widen Highway 26 (Glenn Street)		
Option A: Widen to four lanes	Do not implement	
Option B: Widen with left turn lanes, bike lanes, and sidewalks	Implement	$1,475,200
11. Repair pavement in poor condition	Implement	$373,400
12. Extend and improve pedestrian facilities	Implement	$355,290
13. Extend and improve bicycle facilities	Implement	$1,058,000[1]
14. Increase availability and usage of public transportation and ridesharing as appropriate (through coordination with Malheur County and intercity bus services)	Implement	TBD
15. Revise zoning and development codes to permit mixed use development	Do not implement	
16. Extend and modify the runway at Miller Memorial Airport (through coordination with Malheur County)	Implement	$12,500
TOTAL		$7,881,418

[1] Malheur River bicycle path developed only as Federal and State funds become available. Cost of improving Glenn Street is estimated at $464,000.

[2] Includes State, County, City of Vale, and private partnership.

Transportation System Plan

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 7:
TRANSPORTATION SYSTEM PLAN

INTRODUCTION

The City of Vale TSP includes separate elements for each travel mode within the county: Roadway, Pedestrian, Bikeway, Public Transportation, Rail Service, Air Service, Pipeline Service and Waterway Transportation plans. The analysis and evaluation of the various projects was summarized in Chapter 6. Based on that analysis, a number of transportation/land use system plan and project improvements are identified and summarized as part of this chapter. This chapter has been updated in 2001 to include compliance with the 1999 Oregon Highway Plan, incorporation of the Vale Downtown Master Plan (2000-2001), and input received from Vale city officials, the City of Vale, Downtown Advisory Committee, and general public.

Other components of the TSP include transportation policies and standards to effectively guide plan development. These include street design standards, functional classification and access management. Design standards guide the development of new city streets. Appropriate standards should take into account the purpose, or functional classification, of a street. Specific street standards should then be developed which meet the needs of the transportation system, while allowing enough flexibility of design to accommodate city needs.

STREET FUNCTIONAL CLASSIFICATION

Vale city streets should be classified according to their function. Such a classification provides for consistency in construction, operation and maintenance standards within classifications and an understanding by the pubic of the importance of specific facilities and their associated improvements within the system. The Transportation Planning Rule, as described previously in this TSP, also requires cities to classify streets according to their function. The classifications must be consistent with state and regional transportation plans for continuity among adjacent or overlapping jurisdictions and must be based on each street's actual use. The functional hierarchy of streets provides:

- Grouping of streets by the service they provide;
- Facility definitions to handle different desired levels of access and mobility;
- An understanding of how a street is being used;
- Guidelines on how streets are to be designed;

Roadways provide two functions: mobility and access. From a design perspective, these functions can be incompatible; high or continuous speeds are desirable for mobility, while low speeds are more desirable for access. The logical spacing of a grid arterial and collector street system allows traffic to access all areas of the city without diverting excessive traffic through local streets. Local street intrusion is greatest on streets where such spacing has not been achieved. Local streets within the grid can follow any pattern which does not promote through traffic.

Traffic volumes on different streets vary depending on their classification and number of traffic lanes. Figure 7-1 shows the *recommended* functional classification of streets. The function of the street within the roadway system and the types and intensities of land use along their routes are other important factors in their appropriate functional designation.

Arterials link high concentration commercial, residential, industrial, and institutional areas. Arterials streets are typically spaced to assure accessibility and reduce the incidence of traffic using collectors or local streets in lieu of well-placed Arterials. Traffic calming techniques such as bulbed intersections may be used in areas of high pedestrian use to control traffic speeds and promote pedestrian safety. All city Arterials connect outward from Vale into the surrounding areas of Malheur County. These streets include: Highway 20 (Washington Street, 'A' Street), Highway 26 (Glenn Street), and West Main Street.

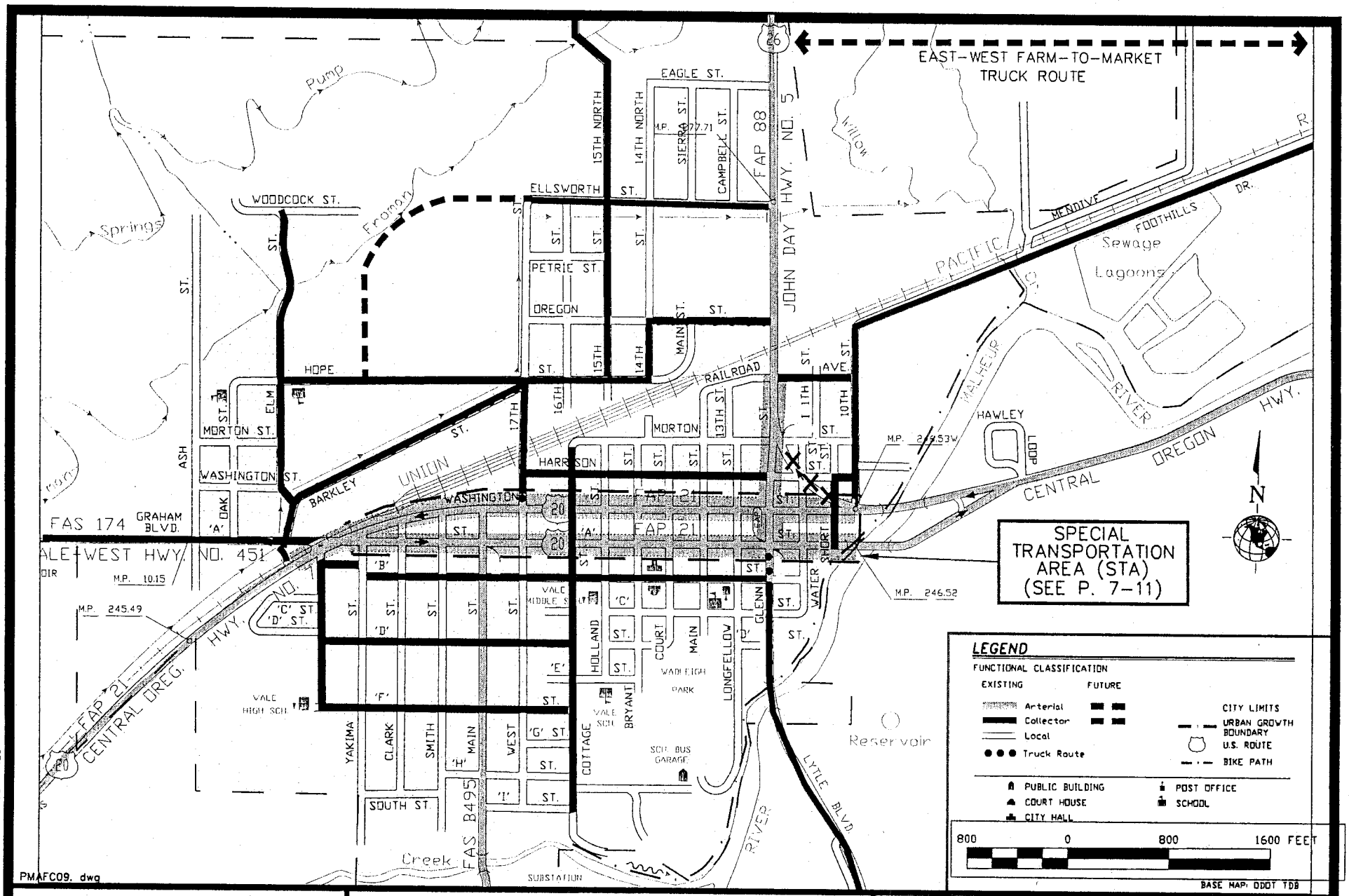
Collectors provide both access and circulation within residential neighborhoods and commercial/industrial areas. Collectors differ from Arterials in two ways:

- Controlled access may not be required for all Collectors; and
- Collectors penetrate neighborhoods, distributing trips from the Arterials through the area to their ultimate destinations.

The standard collector is characterized by a range of uses that typically result in a greater intensity of development along its route or at major intersections with other collectors or arterials. Land uses such as low to medium high density mixed residential, commercial, or industrial and their associated traffic volumes are examples of this kind of intensity. Along many collectors, however, land use along the route may be of low to medium density, generally residential in nature. Traffic calming techniques, such as traffic circles, bulbed intersections, or speed humps, may be used to control traffic speeds. The purpose of the Collector is to minimize the impact of traffic to adjacent land used while recognizing that Collectors may still be necessary to serve less intense residential areas. In Vale, the Collector network includes:

- Graham Boulevard,
- Lytle Boulevard,
- Harrison (17th St. to Hwy. 26),
- Railroad Avenue (Hwy. 26 to 10th St.),
- Short Street ("A" St. to Harrison),
- Harrison Street (Short St. to 10th St.),
- 10th Street,
- Lagoon Drive,
- Viking Drive,
- "B" Street (Cottage St. to Viking St.),
- "D" Street (Cottage St. to Viking St.),
- "F" Street (Cottage St. to Viking Dr.),
- Cottage Street (Harrison St. to "I" St.),
- 17th Street (Hope St. to Washington St.),
- Barkley Street,
- Elm Street,
- 15th Street,
- Ellsworth Street,
- Oregon Street (14th St. to Hwy 26),
- 14th Street (Oregon St. to Hope St.),
- Hope Street (14th St. to Elm St.)
- The planned East-West farm-to-market truck route

Local Streets have the primary function of providing access to immediately adjacent land. Although through-traffic movement on new neighborhood streets usually is deliberately discouraged, this may not be practical for particular neighborhoods. Local streets should be designed to minimize the impact of traffic (primarily traffic speed) on adjacent development. At volumes generally associated with local streets, the greatest impact and the source of the greatest number of complaints is traffic speed. Identified traffic calming techniques (bulbed intersections, skinny streets, turning circles, diverters, speed humps, etc.) are to be constructed at the time of development. ***Cul-de-sacs*** are Local Streets that terminate in a vehicle turn-around.



PMAFC09. dwg

4-3211-0101 Revised 2-10-98 HLG

CITY OF VALE TRANSPORTATION SYSTEM PLAN

Recommended Street Functional Classification

FIGURE 7-1

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455

REVISED JUNE 15, 2001
TRILAND DESIGN GROUP, INC

Vale's current street design standards have been described in Chapter 2, Table 2-1 and in the City of Vale Subdivision Ordinance, Title IX and Public Ways and Property Ordinance, Title II.

The Vale TSP proposes a detached set of parameters that defines the Functional Classification System for roadways. As summarized in Table 7-1, these parameters guide planning and development of new street improvements. Figure 7-2 shows proposed typical street cross sections by functional classification.

STREET DESIGN STANDARDS

Suggested design standards for access on the City of Vale street system have been developed to maximize the safety and efficiency of the entire transportation system. Standards are described in Table 7-2.

The suggested street design standards are to be used as a guideline for the development of future roadway facilities within Vale. As Vale continues to develop, there may be the need to provide some flexibility in the City's street design standard, especially on local streets, assuming that the Arterial/Collector system is functioning properly. The purpose of a flexible design standard is to accommodate development needs within the City of Vale in a consistent manner, but also allow for individual consideration of unique issues such as, but not limited to, land access, non-auto travel modes, right-of-way constraint(s), terrain, vegetation, and building orientation.

STREET DESIGN STANDARDS

Table 7-1
Recommended Street Standards

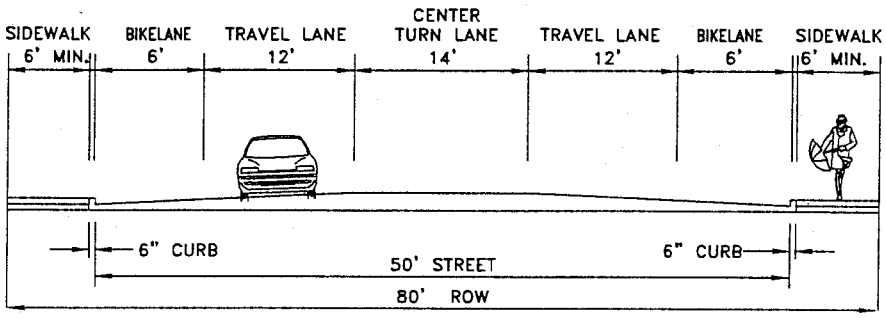
Classification	Pavement Width (ft)	Sidewalk width (ft)	Bikeway or Planter Width (ft)	Parking	ROW (ft)	Design Speed (MPH)
Arterial, Two-Way Glenn Street	50[1]	6'	6' bikeway both sides	None	80'	25-35
Arterial, Two-Way West Main Street	38[2]	6'	5-8' planter	Both sides	60'	25-35
Arterial, One-Way	48[3]	6-15'[4]	6' bikeway one side	Both sides	80'	25
Collector	36-40[5]	6'	6' (or 8' parking)	8' (or 6' bikeway)	60'	25
Local Street	30-36[6]	6'	None	None	20-24'	25
Alley	10-20	None	None	None	20'	10'
Multi-use Path	10	10'	10' ped/ bikeway	None	10'	--

[1] Two 12-foot travel lanes, one 14-foot center turn lane/median, and two 6-foot bicycle lanes.
[2] Two 12-foot travel lanes and two 7-foot parallel parking lanes.
[3] One 14-foot travel lane, one 12-foot travel lane adjacent to the bicycle lane, one 6-foot bicycle lane, two 8-foot parallel parking.
[4] From Glenn Street to West Main Street, includes a 15-foot width with 10-foot sidewalk and 5-foot paver/planter strip. East of Glenn Street and west of West Main Street includes a 6-foot sidewalk.
[5] Two 12-foot travel lanes and either 8-foot parking or 6-foot bikelanes.
[6] 16-20 foot travel lane (both directions) and 7-8 foot parallel parking.

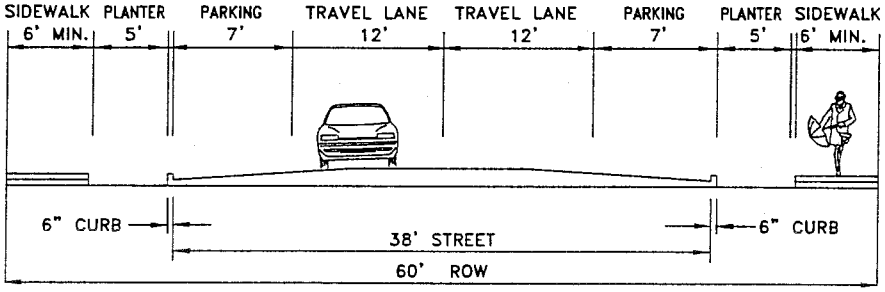
TYPICAL CROSS-SECTIONS

ARTERIAL

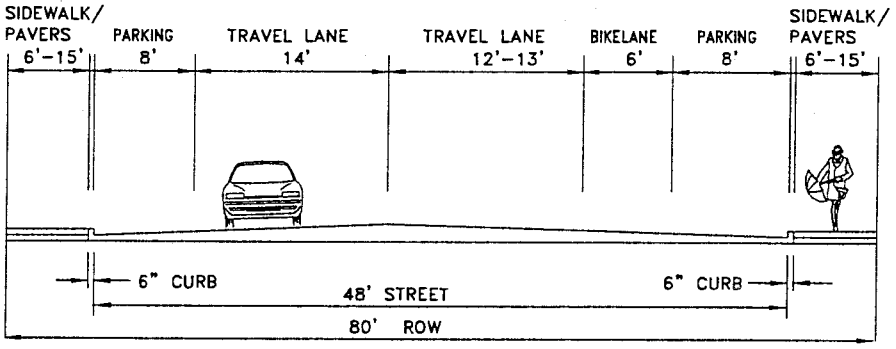
TWO-WAY (GLENN STREET)



TWO-WAY (WEST MAIN STREET)



ONE-WAY



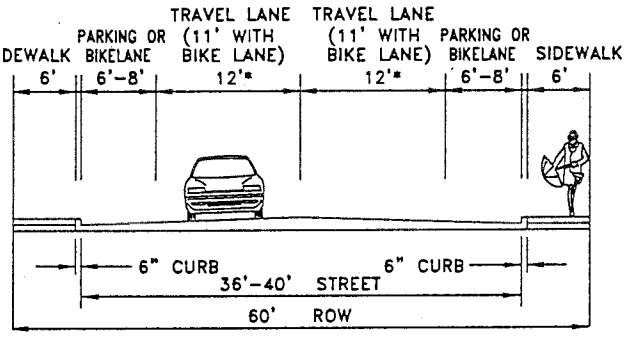
NOTE:
FROM GLENN STREET TO WEST MAIN STREET SIDEWALKS INCLUDE A 15-FOOT WIDTH WITH 10-FOOT SIDEWALK AND 5-FOOT PAVER/PLANTER STRIP.
EAST OF GLENN STREET AND WEST OF WEST MAIN STREET INCLUDES A 6-FOOT SIDEWALK

FIG. 7-2
PAGE 1 OF 2

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455

TYPICAL CROSS-SECTIONS

COLLECTOR



LOCAL STREET

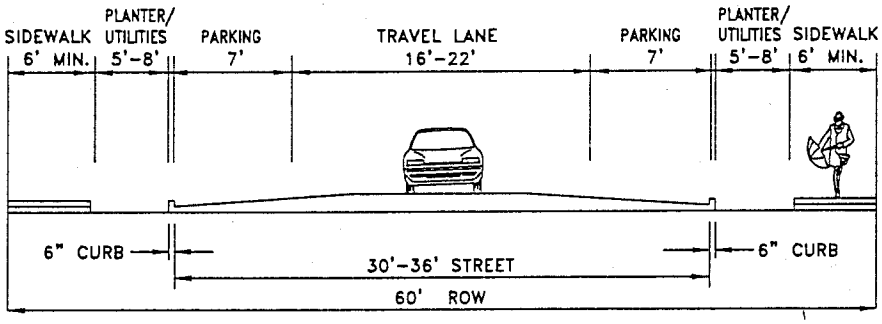


FIG. 7-2
PAGE 2 OF 2

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455

REVISED JUNE 15, 2001
TRIAND DESIGN GROUP, INC.

Table 7-2
Additional Street Design Standards

Functional Classification	System Spacing	Design/ Managed Speed (mph)	Horizontal Alignment	Vertical Alignment	Traffic Control	Street Lighting	Access Management (Private Drive)		
							Minimum Spacing	Residential Use	Commercial and Industrial Use
Arterial Hwy 20 Hwy 26	*	45/25-40	Minimum centerline radius: 650 ft	Maximum grade: 6% Minimum sight distance: 300 ft	1. Placement/ design of traffic control devices as warranted by MUTCD 2. Minimum signal spacing: 1/2 mile	1. Mounting height: 35-40 ft 2. Brightness: 22,000 lumens sodium vapor (200 watts)	800 ft	No direct access for private drives serving fewer than eight dwelling units.	1. Shared access driveways are encouraged 2. Left-hand turn lanes determined through review
Special Transportation Area (STA)							(See TSP Text)		
Collector Lytle Blvd West Main St	1/4 mile	30/25-30	Minimum centerline radius: 300 ft	Maximum grade: 8% Minimum sight distance: 200 ft	Placement/ design of traffic control devices as warranted by MUTCD	1. Mounting height: 30-35 ft 2. Brightness: 9,500 lumens sodium vapor (100 watts)	75-100 ft	Shared access driveways are encouraged	1. Shared access driveways are encouraged 2. Left-hand turn lanes determined through review
Local Street	400 ft minimum between local streets	25/25	Minimum centerline radius: 200 ft	Maximum grade: 12% Minimum sight distance: 150 ft	Placement/ design of traffic control devices as warranted by MUTCD	1. Mounting height: 25 ft 2. Brightness: 5,800 lumens sodium vapor (70 watts)	50 ft		1. Maximum of one 45-ft wide curb cut per 200 ft of frontage or fraction thereof 2. No industrial access
Alley		15/25	Minimum centerline radius: 100 ft.	Maximum grade: 12%	Placement/ design of traffic control devices as warranted by MUTCD	1. Mounting height: 25 ft 2. Brightness: 5,800 lumens sodium vapor (70 watts)			

* Hwy 20 through Vale is classified as a State Highway. For posted speeds of 30 and 35 mph the access management spacing standard, per the 1999 Oregon Highway Plan is 770 feet; for posted of speeds of 25 or less the access management spacing standard is 550 feet; Per the 1999 Oregon Highway Plan, for Special Transportation Areas (STAs) such as a portion of Highway 20 through Vale, minimum spacing for public road approaches is either the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways, and in STAs driveways are discouraged. However, where driveways are allowed and where land sue patterns permit, the minimum spacing for driveways is 175 feet (55 meters) or mid-block if the current city block spacing is less than 350 feet (110 meters).

Access Management Plan

The 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 Vale 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.

It should be noted that existing developments and 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, or a major construction project is begun on the street.

Experience throughout the United States has shown that a well managed access plan for a street system can:

- minimize the number of potential conflicts between all users of the street system, and hence provide safer and more efficient traffic operations
- minimize local cost for transportation improvements needed to provide additional capacity and/or access improvements along unmanaged roadways

One objective of the Vale 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 deterioration its safety, and on some streets, can interfere with efficient traffic flow.

Table 7-2 provides general access management guidelines for each of the street classifications. General access management techniques can include restricting the spacing of private driveways based on the type of development. Or, the city could consider offsetting driveways to minimize the number of conflict points between traffic using driveways and public streets. Additional access management strategies are embedded in Vale's recommended development ordinances, which already restrict development to appropriate zones and consider the effect of development on the existing transportation network.

State Highways

Access management is important to promoting safe and efficient travel for both local and long distance users along State Highway 20 in the City of Vale. The 1999 *Oregon Highway Plan* specifies an access management spacing standards and policies for state facilities. Although the City of Vale may designate state highways as arterial roadways within their transportation system, access management for these facilities follows the Access Management Spacing 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 segment where special access spacing standards apply.

General

Highway 20 through the City of Vale 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. The management objective of Statewide urban highways is to provide high to moderate speed operations with limited interruptions in traffic flow.

To assist in implementing state access management standards and policies, the 1999 Oregon Highway Plan also recognizes that state highways serve as main streets of many communities, such as downtown Vale. Shorter block lengths and a well-developed grid system are important to a downtown area, along with convenient and safe pedestrian facilities. In general, downtown commercial arterial streets typically have blocks 200 to 400 feet long, driveway access sometimes as close as 100-foot intervals and occasionally, crosswalks, along with on street parking. The need to maintain these typical downtown characteristics must be carefully considered along with the need to maintain the safe and efficient movement of through traffic. The Oregon Highway Plan recognizes the main street function through the designation of Special Transportation Areas (STAs).

Special Transportation Area

A Special Transportation Area (STA) is a designation that may be applied to a state highway, when a downtown, business district or community center straddles the state highway within a community's urban growth boundary. STAs can include central business districts but they do not apply to whole cities or strip development areas along individual highway corridors.

The primary objective of a STA is to provide access to community activities, businesses and residences, and to accommodate pedestrian, and bicycle movements along and across the highway in a compact central business district. A STA designation will allow reduced mobility standards, accommodate existing public street spacing and compact- development patterns, and enhance opportunities to provide improvements for pedestrians and bicyclists in the downtown area. Inclusion in a STA allows for redevelopment with exception to the proposed access management standards.

Access management in STAs corresponds to the existing city block for public road connections and discourages private driveways. However, where driveways are allowed and land use patterns permit, the minimum spacing for driveways is 175 feet or mid-block if the current city block spacing is less than 350 feet. In addition, the need for local street connections may outweigh the consideration of maintaining highway mobility within a STA.

In Vale, the area along Highway 20 (the "A" Street and Washington Street couplet) between Glenn Street and West Main Street exemplifies the design features of a historic downtown.

Within this segment, buildings are spaced close together, parking is on street, and the posted speed limit is 25 m.p.h. The compact development pattern from Holland Street to Longfellow Street qualifies this area for a STA highway segment designation. Additionally, the downtown extends east from Longfellow Street to Short Street, and west from Holland Street to Yakima Street.

Upon adoption of the TSP by the Vale City Council and a finding of compliance with the Oregon Highway Plan, the City of Vale and ODOT Region 5 may jointly designate this segment of Highway 20 as an STA through a Memorandum of Understanding (MOU). The MOU will incorporate by reference the TSP and the following STA Management Plan provisions.

Special Transportation Area Management Plan

The Vale STA is located on the portion of "A" Street (Hwy #7) between the intersections of Holland Street (M.P. 246.15 e) and Longfellow Street (M.P. 246.36 e), and on Washington Street (Hwy. #7) from Holland Street (M.P. 246.16 w) to Longfellow Street (246.36 w), which is located completely within the urban growth boundary and city limits of the City of Vale..

The primary objective of the Vale STA is to provide access to community activities, businesses and residences, and to accommodate pedestrian, and bicycle movements along and across the highway in the city's central business district.

The designation of a STA in Vale is intended to accommodate the existing public street spacing and compact development pattern. Specific access management conditions for the Vale STA on Highway 20 include:

a) Minimum spacing for public road connections at the current city block spacing of approximately 200 feet.
b) Public road connections are preferred over private driveways. Private driveways are discouraged in an STA.
c) Where land use patterns permit, ODOT will work with the City and property owners to identify appropriate access to adjacent property owners within the STA.
d) Where a right to access exists, access will be allowed to property at less than the designated spacing standard only if the property does not have reasonable alternative. If possible, other options should be considered, such as joint access.
e) Where a right to access exists, the number of driveways to a single property shall be limited to one. ODOT will work with the City and property owners if additional driveways are necessary to accommodate and service the traffic to the property, and will not interfere with driver expectancy and the safety of through traffic on the highway.
f) Driveways shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Locations in areas of restricted sight distance or at points that interfere with the placement and proper functioning of traffic control signs, lighting or other devices that affect traffic operation will not be permitted.
g) If a property is landlocked (no reasonable alternative exists) because a driveway cannot be safely constructed and operated and all other alternatives have been explored and rejected,

ODOT might be required to purchase the property. However, if a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT has no responsibility for purchasing the property.

Through Vale, Highway 20 is classified as a Statewide Highway as well as a State Freight System Route under the 1999 State Classification System (1999 SCS). The maximum acceptable v/c ratio for a Statewide Freight Route outside the Portland Metro and not identified as a STA is 0.75. For portions identified as STA, the maximum v/c ratio is 0.85.

Today, traffic on the state highway operates at LOS C or better, which correlates to maximum volume to capacity ratio of 0.27. Increase in traffic volumes over the 20 year projection period will not impact the level-of-service (LOS) or meet the maximum volume to capacity ratio of 0.85 for Highway 20 within the city's urban growth boundary.

To maintain highway mobility through a STA in Vale, land use development decisions (within the urban growth boundary) shall not cause traffic flow to exceed a volume to capacity ratio of 0.85. The posted speed limit in the STA is currently and will remain at 25 miles per hour as allowed by state statute in a business district. Curb (parallel) parking is permitted in the STA, provided minimum sight distance requirements are met for all public road connections and private driveways. Parking in this area is adequate at this time. No signals or traffic control devices currently exist in this area with the exception of a flashing yellow light at the Hwy. 20/Hwy. 26 intersection. No changes are contemplated.

The designation of a STA in Vale further identifies the need to accommodate pedestrian, and bicycle movements along and across the highway in the compact central business district. The recommended urban arterial standard within the STA consists of a 80-foot right-of-way with a paved width of 48 feet that includes one 14-foot travel lane, one 12-foot travel lane, one 6-foot bicycle lane and an 8-foot parking strip on each side of the road. The standard includes a 10 foot walkway on each side of the road with a paver/planting strip of five feet between Glenn Street and West Main Street; and a 6-foot walkway from Short Street to Glenn Street, and from West Main Street to Yakima Street. To accommodate bicycle movements along the highway, bike lanes will be installed within the STA on right side of both "A" Street and Washington Street and extended to Short Street and Yakima Street, as recommended in the TSP.

Another essential component to accommodate pedestrians in a STA is street crossings. Crosswalk enhancements or safety improvements recommended within the STA at this include bulbouts (curb extensions) and crosswalks at the intersections throughout the STA. Future improvements and modifications to the highway within the STA and within the curb line, or if no regular established curb, to the r/w utilized for highway purposes will be made in accordance with the Oregon Highway Design Manual and with ODOT approval.

Existing maintenance and operational strategies along Highway 20 will be employed within the STA, consistent with Oregon Revised Statute 373.020, as follows:

ODOT shall be responsible for the ongoing maintenance of: a) the roadway surface between

curbs, or if no regular established curb, to that portion of right-of-way utilized for highway purposes b) painting centerline stripe, c) designated school crosswalk delineation, directional and regulatory signs except those signs described as the City's responsibility and d) plowing snow one blade-width of centerline stripe provided there are no conflicts with utilities.

City shall be responsible for the on going maintenance of: a) storm sewer system, b) sidewalks, c) landscaping, d) luminaries, e) U-turn signs, parking signs, and street name signs, f) painting parking-stripes and other pavement delineation not described as ODOT's responsibility, and g) snow removal from parking strip.

Future improvements and modifications to the highway within the STA will include maintenance and operational strategies with ODOT and City approval.

Neighborhood Traffic Control

If local traffic conditions arise that conflict with adopted roadway design and policies, the City should adopt new or improved design features when available, and if applicable to local Vale standards. These design features can include structural traffic controls.

Structural traffic control measures change the physical street and driving environment to encourage or require a desired driving action. They can alter where people go, how they get there, or at what speeds. In Vale, extensive structural traffic control will not necessarily be warranted within the 20-year time frame. However, the use of curb extenders at strategic locations would lower travel speeds as well as improve pedestrian safety. Other structural changes which Vale may consider include speed humps, traffic circles, and diverters.

Curb extenders narrow the street by widening the sidewalk area to provide safer pedestrian crossings. The narrowed street reminds drivers that they are in neighborhood or commercial areas, not high-speed thoroughfares. Curb extenders may effectively reduce speeds on streets in neighborhoods or commercial areas. Extenders also increase pedestrian safety by reducing the distance across vehicle travel lanes that pedestrians must traverse to move from one side of the street to the other.

Pavement treatments at pedestrian crossings can augment the effectiveness of curb extenders. Treatments such as texturization may increase driver awareness of pedestrian use along and across the street and can further help to reduce travel speeds.

MODAL PLANS

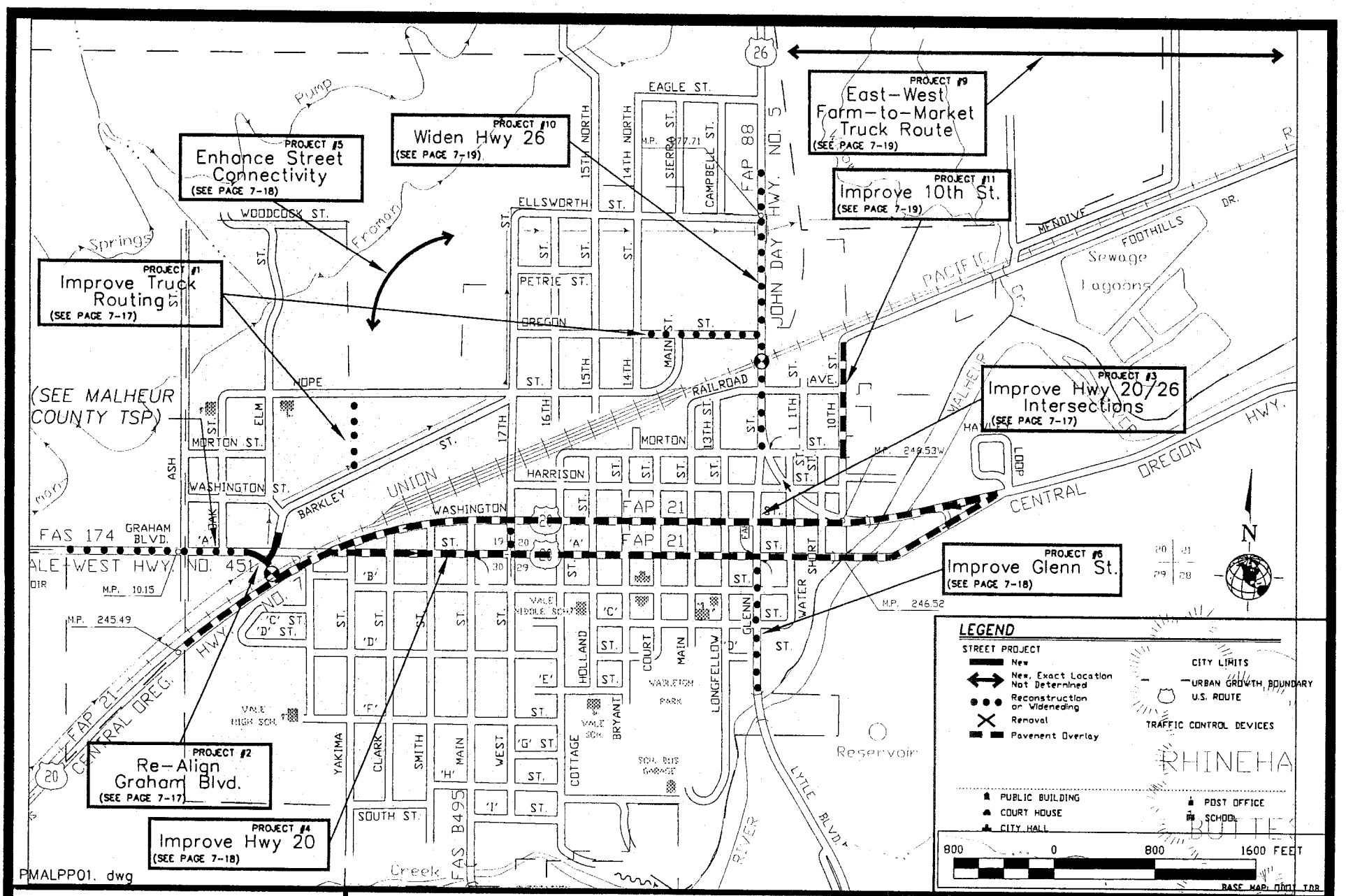
The City of Vale modal plans have been developed using information collected and analyzed through the goals and objectives (Chapter 3), the physical inventory (Chapter 4), forecasts (Chapter 5), the alternatives analysis (Chapter 6) and input from area residents. The plans address transportation system needs for the City of Vale for the next 20 years. The specific timing of individual projects will be influenced by changes in the land use pattern and actual population growth in future years. Specific project cost estimates are provided in Appendix D.

Roadway Plan

The TSP recommends a detailed program of street and pedestrian/bicycle improvements as listed below and shown in Figures 7-3 and 7-4, respectively. The TSP identifies those transportation projects and programs, which together with the existing transportation system, will serve the land uses as defined in the City of Vale Comprehensive Plan. Over the next 20 years these road projects will increase traffic safety and capacity and enhance connectivity and circulation throughout the City of Vale.

Any new street construction or street widening project that expands the roadway system capacity is defined as a capacity improvement. Street upgrades and safety projects (i.e., all non-capacity work) generally include improvements to existing facilities such as street reconstruction or intersection upgrades, that increase the level of safety or efficiency.

The following descriptions detail, by project number, the purpose and scope of each improvement at the planning level (see Figure 7-3). Prior to project design and construction, specific environmental impacts, grading requirements, and roadway alignments should be analyzed as necessary.



PMALPP01. dwg

CITY OF VALE TRANSPORTATION SYSTEM PLAN

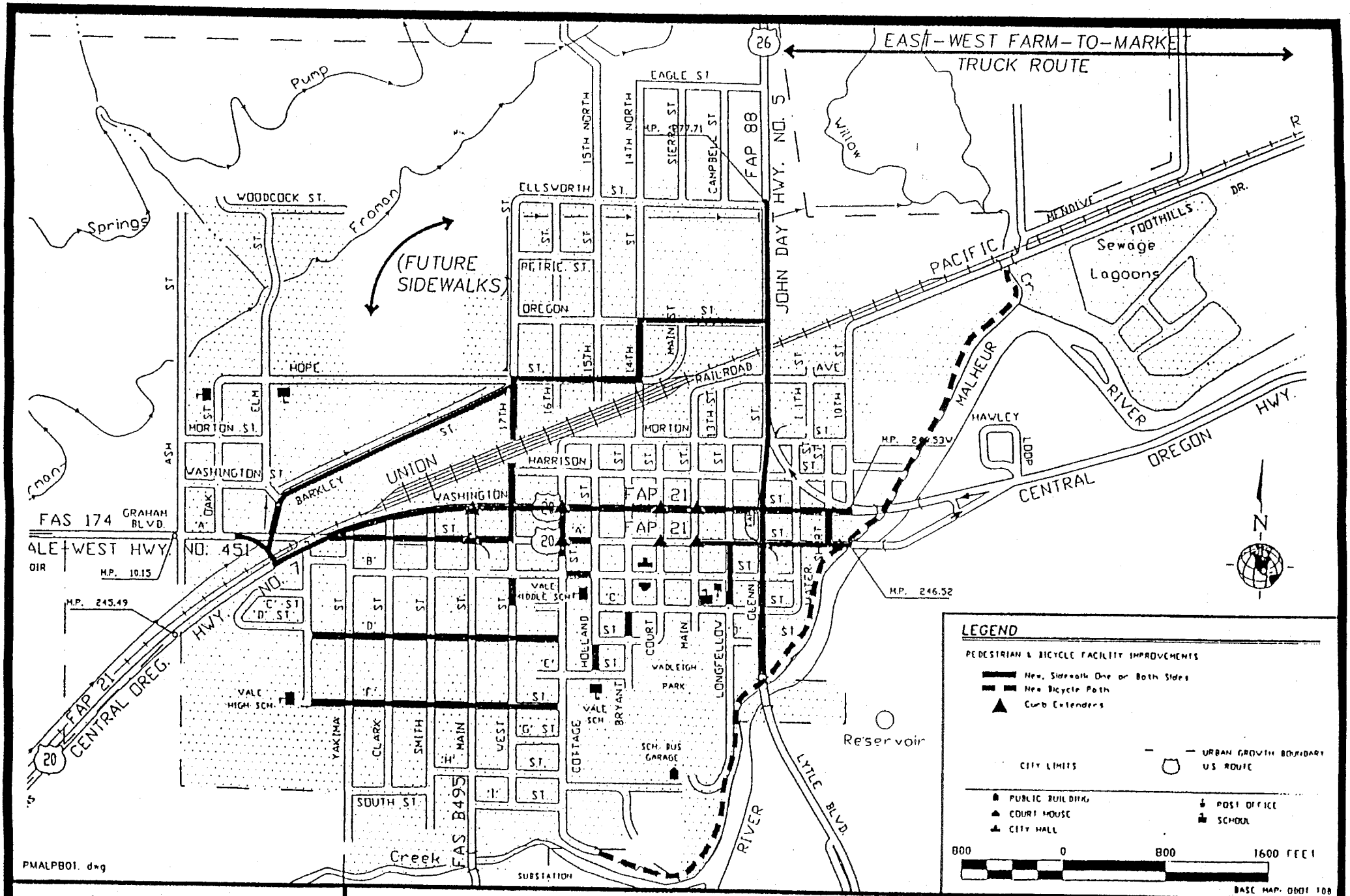
Recommended Street Projects

FIGURE 7-3

W&H PACIFIC
8405 SW NIMBUS AVE.
BEAVERTON, OR 97008
(503) 626-0455

REVISED JUNE 15 2001
TRILAND DESIGN GROUP, INC.

4-3211-0101 Revised 2-11-98 HLG



CITY OF VALE TRANSPORTATION SYSTEM PLAN

Recommended Pedestrian/ Bicycle Projects

FIGURE 7-4

W&H PACIFIC
8405 SW NIMBUS AVE
BEAVER OR 97
(503) 626-0455

Project 1: *(Capacity and Freight Mobility)*

Improve Truck Routing

Improve truck routing and infrastructure to support industrial development to access businesses while minimizing the impact to residential neighborhoods. Specific improvements and their costs are as follows:

Street Reconstruction Projects	**Cost[1] (1996 $)**
Yakima Street (Hope Street to Barkley Street)	$64,687
Oregon Street Reconstruction (14th Street to Glenn Street)	$88,683
Total	**$153,370**

Project 2: *(Safety and Circulation)*

Realign the intersection of Graham Boulevard, Washington Street and "A" Street

The intersection of Graham Boulevard, Washington Street and "A" Street currently poses a circulation and safety challenge to drivers, bicyclists and pedestrians. The re-alignment of Graham Boulevard to Highway 20 at a 90 degree angle will improve traffic and rail crossing safety through better sight lines, and will accommodate truck traffic more efficiently. A new center, left-turn lane on Highway 20 at Graham Road will be needed at the new intersection, as will a westbound right-turn lane. The railroad crossing on Graham Boulevard would be relocated or replaced as needed with new traffic control equipment (rail signal and crossing arms). This project will cost an estimated $696,300.

Project 3: *(Safety and Circulation)*

Improve Washington Street/Glenn Street and "A" Street/Glenn Street Intersections

During the public participation process of the TSP development, a concern was raised regarding the safety at the Washington Street/Glenn Street and "A" Street/Glenn Street intersections. A cursory review of accidents reported at these locations indicate the most frequent causes to be improper movement through the intersection and failure to obey the traffic control device. The recommended improvement would be to install new traffic control signs to increase driver awareness near the intersections. The cost of new sign installation would be minimal.

Project 4: *(Safety)*

Implement measures to reduce speeding on Highway 20 and Highway 26

The Highway 20/26 corridor planning effort identifies speeding on the highways as a concern in Vale. Various measures could be implemented to discourage motorists from exceeding the posted speed limit. Recommended as both a traffic safety and pedestrian enhancement measure, curb extenders (bulbouts) should be installed in the downtown area on "A" and Washington Streets between Glenn Street and Yakima Street.. These bulbouts will be located to best serve pedestrian traffic, while reducing speeds in the

[1] Holladay Engineering Co., *City of Vale Industrial Site Access Study*, 1996.

downtown commercial core.

Project 5: *(Capacity and Circulation)*

Enhance street connectivity: Ellsworth Street and Yakima Street Extensions

Vale would benefit from increased connectivity in certain locales as new development occurs. Specifically, the western extension of Ellsworth Street and northern extension of Yakima Street would provide needed access to serve development in the city's northwest area. These improvements would be contingent upon annexation. The construction of roughly 2,200 feet of new street will cost approximately $825,000, and would largely be borne by private development.

Project 6: *(Capacity and Safety)*

Improve Glenn Street

Between "A" Street and the Malheur River, Glenn Street is a substandard collector street with no shoulder, curb or sidewalk amenities. Glenn Street and Lytle Boulevard serve multi-uses including intercity travel, farm-to-market truck travel, and a variety of bicycle travel. Within the city, Glenn Street also serves as an entrance to Vale as well as a major local street with direct connections to the major state highways. The current travel lanes on Glenn Street are too skinny to accommodate all users. To meet current and future safety and capacity needs, Glenn Street should be reconstructed to urban street standards to include two 14-foot travel lanes, bike lanes, curbs, gutters and sidewalks. The estimated cost for these improvements is approximately $464,000.

Project 7: *(Safety and Circulation)*

Adopt and implement access management standards for all arterials in Vale

Access management is an important tool for maintaining the efficiency and safety of a transportation system. Highway 20 (Glenn Street) and Highway 26 (Washington Street and "A" Street) constitute the arterial roadway network in Vale. Through Vale's downtown core, the areas adjacent to these highways are fully developed. The proposed access management standards would apply only to new development or to the redevelopment of existing lands. Fully developed areas are not required to retrofit their accesses. Adoption of a TSP which includes access management guidelines will allow the City of Vale to implement this program. Recommended access management guidelines are provided in Table 7-2.

Project 8: *(Circulation)*

Adopt and implement a street classification and design program

The function of a street is determined by operational characteristics such as traffic volume and capacity. Adoption of a TSP which includes street classification and design standards will allow the City of Vale to implement this program. The recommended functional classification of Vale's streets system is illustrated in Figure 7-1.

Project 9: **Construct East-West Farm-To-Market Truck Route (through coordination with Malheur County)**

(Circulation and Freight Mobility)

Vale currently serves as a hub for farm-to-market trucking. Local farmers as well as through trucks traveling on US 20 and US 26 pass through Vale en route to destinations east. A truck route connection north of the Oregon Eastern RR between Highway 26 and Lagoon Drive would facilitate both local and regional truck traffic. As described in the Malheur County TSP, the County plans to improve an east-west truck route roadway between Vale and the Ontario within the next 10-15 years.

The City of Vale should coordinate with Malheur County and private development to construct that portion of the truck route from Lagoon Drive to Highway 26, roughly paralleling the current Vale UGB and terminating at Ellsworth Street. This truck route provides needed relief to state/regional traffic congestion on Highway 20/26 between Vale and Cairo Junction. It also greatly reduces truck travel through the Highway 20/26 intersection in Vale. The City and County will need to apply for an exception to Goal 3 of the Oregon Statewide Planning Rule because a small portion of the proposed route lies outside the Vale UGB. Vale's portion of the Farm-to-Market Truck Route cost is estimated at $990,000 (including new right-of-way and street construction).

Project 10: **Widen Highway 26 (Glenn Street)**

(Safety, Circulation, and Freight Mobility)

US 26 (Glenn Street) currently exists as a two-lane facility in Vale. Between Morton Street and just north of Ellsworth Street, Highway 26 should be reconstructed to State and City standards, including two travel lanes, bike lanes, curbs, gutters and sidewalks on both sides of the street. To safely accommodate future traffic, the project should also include left-turn lanes at Oregon Street and Ellsworth Street. The State, County and City of Vale should closely monitor future traffic conditions at Ellsworth to determine if a future traffic signal is warranted. The cost of this improvement is estimated to be $1,475,200.

Project 11: **Repair pavement in poor condition**

(Maintenance)

It is recommended that the City of Vale schedule the repair of roads in "Poor" condition within the next 5 years at a cost of $373,400. This recommended schedule should be modified based on factors such as traffic volumes and funding availability.

DOWNTOWN MASTER PLAN PROJECTS

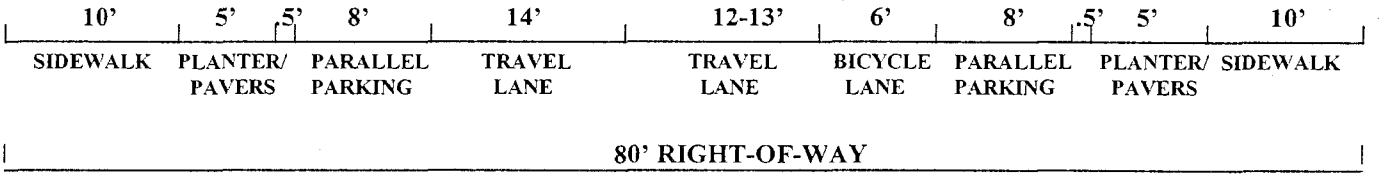
The Vale Downtown Master Plan identifies several design elements which are incorporated into this TSP as projects. (Please note that some of the downtown projects are also described above in the Roadway Plan.

Typical Street Improvements on Washington Street and "A" Street

For Washington and "A" Streets, the Downtown Master Plan includes improvements from the Malheur River Bridges at the east end to the Washington/ "A"/Graham Blvd. intersection at the west end of town. There was general consensus by the community to maintain the one-way couplet system with westbound Washington Street and eastbound "A" Street. There was also consideration of diagonal parking however it was decided that the parallel parking should be maintained. The following elements highlight the typical improvements proposed to occur along Washington and "A" Streets.

Typical Street Section

The existing right-of-way on Washington and "A" Streets is approximately 78 feet. The typical street section from Glenn Street to West Main Street generally includes two travel lanes, bicycle lane on the right side, parallel parking, planter/street furniture (including curb), and sidewalks.



'A' STREET ONE-WAY EASTBOUND and WASHINGTON STREET ONE-WAY WESTBOUND (Glenn Street to West Main Street)

Curb Extensions at Intersections

The typical intersection on Washington and "A" Streets is proposed to have bulbouts, also known as curb extensions. Bulbouts extend the sidewalk at street corners. Bulbouts slow traffic because they narrow the street's curb-to-curb width. Bulbouts shorten pedestrian street crossings, improves pedestrian visibility to motorists, and overall provides a more pedestrian-friendly environment in the downtown. Bulbouts are often recommended where there is on-street parking because a natural extension of the sidewalk extends into the street the same distance as the parallel parking width, i.e. 8 feet. Bulbouts also widen the sidewalk where space is typically needed for sidewalk ADA ramps, signal poles, street signs, street furniture, and pedestrian waiting areas.

Property Access/Driveways

The Downtown Master Plan proposes defined access to private property (driveways). Currently, many properties have uncontrolled driveway access, i.e. vehicle access across the a majority of the street frontage. This uncontrolled access hinders traffic flow and conflicts with pedestrian

traffic. Therefore, defined driveway access with curb cuts are proposed throughout Washington and "A" Streets. With few exceptions, driveways are not proposed to be eliminated, just better defined with adequate driveway width and curbs along the property frontage.

Street Trees
Street trees are proposed along both sides of 'A' and Washington Streets. Street tree locations shown on the enclosed plans are placed so that visual access to store fronts is maintained. The historic district may have fewer street trees and additional flower and shrub plantings.

Street trees provide several benefits to a downtown. They provide an identify to downtown and seasonal interest, add an attractive canopy, provide shade, cool in the summer, block wind in the winter, and absorb pollutants. When selecting the tree specie, consideration should be given to trees that require minimal maintenance and avoid trees that have shallow root systems that damage sidewalks and pavers.

Historic Street Lights
The Downtown Master Plan proposes single globe historic street lights within the historic district. The City has already initiated placement of historic streets lights as seen along the south end of Main Street at Wadleigh Park and on Washington Street in front of Pioneer Bank. These single globe street lights are similar in appearance to those seen in a 1920's photograph of Vale's "A" Street.

Street Furniture
Street furniture is within the 5 foot wide plant/paver strip located inside the curb. Street furniture is proposed to include benches, water fountains, bicycle racks, planter pots, street lights, signage, trash receptacles, and other elements. The planter/paver zone will be an extension of the sidewalk with pavers that are able to be removed to create planting areas.

East End Entrance – Gateway
The area just east of the Malheur River bridges is the east entrance to the city. This area currently consists of a display with old farm implements, minimal maintenance, and a roadway connecting eastbound "A" Street traffic to westbound Washington Street. There is an opportunity to enhance this city entrance or gateway into the city by providing additional and attractive entry/gateway features. This could be Oregon Trail theme features such as a wagon train circle with campfire and signage identifying the city entrance.

The Malheur River Multi-Use Trail
The Malheur River is a natural resource traversing the east edge of Vale. The Downtown Master Plan proposes a multi-use trail along the east and west banks of the river. The trail could be used by pedestrians, bicyclists, and equestrian users. Initial site reconnaissance indicates a loop trail could be established that extends on the west side levee and east side river bank with the Hwy. 20 and Hwy. 26 bridges providing connections between the east and west sides of the river.

Malheur River Hot Springs
The hot springs, located along the Malheur River, are natural resources that currently are not

accessible nor an amenity for public use. The hot springs were used during the Oregon Trail movement and are a unique resource that could provide a benefit to local residents and be a tourist attraction. The City should evaluate the feasibility of making the hot springs a public amenity.

Eliminating The "Swoosh"

The existing "swoosh", as it is called locally, is a bypass road that westbound Hwy. 20 (Washington Street) traffic uses to access northbound Hwy. 26 (Glenn Street) at a higher speed without having to make the 90° turn at the intersection. There is general consensus amongst the community and ODOT to eliminate the swoosh because of it's substandard design and unsafe traffic condition. Elimination of the swoosh will have minimal impact on traffic, i.e. the westbound to eastbound traffic will need to slow down and possibly stop at the Washington Street/Glenn Street intersection. The elimination of the swoosh will create a parcel of land that can be developed, i.e. for commercial use or used to expand the park.

Closing Water Street (North of Washington Street)

In addition to eliminating the swoosh, the Downtown Master Plan recommends closing Water Street north of Washington Street. This will not impact traffic flow and, with elimination of the "swoosh", enable one contiguous parcel of land that is not divided by a street. It will also improve traffic safety by eliminating one traffic crossing on Washington Street just east of Glenn Street. Motorists traveling from "A" Street to the grocery store or other places in the northeast part of town will continue to take Glenn Street or Short Street.

Washington Street (Hwy. 20)/Glenn Street (Hwy. 26) Intersection Improvements

With the proposed closure of the swoosh, this intersection will encounter additional traffic turning from eastbound Washington Street to northbound Glenn Street. A right turn lane with adequate truck turning radius is proposed on Washington Street. The northwest corner will be improved to allow better truck turning movements from Glenn Street to Washington Street. The southeast and southwest corners are proposed to have curb extensions.

Truck Parking and Circulation at the West End

Currently, there is a significant amount of truck parking at the west end of town, primarily on Washington Street. Truck drivers are, primarily, parking in this area to visit the Starlite Cafe. The truck parking is not structured and causes some conflicts and safety issues. The Downtown Master Plan recommends structured truck/RV parking along the north side of Washington Street between West Main Street and Clark Street. The structured truck/RV parking will improve safety, circulation, and increase the number of trucks that currently are able to park in the immediate area. Diagonal striped parking will allow trucks and RVs to easily pull off of Washington Street and park. When leaving the parking spaces, trucks and RVs will pull forward to a loop travel lane which will connect to westbound Washington Street. The land recommended for the truck parking is owned by both ODOT and the railroad. An agreement for purchase or use of the railroad property will be required. Eastbound "A" Street trucks could access the truck/RV parking via West Main Street and return to "A" via Clark Street or the loop street at the west end of the city park located between Washington and "A" streets.

"A" Street – West End

"A" Street, west of West Main Street, is more suburban in nature than the downtown core of "A" Street. The west end "A" Street has greater building setbacks and does not have the continuous block building façades. Therefore, the Downtown Master Plan recommends a more suburban street section west of West Main Street including six foot sidewalks.

"A" Street - Downtown Street Section

"A" Street, between West Main Street and Glenn Street, is the primary downtown core of Vale that has a concentration of retail and office uses. Some of these block faces have a continuous building façade at the property line (right-of-way). This section of "A" Street will have a street section with elements similar to that described above in the Typical Street Improvements on Washington Street and "A" Street. This includes two travel lanes, bicycle lane on the right side, parallel parking, planter/paver zone, and sidewalks.

Through this section of "A" Street, buildings on the north side of the street are recommended to have awnings to provide shade. The awnings should represent the historical character of the awnings seen in Vale in the early 1900's, i.e. canvas material.

Main Street

The Downtown Master Plan recommends improvements to Main Street from north of Washington Street south to it's terminus at Wadleigh Park.

The north-south oriented Main Street has historical significance in that it was built along The Oregon Trail and is the historic main street of Vale. Main Street extends from the historic location of the railroad depot at the north end to Wadleigh Park at the south end. Given the historical significance, the wide 80 foot right-of-way, the central location of Main Street, and it's terminus at Wadleigh Park, the Downtown Master Plan proposes a Main Street Plaza that will provide several functions:

Maintain Two-Way Street and Diagonal Parking - Main Street is proposed to remain a two-way street with diagonal parking.

The Plaza – From "A" Street to Wadleigh Park, Main Street is proposed to be a plaza that can be temporarily closed to vehicular traffic and available for a range of pedestrian-oriented special events, i.e. festivals, plays, concerts, school activities, presentations/speeches, etc.

Pavement treatment will provide an appearance that makes Main Street and attractive and special place. The pavement will be diagonally scored and/or have concrete bands which will identify diagonal parking spaces and provide an attractive visual appearance that is unique to other streets. The crosswalk on the south side of "A" Street will have covered openings for the placement of bollards that will temporarily restrict vehicles on Main Street. The bollard openings may also be placed on "B", "C", and "D" Streets where they intersect Main Street.

Intersections – Main Street intersections with Washington, "A", "B", and "C" Streets will have curb extensions, crosswalks, street furniture, and may have special treatment in the middle of the intersections within the crosswalk.

The Outdoor Stage – Main Street just south of "D" Street is proposed to have an outdoor stage to be used for plays, concerts, speeches, outdoor classroom activity, etc.

Historic Building Restoration – The Downtown Master Plan also encourages the development of a plan for historic buildings along Main Street.

Glenn Street (Hwy. 26)
Glenn Street is proposed to maintain two travel lanes and add bicycle lanes and sidewalks north of Washington Street.

"B" Street
"B" Street west of Main Street includes the Civic District where City Hall and Malheur County Courthouse are located. "B" Street is proposed to maintain two travel lanes with diagonal parking between Court Street and Bryant Street. The Downtown Master Plan recommends that sidewalks be continuous on both sides and street trees be planted along the inside of the sidewalks where feasible.

North-South Oriented Side Streets
North-south oriented streets are recommended to remain two-way, have parallel parking, and have continuous sidewalks. If available funding for the Project 2002 allows, it is recommended that improvements be made to those side streets connecting Washington Street and "A" Street. This would provide more of a cohesive and attractive improvement to the downtown area.

Pedestrian/Bicycle Connections To Schools
With the three schools being located in the south end of Vale, it is recommended that safe and continuous bicycle lanes and sidewalks be constructed along the primary school routes. Portions of these streets have sidewalks. Bicycle lanes should be provided on Yakima Street and West Main Street, two north-south oriented streets that provide primary access to the high school. Continuous sidewalks are recommended for all streets in this South Neighborhood section in proximity to the three schools.

Wadleigh Park Improvements
Wadleigh Park is a great city open space resource for residents and visitors of Vale. There is an opportunity to provide additional facilities and activities within the park. Several improvements and facilities were recommended during the youth charrette. The Downtown Master Plan recommends design and construction of a skate board park at Wadleigh Park. Other facilities, i.e. ballfields and play courts should be considered in the future.

Development, Redevelopment, And Off-Street Parking Opportunities
Downtown vacant lots and lots appropriate for redevelopment have been identified. The Downtown Master Plan recommends that the City consider acquisition or deals to provide

additional public parking for some of these lots in the downtown area. Other lots may be appropriate for infill development. Infill development in the downtown core area should be consistent with existing downtown buildings, i.e. similar setbacks at the sidewalk/property line, building height and materials, etc.

Murals

Vale is currently known for it's murals. This is a unique feature and attraction for the city. The community has expressed a desire for additional murals, primarily depicting The Oregon Trail Theme.

Special Transportation Area (STA)

Downtown Vale, on "A" Street and Washington Street, is recommended to be designated as an STA, as described earlier in this chapter.

Pedestrian Plan

Walking is our most basic transportation mode and a popular form of recreation. Given the compact size of City of Vale, walking may provide a viable transportation alternative for many trips. Providing a safe, pedestrian-friendly environment is critical to retaining vibrant and successful, small-town environment. Pedestrian safety on Washington Street and "A" Street, in particular, has been a concern in Vale, as these facilities, along with "B" Street, serve most of the downtown, commercial core. Sidewalks should be provided adjacent to commercial developments. Likewise, historic areas of Vale, particularly those on Historic Walking Tour route, should provide adequate facilities for foot traffic. With the widening of Glenn Street, sidewalks should be added to that facility and to Lytle Boulevard between Morton Street and the Malheur River. Other areas of concern center around the routes used frequently by children; routes near to and which connect schools should contain sidewalks. In addition, all new development should include sidewalks along city streets in accordance with the street design standards recommended in Chapter 7.

Sidewalks at least six feet wide are desirable to allow pedestrians to walk side by side and to pass each other safely. Wider sidewalks also enable pedestrians to stop without blocking others. To accommodate a greater density of pedestrians and to encourage patronage in the downtown commercial core, sidewalks widths should be between six and fifteen feet. In those cases where existing constraints limit available space, sidewalks may be a minimum of four feet wide. New sidewalks and improvements to existing sidewalks should incorporate access ramps per ADA standards. Table 7-3 lists proposed sidewalk improvement locations and their costs. Improvements to existing sidewalks are warranted where those sidewalks are in poor condition or are less than four feet wide. New sidewalks should be constructed with curb cuts for wheelchairs at every crosswalk to comply with the Americans with Disabilities Act (ADA).

Table 7-3
Recommended Sidewalk Improvements

Location	Length (ft)	Construction Cost[2]
New Sidewalks		
Washington Street (Yakima Street to 10th Street)	6,750	Included in 2002 Construction Project
"A" Street (Yakima Street to 10th Street)[12]	3,300	Included in 2002 Construction Project
Glenn Street/Lytle Boulevard (Morton Street to the river)[4]	900	
"B" Street (Cottage Street to Glenn Street)	1,250	$17,370
17th Street (Barkley Street to "D" Street)[13]	625	
"D" Street (Nachez Street to Cottage Street)	1,875	$26,040
"F" Street (Nachez Street to Cottage Street)	1,125	$15,630
Longfellow Street (Washington Street to "C" Street)	500	$6,940
Cottage Street (Harrison Street to "G" Street)	250	$3,470
Holland Street (Harrison Street to "E" Street)	190	$2,610
Bryant Street (Washington Street to "D" Street)	375	$5,210
Short Street (Washington Street to "A" Street)	300	$6,670
	Subtotal	**$307,270**
Upgrade of Existing Sidewalks		
Cottage Street (Washington Street to "A" Street)	400	$5,560
"D" Street (Smith Street to West Main Street)	250	$3,470
"F" Street (West Main Street to West Street)	500	$6,940
Washington Street (West Street to Holland Street)	300	Included in 2002 construction project
Washington Street (Court Street to Main Street)	250	Included in 2002 construction project
"A" Street (Cottage Street to Holland Street)	250	Included in 2002 construction project
	Subtotal	**$15,970**
	TOTAL	**$323,240**

Bikeway Plan

Like pedestrian paths and sidewalks, bicycle facilities encourage people to use alternate modes of travel and contribute to a small-town environment. From the standpoint of safety, bicycle facilities are most critical in areas of high traffic volume and in areas used by children. Bicycle paths can also provide alternative routes for cyclists, allowing them to simultaneously avoid conflict with automobiles and take advantage of recreational opportunities.

Most local streets in Vale serve relatively low traffic volumes and are wide enough to allow bicyclists and motorist to share a travel lane. Notable exceptions occur along the designated

[2] The cost of new sidewalks is assumed to be $25/sy. All other sidewalks are assumed to be 5 feet wide.
The installation of new sidewalks or upgrade of existing sidewalks on Washington Street and "A" Street are not included in ODOT's current STIP.
[4] The installation of sidewalks are included in street projects.

truck route north of the Oregon Pacific Railroad line. As these streets are improved (see Project 1), they should include separate bicycle lanes.

Additional exceptions exist in areas used frequently by children. Children do not possess the fully developed peripheral vision of adults, and may not see nearby vehicles as well. Therefore, bicycle lanes should be delineated on "D" Street, "F" Street, Cottage Street and Bryant Street. (The former three streets are collectors.) These streets serve Vale's public elementary, middle and high schools, and Wadleigh Park.

Collector streets provide connectivity for auto and bicycle traffic alike. Where possible, these streets should be striped in each travel direction to include six-foot parking/bicycle lanes, where such striping does not reduce travel lanes to less than 11 feet in width[5]. Where existing constraints preclude a six-foot parking/bicycle lane, a four foot minimum bicycle lane width is permissible. Again, the resulting travel lane width must be at least 11 feet. New collectors should include bicycle/parking lanes, as defined in Vale's proposed street standards.

Arterial streets, which serve the city's highest volumes of traffic, require separate travel lanes to most safely accommodate bicyclists. In Vale, the proposed arterial network consists of Glenn Street, Washington Street, "A" Street, Graham Boulevard, West Main Street, and Lytle Boulevard. Glenn Street (Highway 26) is also designated as a Statewide Bicycle Route in the Oregon Bicycle and Pedestrian Plan. These facilities should be striped to include bicycle lanes as part of Vale's existing street maintenance program.

The delineation of bicycle lanes on existing streets should be incorporated into Vale's current maintenance program at negligible cost. Vale already has an extensive grid network; existing streets need not be widened solely to add bicycle capacity. New streets, however, should be constructed according to Vale's proposed street standards, which require bicycle facilities on all collectors and arterials.

During the TSP planning process, a bicycle path was proposed along the Malheur River from Cottage Street to the north City Limits. This path would accommodate recreational bicyclists and offer an alternative route between south and northeast Vale. The 2.5-mile path would cost approximately $594,000 to construct, not including right-of-way acquisition. The City would have to work with Malheur County to construct and maintain those sections of the proposed path in County jurisdiction.

Highway 20 (between Bend and Vale) is designated as a Statewide Bicycle Route in the *Oregon Bicycle/Pedestrian Plan*. As such, it should be preserved and improved to safely accommodate bicycle travel.

[5] See Recommended Street Standards in Chapter 7.

Transportation Demand Management

The goal of transportation demand management (TDM), is to reduce or redistribute peak travel demands in order to more efficiently use the transportation system, rather that building new or wide roadways. There is a wide range of techniques which have been successful in other communities and which could be initiated to help alleviate some traffic congestion (e.g., carpooling and vanpooling, alternative work schedules, bicycle and pedestrian facilities). However, the effectiveness of many of these TDM measures is dependent upon sufficient population densities. Four TDM measures with specific application in the City of Vale can be quite successfully included: 1) sidewalk improvements to better accommodate pedestrians; 2) bike lanes and shoulder improvements to accommodate bicycle travel; 3) rideshare program enhancements; and, 4) flex time and stagger-shift programs at large employment centers.

In the City of Vale, where traffic volumes are generally low and the population and employment bases are relatively small, implementing TDM strategies is not effective in most cases. However, implementing bike lane and sidewalk improvements for bicyclists and pedestrians when making other road improvements, can encourage the use of alternative modes and thus is considered a TDM strategy.

Because intercity commuting is a factor in Malheur County, particularly in the Treasure Valley area, residents who live in one city and work in another should be encouraged to carpool with a co-worker, if possible Malheur County's Special Transportation Advisory Board is working with Acorn Pacific, Inc. to develop a referral service for carpooling. The focus of the program would be to inform the employees of the various companies and organizations in Malheur County of the benefits of car pooling; to provide a centralized service for those employees who wish to join a car pool; and, to build a base for future van pool service for intercity transportation.

The rideshare program, which is proposed to be initiated in January, 1998, would establish a phone line with a computer database link for county residents to call and indicate interest in participating in a carpool. Once a month a list of interested participants would be mailed to those in the same location. Employer contacts and public service announcements would be used to help increase the number of participants. Twice a year participants would be contacted to determine the actual number of carpools and estimated number of rides shared. Additionally, the future need for intercity van pools would be evaluated.

Flex time and staggered shifts at larger employers can not only increase opportunities for successfully ridesharing but can decrease peak hour demand and thus reduce peak hour congestion.

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 ordinance and policy (see Chapter 9).

Public Transportation Plan

As described in Chapter 4, the Vale Senior Center currently provides limited Dial-a-Ride service for the elderly and disabled. Some limited public transportation service is also provided by Malheur County, the City of Ontario, the Department of Human Resources, Malheur Council on Aging, Nyssa Senior Center and Ontario Senior Center. In order to increase available service the county should work with ODOT and public transportation providers to reinstate intercity passenger rail/bus, increase mobility for the transportation-disadvantaged and improve commuter ridesharing opportunities. Opportunities may exist through enhanced interstate coordination to provide improved service in conjunction with nearby Idaho jurisdictions.

The city has no local fixed-route transit service at this time. Fixed-route transit generally requires relatively high population densities in order to be effective. In the City of Vale and Malheur County, low population densities and low traffic volumes on the highways indicate that mass transit is not necessary of economically feasible at this time. The TPR exempts areas of less than 25,000 from including mass transit facilities in their development regulations. However, the City of Vale should work to increase availability and usage of public transportation and ridesharing as appropriate (through coordination with Malheur County and intercity bus services)

Malheur County is responsible under state law for administration of the Special Transportation Fund program in Malheur County. This program, which is funded by cigarette tax moneys, is intended to provide transportation services to the elderly and disabled. Statewide, 75% of the available funds are distributed by formula (for FY 1998 Malheur County received $34,533), and the remaining 25% are discretionary funds available through a competitive grant program. Generally, the discretionary funds are used for capital purchases (e.g., new vehicles) with the other moneys going to operations.

Rail Service Plan

Freight Service. Chapter 3 contains several objectives for promoting the use of rail freight. The strategy for integrating the railroad transportation mode into the City of Vale TSP includes identifying the interests of the community, shipper/receivers and the railroad(s). The confluence of these interests can determine the direction the county might consider taking.

As far as transportation is concerned, rail shippers and receivers are typically interested in the following: low cost, timely delivery with access to markets, multiple modes of transport, access to the most appropriate mode for particular raw materials and/or product, access to a single mode of transportation to final destinations, and within a given mode, access to more than one provider. Railroads in the region are generally interested in the following: main line hauls as opposed to terminal/switching operations, unit trains of bulk commodities and/or containers, long hauls, large annual volumes on the line, use of existing physical plant as opposed to new investment, carriers prefer to use their own yards unless traffic is low enough that the cost of maintaining a separate yard is prohibitive, and currently, railroads are trying to arrange train schedules, where they can, so that crews can travel to a transfer point and either catch a train on

its way back home or switch crews with an inbound train, all within an 8 hour time frame (the 8 hour rule).

As rail service is provided by the private sector, there are only limited opportunities for the City of Vale to participate in the planning and development of service improvements. However, the City can continue to support rail freight as an alternative freight mobility option by reducing land use and transportation conflicts where possible, by providing adequate ingress/egress options to loading areas and adequate land available for loading areas, and by protecting current rail lines (Union Pacific and Oregon Eastern railroads) and opportunities.

Air Service Plan

Airport Project: Extend (approximately 500 feet) the runway at Miller Memorial Airport in Vale.

Due to incompatible land uses near the north end of the runway, modifications to this facility are recommended. This project would extend and essentially move the runway 500 feet to the south. Planning level project costs are estimated at approximately $50,000. The City of Vale's portion of this project is estimated at $12,500. This is a coordinated project with Malheur County and the State of Oregon.

Pipeline Service Plan

Currently, pipeline transportation in and throughout the City of Vale includes transmission lines for electricity, cable television and telephone (including fiber-optic) services, as well as pipeline transport of water, sanitary sewer, and transmission lines for natural gas and petroleum products.

The next century promises to be one in which information access will help define continued success and economic vitality. Such access is not only important to the continued economic vitality of the region, but it can also have a significant effect on transportation, air quality, and infrastructure investment decisions that will need to be made by the county. City of Vale should enhance its capabilities to develop and operate an infrastructure that provides links for electronic communication via telecommuting and satellite communications utilizing and building upon existing facilities.

These opportunities will affect the overall quality of life that can be provided, the potential for an improved and more diversified economic base, and enhanced health and education-related benefits of the region.

Waterways Transportation Plan

Although the Malheur River, Bully Creek and Willow Creek flow through the city, they are too shallow to allow for effective water transportation.

Utilities Coordination Plan

The cost to move private utilities is an expense to the tax payer/rate payer, and should be minimized at every opportunity. Utility improvements will be coordinated with roadway improvements to the extent possible. Where this is not possible, utilities should be responsible for the full cost of returning the transportation facility to its original condition. Emphasis should be placed on two-way communication and a partnership between the jurisdictions and the private utilities to minimize costs for all transportation improvements.

TRANSPORTATION SYSTEMS PLAN IMPLEMENTATION PROGRAM

Implementation of the City of Vale TSP will require changes to the City's comprehensive plan, zoning code and capital improvement plan. These actions will enable the City to address both existing and future transportation issues throughout the city in a timely and cost effective manner. Table 7-4, on the following page provides an outline for TSP implementation. It is intended to provide the city with guidance in terms of the projected timeframes and partnerships available for the various projects outlined above. Specific financing issues are addressed in Chapter 8 and specific comprehensive plan and code amendment language is addressed in Chapter 9.

Long-Range Capital Improvement Plan

The implementation plan is summarized by a long-range capital improvement plan (CIP) for the City of Vale. The purpose of the CIP is to guide growth and the timing by which needed transportation improvement projects are funded and scheduled. The City of Vale CIP should be coordinated and integrated with regular updates of ODOT's STIP, and CIP's for Malheur County. Coordinated capital improvement plans are essential since many of the recommended projects in the CIP include multiple jurisdiction investment.

As illustrated in Table 7-5, the City of Vale CIP is categorized in 5-year quarters over the 20-year TSP time frame. Project prioritization is based on current needs, and needed improvements to serve expected growth. The prioritization and schedule of projects generally reflects the planned availability of state and local revenues (see Chapter 8). Planning costs listed in Table 7-5 are shown in 1997 dollars by jurisdiction. These costs include estimates for right-of-way, design, construction and contingencies.

Table 7-4
Implementation Plan

PROJECT DESCRIPTION *	PROJECT / PROGRAM SCHEDULE					BENEFIT				COST	PARTNERSHIP			
	YEARS													
	0-5	6-10	11-15	16-20	20+	Safety	Operations /Capacity/ Circulation	Alternate Modes	Freight Mobility	(millions)	State	County	City	Private
Roadway System Plan														
1 Improve Truck Routing	■					✓	✓	✓	✓	$0.80			✓	✓
2 Re-Align Graham Boulevard at Hwy 20		■				✓	✓	✓	✓	$0.70	✓			
3 Improve Hwy 20/26 Intersections	■					✓	✓	✓	✓	TBD	✓			
4 Implement Speed Reduction Measures on Hwy 20	■					✓	✓	✓		$0.03	✓			
5 Extend Ellsworth and Yakima Streets			■	■		✓	✓	✓		$0.83				✓
6 Improve Glenn Street			■			✓	✓	✓	✓	$0.46			✓	
7 Implement Access Management Measures	■	■	■	■	■	✓	✓	✓		*TBD*	✓		✓	
8 Implement Street Classification and Design Standards	■	■	■	■	■	✓	✓	✓		*TBD*	✓		✓	
9 Construct East-West, Farm-To-Market Truck Route		■				✓	✓	✓	✓	$2.25	✓	✓	✓	✓
10 Widen Hwy 20 from Oregon St to Ellsworth St		■	■			✓	✓	✓	✓	$1.48	✓			
11 Improve Pavement Conditions	■					✓	✓		✓	TBD			✓	
Bicycle System Plan	■	■	■	■	■	✓		✓		*TBD*	✓	✓	✓	✓
(see Roadway Projects 2, 5, 6, 9, 10)	■	■	■	■	■									
Malheur River Bike Path					■			✓		$0.59				
Sidewalk Plan								✓						
Misc. Sidewalk Improvements	■	■	■	■	■	✓	✓	✓		$0.17			✓	✓
Vale Airport Extension			■			✓	✓	✓		$0.05	✓	✓	✓	
Pipeline / Waterway / Utilities Plan	■	■	■	■	■		✓			*TBD*	✓	✓	✓	✓

NOTES:

* See Figure 7-3 for map of recommended projects.

Table 7-5
City of Vale
Prioritized Capital Improvement Program
(1997 Dollars)

Timing	Project #	Description	COST SHARING (millions) Malheur County	ODOT	Vale	Private	TOTAL
1998-2002							
	1	Industrial Access Improvements			$0.08	$0.72	$.80
	3	*Improve Highway 20/26 Intersections*		TBD [1]			
	4	*Implement Speed Reduction and Pedestrian Enhancements on Highway 20*		$.03			$.03
	7	Implement Access Management		TBD	TBD		
	8	Implement Functional Classification and Design Standards		TBD			
	11	Improve Pavement Conditions		TBD [1]			
		Misc. Sidewalk Improvements		$.021	$.062		$.083
2003-2007							
	2	Re-Align Graham Boulevard		$.70			$.70
	7	Implement Access Management		TBD	TBD		
	8	Implement Functional Classification and Design Standards		TBD			
	9	*Construct East-West Farm-To-Market Truck Route between Lagoon Drive and Highway 26*	$.99		$.99	$.27	$2.25
	10	Widen Highway 26 from Oregon Street to Ellsworth Street		$.74			$.74
		Misc. Sidewalk Improvements		$.021	$.062		$.083
2008-2012							
	5	Extend Ellswortth and Yakima Streets				$0.41	$.41
	6	Improve Glenn Street			$.46		$.46
	7	Implement Access Management		TBD	TBD		
	8	Implement Functional Classification and Design Standards		TBD			
	10	Widen Highway 26 from Oregon Street to Ellsworth Street		$.74			$.74
		Misc. Sidewalk Improvements		$.021	$.062		$.083
		Vale Airport Extension	$.012	$.013	$.012	$.013	$.050
013-2017							
	5	Extend Ellswortth and Yakima Streets				$0.42	$.42
	7	Implement Access Management		TBD	TBD		
	8	Implement Functional Classification and Design Standards		TBD			
		Misc. Sidewalk Improvements		.021	$.062		$.083
TOTAL			**$1.002**	**$2.307**	**$1.790**	**$1.833**	**$6.932**

[1] To be determined - Project costs to be included in regular maintenance program

8 Financial Plan

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 8:
FINANCIAL PLAN

INTRODUCTION

The City of Vale TSP financial plan includes a transportation financing program that includes:

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

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

This chapter summarizes the financing program defined for the City of Vale TSP as required by the TPR. It summarizes the transportation improvement projects, identifies general timing and rough cost estimates of transportation system improvements, and summarizes the existing and potential future financial resources to pay for these improvements, as a general policy guideline.

TRANSPORTATION SYSTEM IMPROVEMENTS - COST AND TIMING

The total cost of all transportation system improvements in City of Vale is expected to exceed $ 7 million. City of Vale's portion of these costs is estimated at almost $1.4 (including the current LID project). These improvements include roadway, bicycle and airport facility improvements within the City of Vale over the next 20 years (as identified in Chapter 7 - TSP).

Appendix D summarizes the individual projects along with their planning-level cost estimates. All costs are estimated in constant 1997 dollars. Table 8-1 provides an estimate of the schedule (five-year increments) and jurisdiction (State, City, County and private) responsible for making major transportation improvements. Descriptions of the types of projects and their associated costs follow.

Table 8-1
Financial Plan

PROJECT DESCRIPTION *	PROJECT / PROGRAM SCHEDULE (YEARS)					COST	PARTNERSHIP				CAPITAL OUTLAY: CITY OF VALE				
	0-5	6-10	11-15	16-20	20+	(millions)	State	County	City	Private	0-5	6-10	11-15	16-20	Total
Roadway System Plan															
1 Improve Truck Routing	■					$0.80			✓	✓	$80,300				$80,300
2 Re-Align Graham Boulevard at Hwy 20		■				$0.70	✓								
3 Improve Hwy 20/26 Intersections	■					TBD	✓								
4 Implement Speed Reduction Measures on Hwy 20	■					$0.03	✓								
5 Extend Ellsworth and Yakima Streets			■	■		$0.83				✓					
6 Improve Glenn Street			■			$0.46			✓				$460,000		$460,000
7 Implement Access Management Measures	■	■	■	■	■	*TBD*	✓		✓						
8 Implement Street Classification and Design Standards	■	■	■	■	■	*TBD*	✓		✓						
9 Construct East-West, Farm-To-Market Truck Route		■				$2.25	✓	✓	✓	✓		$990,000			$990,000
10 Widen Hwy 26 from Oregon St to Ellsworth St		■	■			$1.48	✓								
11 Improve Pavement Conditions	■					TBD			✓						
Bicycle System Plan	■	■	■	■	■	*TBD*	✓	✓	✓	✓					
(see Roadway Projects 2, 5, 6, 9, 10)	■	■	■	■	■										
Malheur River Bike Path					■	$0.59									
Sidewalk Plan															
Misc. Sidewalk Improvements	■	■	■	■	■	$0.17			✓	✓	$42,500	$42,500	$42,500	$42,500	$170,000
Vale Airport Extension			■			$0.05	✓	✓	✓		$12,500				$12,500
Pipeline / Waterway / Utilities Plan	■	■	■	■	■	*TBD*	✓	✓	✓	✓					
CAPITAL OUTLAY PER 5-Year Increment:											$135,300	$1,032,500	$502,500	$42,500	$1,712,800

NOTES:

* See Figure 7-3 for map of recommended projects.

Roadways

Eight street improvement projects will be needed to upgrade the local street and highway system within City of Vale over the next 20 years. Approximately $ 6.3 million of the total transportation system improvements are attributed to these street projects. Target dates for project construction have been tentatively identified by five-year increment, as illustrated in Table 8-1.

Bicycle Facilities

New bicycle facilities along collector and arterial streets in the City of Vale transportation system will increase by approximately .80 miles, all of which are included in street improvement projects.

Pedestrian Facilities

New pedestrian facilities along local, collector and arterial streets in the City of Vale transportation system will also increase by approximately two miles, both as part of street improvements and separate sidewalk projects. New curb extensions on the Washington Street/"A" Street one-way couplet will also be constructed at major intersections to ease pedestrian crossings of Highway 20.

Airport Facilities

The estimated cost for the proposed runway improvements at the Miller Memorial Airport near Vale is $50,000. The City of Vale's share of that amount is estimated to be $12,500, planned for completion in the 11-15 year time frame.

Timing

Project priorities have been grouped into five-year categories. Table 8-1 summarizes the improvements that will occur within those time frames. City of Vale expenditures to construct the East-West, Farm-To-Market truck route and extension of 10th Street between Washington and "A" streets are the greatest in the first 10 years, averaging about $120,000 per year. Other major expenditures for transportation improvements are expected in the last 10 years for an estimated $85,000 to improve sidewalks throughout the City, and approximately 460,000 to improve Glenn Street. Private development will be expected to make investments to construct public transportation facilities within and adjacent to their development. The City of Vale will be expected to make investments to improve major collectors and arterials that serve the entire area.

EXISTING AND HISTORIC FINANCING SOURCES

Road-Related Funding

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

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the state. During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last two Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption.

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

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

Oregon's basic vehicle registration fee is $15 per year regardless of the vehicle being registered. Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities have relied more than counties on transfers from their general funds to support roadway improvements. Ballot Measure 5, however, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the

property tax rate for purposes other than for payment of certain general obligation indebtedness to $15 per $1000 of assessed value. The measure further divided the $15 per $1000 property tax authority into two components: $5 per thousand dedicated to the public schools; the remaining $10 dedicated to other local government units, including cities, counties, special service districts, and other non-school entities. The tax rate limitation for cities and counties went into effect in 1992. The school portion of the measure is being phased in over a five-year period beginning in FY 1992. In 1996, voters again approved a property tax limitation measure, Ballot Measure 47, which will further impact the ability of cities and counties to pay for needed infrastructure through historic or traditional means.

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

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, cities and counties for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the state, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996. A result of these recommendations was appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal identified a "base" transportation system, with a priority of maintenance, preservation and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. It is expected that other components will include efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. However, the 1997 Legislature failed to pass either the Governor's Initiative measures or their own.

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

Transportation Plan (OTP) encourage reassessment of responsibilities and obligations for funding.

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

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

Transit Funding

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

Federal Transit Administration (FTA) grants account for 69 percent of Oregon's funding for transit capital construction, which includes purchase of buses and other equipment. Federal funding for transit was increased through the flexibility provided by ISTEA. This federal legislation expired September 30, 1997 and, while new legislation is still pending, there is strong indication that current flexibility will be retained, although it will be dependent on Congressional approval to continue current programs. The largest source of transit operating revenues, $87 million, are local funds, which provide 64 percent of revenues needed for transit operations. Passenger fares cover 22 percent of Oregon's transit system operating costs. Transportation for the elderly and disabled is funded through dedication of two cents of the state cigarette tax and through federal programs.

For the most part, public transportation issues., programs and funding in Vale are covered by the Malheur County TSP.

Airport Funding

Federal grants from the Federal Aviation Administration (FAA) Airport Improvement Program (AIP) are used to support general airport infrastructure improvements, with 90 percent Federal funding and a 10 percent local match. Given the ability to adjust user charges to address inflation, revenues will likely remain stable for operation and maintenance of the airport, particularly in relation to funding issues faced by other transportation modes. and advertising space in the terminal, and a variety of user fees - fuel flowage fees, aircraft landing fees, terminal rent fees for airlines, rental cars and the restaurant.

CITY OF VALE TRANSPORTATION FUNDING

Revenues for roadway purposes for fiscal years 1994-1996 for City of Vale are summarized in Table 8-2. The majority of funds have been received from state gas tax revenues. The other sources of income have been interest on reserves and interfund transfers. There are minimal local sources of funding applied to transportation improvements within City of Vale.

In review and summary, it appears that City of Vale is generally keeping pace with basic street maintenance needs. However, City of Vale currently has no significant revenue programs to match needed capital improvements for major street projects over the next 20 years.

Table 8-2
City of Vale Street Fund Revenue and Expenses

REVENUE	1994/95 (Actual)	1995/96 (Actual)	1996/97 (Budget)	1997/98 (Proposed)
State Gas Tax Apportionment	$68,188.18	$66,940.85	$68,100.00	$71,107.00
Interfund Transfers	$33,900.00	$41,900.01	$69,500.00	$45,000.00
Interest	$3,873	$2,733.89	$1,000.00	$1,000.00
Grants	$12,500	$12,645.48	$0.00	$0.00
Other Outside Sources	0.00	$1,399.00	$0.00	$200.00
Cash on Hand	$10,525.41	$3,000.00	$10,000.00	$10,000.00
Services and Fees	0.00	0.00	0.00	$76,282.00
TOTAL	$128,990.06	$128,619.23	$148,600.00	$203,589.00
EXPENSE				
Personal Services	$61,263.15	$59,538.09	$64,368.00	$64,853.00
Materials & Services	$40,364.70	$43,944.47	$44,500.00	$66,300.00
Capital Outlay	$24,564.33	$18,948.21	$34,891.00	$26,684.00
Interfund Transfers	$213.07	$208.82	$643.00	$34,291.00
Street Fund Contingency	$2,217.68	$5,979.64	$2,705.00	$11,461.00
TOTAL	$128,622.93	$128,619.23	$147,107.00	$203,589.00
NET CARRYOVER	$367.13	$0.00	$1,493	$0.00

POTENTIAL FUTURE TRANSPORTATION FUNDING SOURCES

There are a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state and local governments. Appendix E provides a summary of federal, state and local highway, bridge, sidewalk, bicycle and transit funding programs that have typically been used in the past. Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 47/50 are likely significant, but still vague.

Recommendations for Receiving Federal and State Sources

Most Federal funding is passed through ODOT to the local jurisdictions. *A good working relationship with ODOT Region 5 planners and the Region Manager is important to have major transportation improvements included as part of the STIP when it is updated every two years.* ODOT maintains interstate and state highways - in City of Vale this includes Highways 20, 26, and Vale-West Highway. State and federal funds administered through ODOT are the primary sources of funding for improvements to this facility. Projects that involve ODOT highways account for approximately $ .03 million (to fund curb extension/pedestrian enhancement projects on Highway 20) in the next five years, and $2.18 million (Highway 26 widening and re-alignment of Graham Boulevard) in the following 10 year period.

As shown in Figure 8-1, ODOT's contribution towards transportation improvements in the City of Vale is needed within the next 15 years. Current federal and state revenue programs will likely fall short of needs in City of Vale. Hence, *City of Vale and ODOT should take an active role in representing their priorities to the Oregon State Legislature, Governor and members of the US Congress and Senate to enhance state and federal investment in City of Vale infrastructure.*

As noted earlier, the 1997 Oregon Legislature failed to pass enhancements to transportation infrastructure investment. In lieu of statewide funding enhancements, the City of Vale must look to local measures to fund future capacity projects.

Recommendations for Developing Local Funding Sources

The 1997 Oregon Legislature failed to adopt statewide funding program enhancements. An increase in Oregon gas tax, associated weight-mile tax, vehicle registration fees and dedicated transit funding would have helped City of Vale (significantly) meet the needs for new transportation system improvements. Without those measures, City of Vale will have to rely on enhanced local funding measures, at least until statewide funding measures are secured. T*he City should consider developing local financing to support funding the higher priority projects, to be more attractive for state and federal allocations by providing a larger local match.* City of Vale could consider any one or combination of the following financing measures:

- Local improvement district (LID)
- System development charges/traffic impact fees (SDC/TIF)
- Local/regional gasoline taxes and vehicle registration fees
- Street improvement levies or bonds
- Street maintenance/utility fees

Potential funding sources are typically judged based on a number of criteria, including:

- legal authority;
- financial capacity;
- stability;
- administrative feasibility;
- equity; and
- political acceptability.

In general recognition of these criteria, new LID's, SDC's/TIF's and street maintenance fees were considered but dropped as viable, local funding measures for new transportation improvement projects in the City of Vale areas for the following reasons:

- In general , street maintenance is already funded through current programs (statewide gas tax/vehicle registration fees and weight-mile taxes), new maintenance/utility fees could be interpreted as over- or double-taxing;
- new development may not occur at significant levels, yielding low impact fee revenues - or impact fees would need to be extremely high in order to yield significant revenue, quite possibly resulting in discouraging even the smallest of developments (as planned); and,
- New LID's would be difficult to form around large city projects, placing the financial burden disproportionately in select areas instead of across the city (to all those who benefit by the projects).

Hence, the City of Vale TSP includes a more focused evaluation of local gasoline taxes, vehicle registration fees and street improvement bonds as new and viable measures to fund the City of Vale share of needed transportation system improvements consistent with and part of an overall county program. As summarized in Appendix F, a range of funding options were investigated to ascertain the level of revenue generated based on county-wide application for each funding measure. Table 8-3 summarizes the 20-year revenues generated by the new county-wide funding measures recommended in the Draft Malheur County TSP (January 1998).

Table 8-3
Recommended Funding Sources

Funding Source/ Rate	Vale	ADDITIONAL REVENUE: Adrian	Jordan Valley	Nyssa	Ontario	Uninc. Malheur County
County-Wide Local Gas Tax - 20 Years [1]						
$0.01 *per gallon*	$409,900	$23,400	$82,300	$557,500	$2,355,200	$2,550,800
County-Wide Vehicle Registration Fee – 20 Years [1]						
$10 *per year*	$574,600	$32,900	$115,400	$781,500	$3,301,700	$3,575,900
County-Wide Road Bond - 10 Years (2008-2017)						
$0.55 *per $1,000 assessed value*	$411,250	$23,500	$82,600	$559,300	$2,362,900	$2,559,200
Total Revenue	$1,395,750	$79,800	$280,300	$1,898,300	$8,019,800	$8,685,900
City of Vale Transportation System Needs	$1,712,800					

[1] Based on 20-year growth in registered vehicles, commensurate with forecasted population growth.

The diversification of residential and commercial/industrial in City of Vale and Malheur County makes it difficult to translate the real, added cost of new transportation funding measures. The valuation of homes and industry vary greatly across the City. For the purposes of illustrating the impact of these new funding measures a simplified summary is provided based on a typical[1] household (dwelling) in the City of Vale. Table 8-4 summarizes the added expenses for a "typical" dwelling to pay for needed transportation system improvements in the City of Vale through these measures. Beginning in 1998, each typical dwelling would pay $42.22 per year in added local gas tax and vehicle registration fees. Beginning in 2008, the 10-year Road Bond would add $66.00 in local property tax to the local gas tax and vehicle registration fees, totaling $108.22 in annual expense to the typical dwelling.

[1] Single-family dwelling assessed at $120,000, with 2 automobiles accumulating 20,000 miles per year at 18 miles per gallon.

Table 8-4
Added Cost of New Transportation Funding Measures

New, County-Wide Transportation Revenue Measures	Added Annual Expense (1997 dollars) for Typical Dwelling: in 1998	in 2008
20-Year Local Gas Tax ($.01/gal)	$22.22	$22.22
20-Year Local Vehicle Registration Fee ($10/year)	$20.00	$22.00
10-Year[2] Road Bond ($.55 per $1,000 assessed value)		$66.00
TOTAL	$42.22	$108.22

Revenues from the proposed funding measures should (generally) be adequate to meet the financial needs of the City of Vale for major street projects over the next 20 years. Additional evaluation of the economic impact of any new tax and bonding measures, particularly a local gasoline tax should be completed before a public vote and eventual implementation (assuming voter approval). Furthermore, the introduction of new local funding measures will require significant public support. Those measures adopted by the City will require definition of local programs to administer the fee and/or tax collection programs.

City of Vale should continue to explore state and federal funding opportunities to meet its long-term transportation needs. State funding is available for funding bike lane modifications, with a state requirement that one percent of the State Highway Fund be spent for the development of pedestrian and bikeways. Federal ISTEA programs include the Surface Transportation Program that provides funds for any road not classified as a local or rural minor collector. The Transportation Enhancement Program provides funds for enhancing pedestrian and bicycle facilities, landscaping and other scenic beautification, and improvements to scenic or historic sites. This program may be a source of funds for projects that include adding bicycle lanes, sidewalks and off-road pathways. The Highway Enhancement Program provides funds for safety improvement projects on public roads. All of these programs are coordinated through the ODOT Region 5 staff and must be included in the STIP.

[2] 2008-2017.

Recommended Policy Changes

Vale Transportation System Plan

W&H PACIFIC

CHAPTER 9:
RECOMMENDED POLICY CHANGES

The Transportation Planning Rule (TPR) requires local jurisdictions to adopt ordinances and regulations to protect transportation facilities. This chapter includes Table 9-1, which provides a "checklist" of TPR requirements and shows how this Transportation System Plan (TSP) addresses each requirement. This chapter also provides recommended policy amendments to the City's Comprehensive Plan and Development ordinances to comply with the TPR. These changes are grouped by general topic below. Specific analysis and recommended changes for Vale's Comprehensive Plan and Development Code are included in Appendix H.

REQUIRED AMENDMENTS TO LOCAL POLICIES PER THE TRANSPORTATION PLANNING RULE

A summary of the recommended amendments to Vale's Comprehensive Plan and development ordinances is listed in Table 9-1. For each requirement, Table 9-1 identifies whether the current code is in compliance, summarizes of the current code, and summarizes the recommended policy changes. With the adoption of the TSP recommended changes, the City of Vale will be in full compliance with the TPR.

POLICIES FOR THE APPROVAL PROCESS

Policies should clarify the approval process for different types of projects. The following policies are recommended to be adopted in the TSP:

- *The Transportation System Plan is an element of the Comprehensive Plan. It identifies the general location of transportation improvements. Changes in the specific alignment of proposed public road and highway projects shall be permitted without plan amendment if the new alignment falls within a transportation corridor identified in the Transportation System Plan.*

- *Operation, maintenance, repair, and preservation of existing transportation facilities shall be allowed without land use review, except where specifically regulated.*

- *Dedication of right-of-way, authorization of construction and the construction of facilities and improvements shall be allowed without land use review for those improvements that are either specifically designated in the Transportation System Plan or that are consistent with the classification of the roadway and approved road standards of the Transportation System Plan.*

- *Changes in the frequency of rail service that are consistent with the Transportation System Plan shall be allowed without land use review.*

W&H PACIFIC

TABLE 9-1
CITY OF VALE TRANSPORTATION PLANNING RULE COMPLIANCE

TSP Elements			
TPR Requirements	**Current Code Compliance (Yes/NO)**	**Summary of Current Policies**	**Summary of Recommended Policy Change**
OAR 660-12-020 (2) (b) TSP shall include a road plan including a functional classification consistent with state and regional TSPs. Road standards for local streets to: 1) address extensions of existing streets 2) connections to existing /planned arterials and collectors 3) connections to neighborhood destinations	Partial 1)Yes 2) Yes 3) Partial	Code defines functional classification and basic design elements. 1) Code discusses street extension requirements. 2) Code requires new streets to conform to existing street patterns. 3) Code also discusses general access requirements.	Reduce number of roadway classifications. Provide more specific roadway standards. 1) None. 2) None. 3) Include more specific access language.
OAR 660-12-020 (2) (c) TSP shall include a description of public transportation services for the disadvantaged including: 1) identification of inadequacies 2) description of intercity bus and passenger rail system	1) No 2) No	1) Vale has no public transportation system, excepting school busses. 2) Vale has no intercity bus or passenger rail system.	1) Identify potential public transportation system needs for the disadvantaged. 2) Explore policy direction to provide intercity service.
OAR 660-12-020 (2) (d) The TSP shall include a bicycle and pedestrian plan	No	Code contains no coordinated bicycle or pedestrian plan.	Adopt bicycle and pedestrian plan with designated routes as part of the TSP.
OAR 660-12-045(6) Bicycle and pedestrian plans must include improvements that connect neighborhood activity centers (schools, shopping)	Partial	Pedestrian facilities may be required as part of subdivision development.	Add definitions and standards to subdivision ordinance. Add policy explaining why connectivity is important.
OAR 660-12-020 (2) (e) The TSP shall include air, rail, water and pipeline transportation plans	Partial	Comprehensive Plan includes objectives and implementation steps for air transportation.	Adopt air, rail, water and pipeline transportation plans as part of the TSP.

TABLE 9-1
CITY OF VALE TRANSPORTATION PLANNING RULE COMPLIANCE

TSP Preparation			
TPR Requirements	**Current Code Compliance (Yes/NO)**	**Summary of Current Policies**	**Summary of Recommended Policy Change**
OAR 660-12-015 (4) The TSP prepared by the County must be adopted as part of the Comprehensive Plan	N/A	The TSP is currently in development.	Adopt the TSP as part of Vale's Comprehensive Plan..
OAR 660-12-015 (5) Preparation of the TSP will be coordinated with state and federal agencies and other jurisdictions.	N/A	The TSP is being developed in conjunction with ODOT, Malheur County, the Vale Planning Commission and the City of Vale.	None.
OAR 660-12-015 (6) Transportation airport and port districts must participate in preparation of the TSP and adopt plans for the transportation facilities they maintain consistent with the TSP.	Yes	Current code requires general coordination with Malheur County within the Urban Growth Boundary (UGB). The code does not specifically require coordination regarding the airport overlay zone outside of the UGB.	Incorporate specific language requiring coordination of Airport Overlay restrictions and area with Malheur County.

TABLE 9-1
CITY OF VALE TRANSPORTATION PLANNING RULE COMPLIANCE

Protection of Transportation Street Facilities/Improvements			
TPR Requirements	**Current Code Compliance (Yes/NO)**	**Summary of Current Policies**	**Summary of Recommended Policy Change**
OAR 660-12-045(2) Local governments shall adopt regulations/policies to protect transportation facilities for the following topics:			
1) access management standards	1) No	1) None.	1) Adopt access management standards into development ordinances.
2) future operation of roads and transit corridors	2) Partial	2) Code considers impact of industrial accesses on traffic congestion and residential zones.	2) Add policies that protect transportation facilities.
3) control of land use around airports	3) Yes	3) Vale has an Airport Overlay.	3) Review airport overlay for adequacy.
4) coordinated review of transportation facility projects, including notice to ODOT of certain actions	4) Partial	4) Code requires City and County review of capital improvement projects within, adjacent to, or which directly impact the UGB.	4) Include language regarding notice to ODOT as necessary.
5) land use, density should be consistent with road classifications in TSP	5) No	5) Street classification and land use, density are not specifically coordinated.	5) Coordinate land use, density with street classification.
OAR 660-12-045(3) Local governments must amend subdivision regulations in accordance with the following directions:			
1) provide bike parking in multi-family developments 4 units or more	1) No	1) No reference to bicycle parking.	1) Amend subdivision ordinance to include definitions and development requirements to provide bicycle improvements where necessary.
2) provision of pedestrian connections from new subdivisions/multi-family development to neighborhood activity centers	2) Partial	2) Pedestrian way may be required to provide appropriate circulation. Sidewalks are required on both sides of some new public streets.	2) Include specific language regarding routes between developments and neighborhood activity centers.
3) off-site road improvements must accommodate bicycle and pedestrian facilities on arterials and major collectors	3) Yes	3) Current comprehensive plan mentions bicycle and pedestrian improvements.	3) Strengthen policy and ordinance language.
OAR 660-12-045 (7) Local governments shall provide street standards that minimize right-of-way widths and pavement width	No	Street standards vary in width, but do not consider minimization of right-of-way or pavement widths.	Adopt uniform street standards that provide for a range of pavement and right-of-way widths to be determined on a case by case basis, with minimization of right-of-way and pavement widths a desirable goal.

TABLE 9-1
CITY OF VALE TRANSPORTATION PLANNING RULE COMPLIANCE

Coordination of Land Use Reviews and Decisions/Plan and Land Use Amendments			
TPR Requirements	**Current Code Compliance (Yes/NO)**	**Summary of Current Policies**	**Summary of Recommended Policy Change**
OAR 660-12-060 Amendments to comprehensive plans that significantly affect a transportation facility shall assure that allowed land uses are consistent with identified function, capacity and level of service on that road.	No	Current policies apply to development in general.	Add policies that require review of transportation impacts for all comprehensive plan amendments. (Chapter 9 has suggested policy changes)
OAR 660-12-025 Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies shall be developed with the adoption of the TSP.	N/A	N/A	Create appropriate findings when adopting TSP.

W&H PACIFIC

TABLE 9-1
CITY OF VALE TRANSPORTATION PLANNING RULE COMPLIANCE

Determination of Transportation Needs			
TPR Requirements	**Current Code Compliance (Yes/NO)**	**Summary of Current Policies**	**Summary of Recommended Policy Change**
OAR 660-12-030(1) The TSP should identify the following transportation needs: 1) state, regional and local 2) needs of the transportation disadvantaged 3) freight movement for industrial and commercial uses	 1) No 2) No 3) No	1) Current policies reflect local needs.	1) Include state and regional needs. 2&3) Determine needs of transportation disadvantaged and frequent movement for industrial and commercial users. (Chapters 4&5)
OAR 660-12-030(2) and (3) City TSPs shall use the state TSP for information on state needs and the county TSP for information on county needs.	No	Current policies do not address state or county needs.	Update City policies to reflect state information and policies (such as access management, e.g.). The County TSP is currently is development. Update population forecasts.
Within UGBs, local transportation needs are based on population and employment forecasts for 20 years	Yes	Comprehensive Plan considers local forecasts.	

TABLE 9-1
CITY OF VALE TRANSPORTATION PLANNING RULE COMPLIANCE

Evaluation and Selection of Transportation System Alternatives			
TPR Requirements	Current Code Compliance (Yes/NO)	Summary of Current Policies	**Summary of Recommended Policy Change**
OAR 660-12-035(1) The following alternatives shall be analyzed in the TSP: 1) improvements to existing facilities 2) new facilities 3) system management 4) demand management measures 5) no build alternative	1-5) No	1-5) Current policies are based on improvements to existing facilities and no alternatives analysis was documented.	1-5) Conduct TSP process to analyze these alternatives (Chapter 6)
OAR 660-12-035(3) As standards for evaluation, the transportation system shall: 1) support urban and rural development by providing transportation system that will serve the land uses identified in the comprehensive plan; 2) be consistent with state and federal protection of air, land and water quality measures; 3) shall minimize adverse economic, social, environmental and energy consequences; 4) minimize conflicts between modes; 5) avoid reliance on one mode of travel and reduce reliance on the automobile.	N/A	N/A	TSP currently being adopted will evaluate these standards. (Chapter 6)
OAR 660-12-035(8) Where existing and committed transportation facilities can adequately serve land uses in the acknowledged comprehensive plan, local governments are not required to evaluate alternatives (above).	N/A	N/A	N/A

- *For State projects that require an Environmental Impact Study (EIS) or Environmental Assessment (EA), if local review is required the draft EIS or EA shall serve as the documentation for local land use review, as follows:*

  (1) Where the project is consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent or subsequent compliance with applicable development standards or conditions;

  (2) Where the project is not consistent with the Transportation System Plan, formal review of the draft EIS or EA and concurrent completion of necessary goal exceptions or plan amendments.

- *Uses permitted outright under ORS 215.213(1)(m) through (p) and ORS 215.283 (k) through (n), consistent with the Transportation System Plan, the classification of the street, and approved street standards, shall be allowed without land use review.*

STANDARDS FOR TRANSPORTATION IMPROVEMENTS

The following changes are recommended to be inserted into the City of Vale development ordinances to address the lack of detailed standards for proposed transportation improvements.

Uses Permitted Outright

Except where otherwise specifically regulated, the following improvements are permitted outright:

A. Normal operation, maintenance, repair, and preservation activities of existing transportation facilities.

B. Installation of culverts, pathways, medians, fencing, guardrails, lighting, and similar types of improvements within the existing right-of-way.

C. Projects specifically identified in the Transportation System Plan which do not require further land use regulation.

D. Landscaping as part of a transportation facility.

E. Emergency measures necessary for the safety and protection of property.

F. Acquisition of right-of-way for public streets, highway, and other transportation improvements designated in the Transportation System Plan except for those that are located in exclusive farm use zones.

G. Construction of a street or road as part of an approved subdivision or land partition approved consistent with the applicable land division ordinance.

Conditional Uses Permitted

A. Construction, reconstruction or widening of highways, streets, bridges or other transportation projects that are: (1) not improvements designated in the Transportation System Plan or (2) not designed and constructed as part of a subdivision or planned development subject to the site plan and/or conditional use review, shall comply with the Transportation System Plan and applicable standards, and shall address the following criteria. For State projects that require an Environmental Impact Statement (EIS) or Environmental Assessment (EA), the draft EIS or EA shall be reviewed and used as the basis for findings to comply with the following criteria:

1. The project is designed to be compatible with existing land use and social patterns, including noise generation, safety, and zoning.

2. The project is designed to minimize avoidable environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities.

3. The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.

4. Project includes provision for bicycle and pedestrian circulation as consistent with the comprehensive plan and other requirements of this ordinance.

B. If review under this section indicates that the use or activity is inconsistent with the Transportation System Plan, the procedure for a plan amendment shall be undertaken prior to or in conjunction with the conditional permit review.

Time Limitation on Transportation-Related Conditional Use Permits

Authorization of a conditional use shall be void after a period specified by the applicant as reasonable and necessary based on season, right-of-way acquisition, and other pertinent factors. This period shall not exceed three years.

POLICIES FOR THE PROTECTION OF TRANSPORTATION FACILITIES

Policies Applicable to All Small Jurisdictions

- *The city shall protect the function of existing and planned roadways as identified in the Transportation System Plan.*

- *The city shall include a consideration of their impact on existing or planned transportation facilities in all land use decisions.*

- *The city shall protect the function of existing or planned roadways or roadway corridors through the application of appropriate land use regulations.*

- *The city shall consider the potential to establish or maintain access ways, paths, or trails prior to the vacation of any public easement or right-of-way.*

- *The city shall preserve right-of-way for planned transportation facilities through exactions, voluntary dedication, and setbacks.*

POLICIES TO PROTECT THE USE OF AIRPORTS

- *The city shall encourage cooperation between the county, and the Oregon Aeronautics Section when reviewing any land use development near the airport.*

- *The city will cooperate and coordinate with the county and the Oregon Aeronautics Section in the protection of the airport and future expansion areas from potential adverse effects posed by incompatible land uses.*

- *Because of potential bird hazards to airborne aircraft, land uses beneath designated airport approach surfaces within 500 feet off the approach end of runway(s) accommodating piston engine aircraft, and within 10,000 feet of the approach end of runway(s) accommodating jet aircraft shall not create water impoundments, sanitary landfills, or sewer treatment plants.*

POLICIES GOVERNING THE REVIEW OF LAND USE ACTIONS

The review process for land use actions ordinance should be amended to provide for Notice to ODOT regarding any land use action on a State facility. Similarly, all actions by a city or county potentially affecting another jurisdiction's road should require notice to that jurisdiction's public work department. In addition, the policy should be to notify providers of public transit and special interest transportation groups such as truckers, railroad, bicyclists, pedestrians, and the disabled on any roadway or other transportation project.

Information that should be conveyed to reviewers includes:

- Project location;
- Proposed land use action; and
- Location of project access point(s).

Additional information that could be supplied to the reviewers upon request (provided the information is available) includes a site plan showing the following:

- Distances to neighboring constructed access points, median openings, traffic signals, intersections, and other transportation features on both sides of the property;
- Number and direction of lanes to be constructed on the driveway, plus striping plans;
- All planned transportation features (lanes, signals, bikeways, sidewalks, crosswalks, etc.);
- Trip generation data or appropriate traffic studies;
- Parking (motor vehicle and bicycle) and internal circulation plans for vehicles and pedestrians;
- Plat map showing property lines, right-of-way, and ownership of abutting properties; and
- A detailed description of any requested variance.

- *The city shall coordinate with the Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Transportation System Plan and Comprehensive Plan.*

- *The city shall consider the findings of ODOT's draft Environmental Impact Statements (EISs) and Environmental Assessments (EAs) as integral parts of the land use decision-making procedures. Other actions required, such as a goal exception or plan amendment, will be combined with review of the draft EA or EIS and land use approval process.*

To minimize impacts on existing transportation facilities:

- *The proposed use shall not impose an undue burden on the public transportation system. For developments that are likely to generate more than 400 average daily motor vehicle trips (ADTs), the applicant shall provide adequate information, such as a traffic impact study or traffic counts, to demonstrate the level of impact to the surrounding street system. The developer shall be required to mitigate impacts attributable to the project.*

- *The determination of impact or effect and the scope of the impact study should be coordinated with the provider of the affected transportation facility.*

- *Dedication of land for streets, transit facilities, sidewalks, bikeways, paths, or access ways shall be required where the existing transportation system will be impacted by or is inadequate to handle the additional burden caused by the proposed use.*

- *Improvements such as paving, curbing, installation or contribution to traffic signals, construction of sidewalks, bikeways, access ways, paths, or streets that serve the proposed use where the existing transportation system may not be burdened by the proposed use.*

REGULATIONS TO ASSURE THAT AMENDMENTS ARE CONSISTENT WITH THE TRANSPORTATION SYSTEM PLAN

Section 660-12-045(2)(g) of the Transportation Planning Rule requires that jurisdictions develop regulations to assure that all development proposals, plan amendments, or zone changes conform with the Transportation System Plan. This requirement can be addressed by adding a policy to the Comprehensive Plan, as follows:

- *All development proposals, plan amendments, or zone changes shall conform with the adopted Transportation System Plan.*

The following statements should be added to the local ordinance and policy language governing zone changes and plan amendments:

- *A plan or land use regulation amendment significantly affects a transportation facility if it:*

  A. Changes the functional classification of an existing or planned transportation facility;

  B. Changes standards implementing a functional classification system;

  C. Allows types or levels of land use that would result in levels of travel or access that are inconsistent with the functional classification of a transportation facility; or

  D. Would reduce the level of service of the facility below the minimum acceptable level identified in the Transportation System Plan.

Amendments to the comprehensive plan and land use regulations which significantly affect a transportation facility shall assure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. This shall be accomplished by one of the following:

A. Limiting allowed land uses to be consistent with the planned function of the transportation facility;

B. Amending the Transportation System Plan to ensure that existing, improved or new transportation facilities are adequate to support the proposed land uses consistent with the requirement of the Transportation Planning Rule; or,

C. Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.

POLICIES FOR PEDESTRIAN AND BICYCLE CIRCULATION AND ACCESS

To comply with objectives of the Transportation System Plan and the Transportation Planning Rule, it is recommended that Vale amend its Comprehensive Plan with policies such as the following to protect, support, and encourage bicycle and pedestrian travel.

- *It is the policy of the city to plan and develop a network of streets, access ways, and other improvements, including bikeways, sidewalks, and safe street crossings to promote safe and convenient bicycle and pedestrian circulation within the community.*

- *The city shall require streets and access ways where appropriate to provide direct and convenient access to major activity centers, including downtown, schools, shopping areas, and community centers.*

- *In areas of new development, the city shall investigate the existing and future opportunities for bicycle and pedestrian access ways. Many existing access ways such as user trails established by school children distinguish areas of need and should be incorporated into the transportation system.*

- *Bikeways shall be included on all new arterial and collectors within the Urban Growth.*

- *Retrofitting existing streets with sidewalks, where deemed appropriate, shall proceed on a prioritized schedule.*

- *Priority shall be given to developing access ways to major activity centers within the Urban Growth Boundary, such as the downtown commercial center, schools, and community centers.*

- *Bikeways and pedestrian access way shall connect to local and regional travel routes.*

- *Bikeways and pedestrian access ways shall be designed and constructed to minimize potential conflicts between transportation modes. Design and construction of such facilities shall follow the guidelines established by the Oregon Bicycle and Pedestrian Plan.*

- *Maintain and repair of existing bikeways and pedestrian access ways (including sidewalks) shall be given equal priority to the maintenance and repair of motor vehicle facilities.*

- *A citizens advisory committee shall be established to protect and promote bicycle and pedestrian transportation within the Urban Growth Boundary.*

ORDINANCES FOR BICYCLE PARKING

- *A minimum of two (2) bicycle parking spaces per use (one sheltered and one unsheltered shall be required.*

- *The following Special Minimum Standards shall be considered as supplemental requirements for the number of required bicycle parking spaces.*

  Multi-Family Residences: Every residential use of four (4) or more dwelling units shall provide at least one sheltered bicycle parking space for each unit. Sheltered bicycle parking spaces may be located within a garage, storage shed, basement, utility room or similar area. In those instances in which the residential complex has no garage or other easily accessible storage unit, the required bicycle parking spaces shall be sheltered under an eave, overhang, an independent structure, or similar cover.

  Parking Lots: All public and commercial parking lots and parking structures shall provide a minimum of one (1) bicycle parking space for every 10 motor vehicle parking spaces.

  Schools: Elementary and middle schools, both private and public, shall provide one (1) bicycle parking space for every 10 students and employees. High schools shall provide one (1) bicycle parking space for every five (5) students and employees. All spaces shall be sheltered under an eave, overhang, independent structure, or similar cover.

  Downtown Areas: In downtown areas with on-street parking, bicycle parking for customers shall be provided along the street at a rate of at least one (1) space per use. Spaces may be clustered to serve up to six (6) bicycles; at least one cluster per block shall be provided. Bicycle parking spaces shall be located in front of the stores along the street, either on the sidewalks in specially constructed areas such as pedestrian curb extensions. Inverted "U" style racks are recommended. Bicycle parking shall not interfere with pedestrian passage, leaving a clear area of at least 5 feet. Customer spaces are not required to be sheltered. Sheltered parking (within a building, or under an eave, overhang, or similar structure) shall be provided at a rate of one space per 10 employees, with a minimum of one (1) space per store.

The following formulas for calculating the number of required bicycle parking spaces are recommended:

- Fractional numbers of spaces shall be rounded up to the next whole space; and
- For facilities with multiple uses (such as commercial centers), the bicycle parking requirements shall be calculated by using the total number of motor vehicle parking spaces for the entire development.

The Transportation Planning Rule specifies that, at a minimum, sidewalks and bikeways be provided along arterials and collectors in urban areas. Separate bicycle and pedestrian facilities should be provided where these would safely minimize trips distances by providing a "short cut." Small cities should enhance existing ordinances by including the following recommended language, additions and recommendations. The recommendations should be placed within the appropriate section of the zoning or subdivision ordinance.

Definitions

A. *ACCESS WAY. A walkway that provides pedestrian and bicycle passage either between streets or from a street to a building or other destination such as school, park, or transit stop. Access ways generally include a walkway and additional land on either side of the walkway, often in the form of an easement or right-of-way, to provide clearance and separation between the walkway and adjacent uses. Access ways through parking lots are generally physically separated from adjacent vehicle parking or parallel vehicle traffic by curbs or similar devices and include lighting. Where access ways cross driveways, they are generally raised, paved, or marked in manner that provides convenient access for pedestrians.*

B. *BICYCLE. A vehicle designed to operate on the ground on wheels, propelled solely by human power, upon which any person or persons may ride, and with two tandem wheels at least 14 inches in diameter. An adult tricycle is considered a bicycle.*

C. *BICYCLE FACILITIES. A general term denoting improvements and provisions made to accommodate or encourage bicycling, including parking facilities and all bikeways.*

D. *BIKEWAY. Any road, path, or way that is some manner specifically open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are shared with other transportation modes. The five types of bikeways are:*

   1. *MULTI-USE PATH. A paved 10- to 12-foot wide way that is physically separated from motorized vehicular traffic, typically shared with pedestrians, skaters, and other non-motorized users.*

   2. *BIKE LANE. A 4- to 6-foot wide portion of the roadway that has been designated by permanent striping and pavement markings for the exclusive use of bicycles.*

   3. *SHOULDER BIKEWAY. The paved shoulder of a roadway that is 4 feet or wider; typically shared with pedestrians in rural areas.*

   4. *SHARED ROADWAY. A travel lane that is shared by bicyclists and motor vehicles.*

5. *MULTI-USE TRAIL. An unpaved path that accommodates all-terrain bicycles; typically shared with pedestrians.*

E. *PEDESTRIAN FACILITIES. A general term denoting improvements and provisions made to accommodate or encourage walking, including sidewalks, access ways, crosswalks, ramps, paths, and trails.*

F. *NEIGHBORHOOD ACTIVITY CENTER. An attractor or destination for residents of surrounding residential areas. Includes, but is not limited to existing or planned schools, parks shopping areas, transit stops, employment areas.*

G. *REASONABLY DIRECT (referring to a route). Does not deviate unnecessarily from a straight line or does not involve a significant amount of out-of-direction travel for likely users.*

H. *SAFE AND CONVENIENT. Indicates bicycle and pedestrian routes that are:*

1. *Reasonably free from hazards; and*

2. *Provides a reasonably direct route of travel between destination, considering that the optimum travel distance is one-half mile for pedestrians and three miles for bicyclists.*

I. *WALKWAY. A hard-surfaced area intended and suitable for pedestrians, including sidewalks and the surfaced portions of access ways.*

Site Plan Review

As part of the site plan review process, Vale should include a requirement to show the design and location of bicycle parking and bicycle and pedestrian circulation elements. The following language should be added to the land-use regulations:

A. *Bicycle Parking: The development shall include the number and type of bicycle parking facilities required. The location and design of bicycle parking facilities shall be indicated on the site plan.*

B. *Pedestrian Access and Circulation: Internal pedestrian circulation shall be provided in new commercial, office, and multi-family residential developments through the clustering of buildings, construction of hard surface walkways, landscaping, access ways, or similar techniques.*

C. *Commercial Development Standards.*

1. *New commercial buildings, particularly retail shopping and offices, shall be oriented to the street, near or at the setback line. A main entrance shall be oriented to the street. For lots with more than two front yards, the building(s) shall be oriented to the two busiest streets.*

2. *Off street plans (industrial and commercial) shall be located at the side or behind the building(s).*

D. *All site plans (industrial and commercial) shall clearly show how the site's internal pedestrian and bicycle facilities connect with external or planned facilities or systems.*

E. *Approval of Subdivision Tentative Plans and Final Plats. Information required shall include the location and design of all proposed pedestrian and bicycle facilities, including access ways.*

F. *Pedestrian and Bicycle Circulation.*

1. *On-site facilities shall be provided that accommodate safe and convenient pedestrian and bicycle access within new subdivisions, multi-family developments, planned development, shopping centers, and commercial districts, and connecting to adjacent residential areas and neighborhood activity centers within one-half mile of the development. Residential developments shall include streets with sidewalks and access ways. Pedestrian circulation through parking lots shall be provided in the form of access ways.*

2) *Bikeways shall be required along arterial and collectors with ADTs greater than 3,000. Sidewalks shall be required along arterial, collectors , and most local streets.*

G. *Cul-de-Sacs and Access Ways.*

1. *Cul-de-sacs or permanent dead-end streets may be used as part of a development plan; however, through streets are encouraged except where topographical, environmental, or existing adjacent land use constraints make connecting streets infeasible. Where cul-de-sacs are planned, access ways shall be provided connecting the ends of cul-de-sacs to each other, to other streets, or to neighborhood activity centers.*

2. *Access ways for pedestrians and bicyclists shall be 10 feet wide and located within 20-foot-wide right-of-way or easement. If the streets within the subdivision are lighted, the access ways shall also be lighted. Stairs or switchback paths may be used where grades are steep.*

3. *Access ways for pedestrians and bicyclists shall be provided at mid-block where the block is longer than 600 feet.*

4. *The Planning Director may determine, based upon evidence in the record, that an access way is impracticable. Such evidence may include, but is not limited to:*

   a. *Physical or topographic conditions make an access way connection impractical. Such conditions include but are not limited to freeways, railroads, extremely steep slopes, wetlands, or other bodies of water where a connection cannot reasonably be provided.*

   b. *Buildings or other existing development on adjacent lands physically preclude a connection now or in the future, considering potential for redevelopment.*

   c. *Where access ways would violate provisions of leases, easements, covenants, restrictions, or other agreements existing as of May 1, 1995 that preclude a required access way connection.*

RECOMMENDED DESIGN STANDARDS

Functional Classification and Roadway Standards

The recommended functional classification and roadway standards for Malheur County roadways are included in Chapter 7.

ACCESS MANAGEMENT PLAN

The recommended access management policy for Malheur County roadways is included in Chapter 7.

Appendices

Vale Transportation System Plan

W&H PACIFIC

APPENDIX A

MEETING AND WORKSHOP AGENDAS

City of Vale
Planning Commission Worksession
Agenda

Date: Wednesday, 9/3/97 Time: 5:00 pm - 7:00 pm Location: Vale City Council Chambers

Agenda:

1. Introduction.
2. What Is a TSP?
3. Presentation from John Preston.
4. Project Schedule and Rules.
5. Summary of Street Inventory Data.
6. What Concerns Do You Have?
7. Questions and Answers.

City of Vale
Transportation System Plan (TSP)
Planning Commission
Meeting # 2

Agenda

Date: Wednesday October 15, 1997
Time: 5:00 PM- 7:00 PM
Location: Vale City Council Chambers

Attendance:

( ) Alice Bronsdon, Planning Commissioner
( ) Marion Caputi, Planning Commissioner
( ) Bill Glenn, Planning Commissioner
( ) Maureen Rossi, Planning Commissioner
( ) Andy Mortensen, W&H Pacific
( ) Bruce Bond, Planning Commission Chairman
( ) Geri Cummings, Planning Commissioner
( ) Dick Kline, City Coordinator
( ) Jay Rucker, Planning Commissioner
( ) Chris Eaton, W&H Pacific

Agenda:

1.	Comp. Plans/Ordinance Changes for TPR Compliance	Attachment Draft Chapter 9
2.	Roadway Standards	Attachment Draft Chapter 9
3.	Next Meeting Date	Discussion

City of Vale
Planning Commission
Meeting # 3

Agenda

Date: Wednesday, January 28, 1998

Time: 7:00 - 9:00 PM * Special TSP Worksession *

Location: Vale City Council Chambers

Agenda:

1.	Draft TSP Report	Attachment
2.	Ontario Transportation Solutions	Discussion
3.	Public Outreach, Hearings and Adoption	Discussion
4.	Next Meeting Date	Discussion

Note: If you cannot attend this meeting, please see the attached meeting schedule for other opportunities to participate.

There will be an Open House for the Vale TSP in the Council Chambers from 5:00 pm to 7:00 pm immediately before the Planning Commission meeting.

APPENDIX B

STREET INVENTORY

TABLE B-1
CITY OF VALE STREET INVENTORY

																							Inventory Date: September 1, 1997									
				Pavement Type and Condition										Travel Lanes and Width									Bike Lanes				Sidewalks				
Road	From	To	Posted Speed	Concr.	Asph. / Chip Seal	Grav.	Dirt	Very good	Good	Fair	Poor	Very Poor	2	3	<8	8	9	10	11	12	>12	Width	Good	Fair	Poor	Width	Good	Fair	Poor	Comments
Ellsworth St	17th St	16th St		☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	4	☐	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	16th St	15th St		☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐		☒	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	15th St	14th St		☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	14th St	Hwy 26		☐	☒	☐	☐	☒	☐	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
Oregon St	17th St	16th St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☒	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	16th St	15th St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☒	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	15th St	14th St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☒	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	14th St	Main St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	Main St	Hwy 26	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
Hope St	Elm St	17th St	15	☐	☐	☒	☐	☐	☐	☐	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	17th St	16th St	15	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	16th St	15th St	15	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	15th St	14th St	15	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	Hope St	Morton St		☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐			☐	☐	☐		☐	☐	☐	
Elm St	Hwy 451	Washington St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	Washington St	Morton St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	28		☐	☐	☐		☐	☐	☐	
	Morton St	Hope St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	28		☐	☐	☐		☐	☐	☐	
14th St	Hope St	Oregon St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☒	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	Oregon St	Ellsworth St		☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
	Ellsworth St	Eagle St		☐	☒	☐	☐	☒	☐	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
Hwy 451	City Limit	Oak St		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	Oak St	Elm St		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	Elm St	US 20		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		☐	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
Yakima St	'A' St	'B' St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
	'B' St	'D' St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☒	☐	☐	
	'D' St	'F' St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☒	☐	☐	
	'F' St	South St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☒	☐	☐	sidewalk on partial east
West Main St	US 20 (N)	US (S)		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
	US (S)	'B' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☒	☐	☐	sidewalk on west side

TABLE B-1
CITY OF VALE STREET INVENTORY

Inventory Date: September 1, 1997

				Pavement Type and Condition										Travel Lanes and Width										Bike Lanes				Sidewalks				
Road	From	To	Posted Speed	Concr.	Asph. / Chip Seal	Grav.	Dirt	Very good	Good	Fair	Poor	Very Poor	2	3	<8	8	9	10	11	12	>12	Width	Good	Fair	Poor	Width	Good	Fair	Poor	Comments
	'B' St	'D' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☐	☒	☐	sidewalk on west side
	'D' St	'F' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☐	☒	☐	sidewalk on west side
	'F' St	'H' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
	'H' St	'I' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
Cottage St	Harrison St	Washington St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4-5	☒	☐	☐	
	Washington St	'A' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	3-6	☐	☐	☒	
Cottage St	'A' St	'B' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	8	☐	☒	☐	sidewalk on east and partial west sides
	'B' St	'C' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	6	☒	☐	☐	
	'C' St	'D' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4-5	☐	☐	☐	sidewalk fair on west side, good on east side
	'D' St	'E' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4-5	☐	☐	☐	sidewalk fair on west side, good on east side
	'E' St	'F' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4-5	☐	☐	☐	sidewalk fair on west side, good on east side
	'F' St	'G' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4-5	☒	☐	☐	
Holland St	Morton St	Harrison St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐		☐	☐	☐	
	Harrison St	Washington St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	3-4	☐	☐	☐	sidewalk fair on west side, good on east side
	Washington St	'A' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4-5	☐	☐	☐	sidewalk fair on west side, poor on east side
	'A' St	'B' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	6	☐	☐	☐	sidewalk poor on west side, fair on east side
	'B' St	'C' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4-6	☒	☐	☐	sidewalk good on west side, fair on east side
	'C' St	'D' St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4	☒	☐	☐	
	'D' St	Vale Elem. Sch.		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	22		☐	☐	☐	4	☐	☐	☐	sidewalk good on west side, poor on east side
'B' St	Yakima St	Clark St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐		☐	☐	☐	
	Clark St	Smith St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐		☐	☐	☐	

TABLE B-1
CITY OF VALE STREET INVENTORY

Inventory Date: September 1, 1997

				Pavement Type and Condition										Travel Lanes and Width										Bike Lanes				Sidewalks				
Road	From	To	Posted Speed	Concr.	Asph. / Chip Seal	Grav.	Dirt	Very good	Good	Fair	Poor	Very Poor	2	3	<8	8	9	10	11	12	>12	Width	Good	Fair	Poor	Width	Good	Fair	Poor	Comments
	Smith St	Main St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐	6	☒	☐	☐	sidewalk on partial north side
	Main St	West St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐		☐	☐	☐	
	West St	Cottage St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐	4-6	☐	☐	■	sidewalk poor on partial north side, good on south side
	Cottage St	Holland St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐	4	☒	☐	☐	sidewalk on south side
	Holland St	Bryant St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐	8	☐	☒	☐	
	Bryant St	Court St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐	6	☒	☐	☐	
	Court St	Main St	25	●	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐		☐	☐	☐	sidewalk 8' fair on north side, 4' good on south side
	Main St	Longfellow St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐		☐	☐	■	condition varies
	Longfellow St	Glenn St	25	☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	24		☐	☐	☐		☐	☐	☐	
'D' St	west end	Yakima St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☒	☐	☐	
	Yakima St	Clark St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☒	☐	☐	sidewalk on partial north side
	Clark St	Smith St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☐	☒	■	sidewalk on partial north side
	Smith St	Main St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	3	☐	☐	☒	sidewalk on south side
	Main St	West St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	4-5	☐	☐	☒	sidewalk on south side
	West St	Cottage St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
'E' St	Bryant St	Holland St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	6	☒	☐	☐	sidewalk on south side
	Holland St	Cottage St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	6	☒	☐	☐	sidewalk on south side
'F' St	west end	Yakima St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	4-5	☒	☐	☐	sidewalk on north side
	Yakima St	Clark St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	4-5	☒	☐	☐	sidewalk on partial north and south sides
	Clark St	Smith St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	4-5	☐	☐	☒	sidewalk on partial north side
	Smith St	Main St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	4-5	☒	☐	☐	

TABLE B-1
CITY OF VALE STREET INVENTORY

Inventory Date: September 1, 1997

				Pavement Type and Condition									Travel Lanes and Width									Bike Lanes				Sidewalks				
Road	From	To	Posted Speed	Concr.	Asph. / Chip Seal	Grav.	Dirt	Very good	Good	Fair	Poor	Very Poor	2	3	<8	8	9	10	11	12	>12	Width	Good	Fair	Poor	Width	Good	Fair	Poor	Comments
	Main St	West St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	3-4	☐	☐	☒	sidewalk fair on north side, good on south side
	West St	Cottage St		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐	4-5	☐	☐	☐	sidewalk poor on north side, fair on south side
US 26	'A' St	Washington St	35	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	21		☐	☐	☐		☐	☐	☐	
	Washington St	Harrison St	35	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	21		☐	☐	☐		☐	☐	☐	
	Harrison St	Morton St	35	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	13	6	☐	☐	☐		☐	☐	☐	shoulder = bike lane
	Morton St	Railroad Ave	35	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☒		4	☐	☐	☐		☐	☐	☐	shoulder = bike lane
	Railroad Ave	Oregon St	35	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☒		4	☐	☐	☐		☐	☐	☐	shoulder = bike lane
	Oregon St	Ellsworth St	40	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☒		4	☐	☐	☐		☐	☐	☐	shoulder = bike lane
	Ellsworth St	City Limit	40	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☒		4	☐	☐	☐		☐	☐	☐	shoulder = bike lane
Washington St	City Limit	Yakima St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☒		4	☐	☐	☐		☐	☐	☐	shoulder = bike lane
	Yakima St	Clark St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	16		☐	☐	☐		☐	☐	☐	
	Clark St	Smith St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	14		☐	☐	☐		☐	☐	☐	
	Smith St	Main St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	14		☐	☐	☐	4-5	☐	☒	☐	sidewalk on partial south side
Washington St	Main St	West St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐		☐	☐	☐	
	West St	Cottage St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	3	☐	☒	☐	sidewalk on partial south side
	Cottage St	Holland St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	19		☐	☐	☐	6	☐	☐	☒	sidewalk on partial south side
	Holland St	Bryant St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐	19	8	☐	☐	☐	4-5	☒	☐	☐	sidewalk on partial north side, bike lane = shoulder and parallel parking area
	Bryant St	Court St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐	19	8	☐	☐	☐		☐	☐	☐	bike lane = shoulder and parallel parking area

TABLE B-1
CITY OF VALE STREET INVENTORY

Inventory Date: September 1, 1997

				Pavement Type and Condition									Travel Lanes and Width									Bike Lanes				Sidewalks				
Road	From	To	Posted Speed	Concr.	Asph. / Chip Seal	Grav.	Dirt	Very good	Good	Fair	Poor	Very Poor	2	3	<8	8	9	10	11	12	>12	Width	Good	Fair	Poor	Width	Good	Fair	Poor	Comments
	Court St	Main St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐	19	8	☐	☐	☐	6	☐	☐	☐	sidewalks good on north side, poor on south side, bike lane = shoulder and parallel parking area
	Main St	Longfellow St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐	14	8	☐	☐	☐		☐	☒	☐	6' sidewalk on partial north side, 4' sidewalk on partial south side, bike lane = shoulder and parallel parking area
	Longfellow St	US 26	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	14		☐	☐	☐		☐	☐	☐	
	US 26	Water St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	14		☐	☐	☐	4-5	☒	☐	☐	sidewalk on south side
	Water St	Short St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☒		8	☐	☐	☐		☐	☐	☐	bike lane = shoulder
	Short St	10th St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☒		8	☐	☐	☐		☐	☐	☐	bike lane = shoulder
	10th St	'A' St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☒		8	☐	☐	☐		☐	☐	☐	bike lane = shoulder
	'A' St	City Limits	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☒		8	☐	☐	☐		☐	☐	☐	bike lane = shoulder
'A' St	Washington St	Yakima St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		7	☐	☐	☐		☐	☐	☐	
	Yakima St	Clark St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		7	☐	☐	☐		☐	☐	☐	
	Clark St	Smith St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		7	☐	☐	☐	4-5	☒	☐	☐	sidewalk on south side, utility poles in sidewalk
	Smith St	Main St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		7	☐	☐	☐		☐	☐	☐	
	Main St	West St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		7	☐	☐	☐	8	☒	☐	☐	utility poles on south side
'A' St	West St	Cottage St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		7	☐	☐	☐	4-5	☐	☐	☐	sidewalk fair on north side, good on south side
	Cottage St	Holland St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		7	☐	☐	☐	6-8	☐	☐	☐	sidewalk poor on north side, fair on south side

TABLE B-1
CITY OF VALE STREET INVENTORY

Inventory Date: September 1, 1997

				Pavement Type and Condition									Travel Lanes and Width								Bike Lanes				Sidewalks				
Road	From	To	Posted Speed	Concr.	Asph. / Chip Seal	Grav.	Dirt	Very good	Good	Fair	Poor	Very Poor	2	3	<8	8	9	10	11	12	>12	Width	Good	Fair	Poor	Width	Good	Fair	Poor	Comments
	Holland St	Bryant St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		8	☐	☐	☐	8	☐	☐	☐	sidewalk good on north side, fair on south side, bike lane = shoulder
	Bryant St	Court St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		8	☐	☐	☐	6-8	☒	☐	☐	bike lane = shoulder
	Court St	Main St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		8	☐	☐	☐	8	☒	☐	☐	bike lane = shoulder
	Main St	Longfellow St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☒	☐	☐		8	☐	☐	☐	8	☒	☐	☐	sidewalk on partial south side, bike lane = shoulder
	Longfellow St	US 26	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	14		☐	☐	☐	6-8	☐	☒	☐	
	US 26	Water St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☐	14		☐	☐	☐		☐	☐	☐	
	Water St	Short St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☒		8	☐	☐	☐		☐	☐	☐	bike lane = shoulder
	Short St	Washington St	35	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐		☐	☐	☐	☐	☒		8	☐	☐	☐		☐	☐	☐	bike lane = shoulder
Barkley St	Elm St	17th St	25	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☒	☒	☐	☐			☐	☐	☐		☐	☐	☐	
15th St	Hope St	Ellsworth St	25	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐		☐	☐	☐	
16th St	Oregon St	Ellsworth St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☒	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
	Hope St	Oregon St		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☐	☐	27		☐	☐	☐		☐	☐	☐	
Morton St	14th St	Hwy 26		☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☒	☐	☐			☐	☐	☐		☐	☐	☐	
Foothill / Lagoon Dr	10th St	City Limits	25	☐	☒	☐	☐	☐	☒	☐	☐	☐	☒	☐		☐	☐	☐	☒	☐			☐	☐	☐		☐	☐	☐	
10th	Lagoon Dr	Hwy 20/26	25	☐	☒	☐	☐	☐	☐	☐	☒	☐	☒	☐	7	☐	☐	☐	☐	☐			☐	☐	☐		☐	☐	☐	
Graham Blvd	Hwy 20	City Limits		☐	☒	☐	☐	☐	☐	☒	☐	☐	☒	☐		☐	☐	☒	☐	☐			☐	☐	☐		☐	☐	☐	

TABLE B-2
RAILROAD CROSSING CONTROLS IN THE CITY OF VALE

Inventory Date: September 1, 1997

Street	Location	X-ing Gates	Flashing Lights	Control Wig Wags	Stop Signs	Cross-bucks	None	Comments
'A' St	Vale	☒	☐	☐	☐	☐	☐	
14th St	Vale	☐	☐	☐	☐	☒	☐	
Hwy 26	Vale	☒	☐	☐	☐	☐	☐	

TABLE B-3
STATE HIGHWAY ACCIDENTS IN THE CITY OF VALE, 1992-1996*

Accident Number	Date	Time	Location	Mile-post	Collision Type	Surface	Total Vehicles Involved	No. of people in Vehicle 1	No. of people in Vehicle 2	Number Killed	Number Injured
3	1/3/96	8A	HY 7	246.55	REAR	DRY	1	1	1	0	0
190	4/29/94	11P	HY 7	246.55	FIX	DRY	1	1	1	0	0
* Does not include accidents reported on "A" Street.											

September 9, 1997

To: Robin Catz
RE: MVA City of Vale Jan. 1995 through Sept. 1997
From: Chief Jerry Kelleher, Vale Police Dept.

1995 MVA's City of Vale

01-28-95 Saturday 1525 Hrs:
Two car MVA / West Main at B Street
Fail to Yield / No Injuries

02-22-95 Wednesday 0755 Hrs:
Two car MVA / A Street at Nachez Street
Failure to Yield / No Injuries

06-06-95 Tuesday 1700 Hrs:
One Car MVA / D Street at Yakima Street
Mechanical Failure / No Injuries

08-06-95 Sunday 1030 Hrs:
Two Car MVA / B Street at Cottage Street
Fail to obey stop sign / No Injuries

09-15-95 Friday 1525 Hrs:
Two Car MVA / 12th Street at Morton Street
Fail to Yield / No Injuries

09-22-95 Friday 1540 Hrs:
Two Car MVA / Washington Street at Glenn Street
Improper Left Turn / No Injuries

10-10-95 Tuesday 1810 Hrs:
Two Car MVA / A Street at Smith Street
Fail to Yield / No Injuries

11-08-95 Wednesday 1708 Hrs:
Two Car MVA / West Main Street at D Street
Fail to Yield / No Injuries

12-05-95 Tuesday 1638 Hrs:
Two Car MVA / A Street at Smith Street
Dangerous Left Turn / No Injuries

1996 MVA's City of Vale

01-02-96 Tuesday 1245 Hrs:
Two Car MVA / Court Street at A Street
Hit & Run to parked Vehicle

01-17-96 Wednesday 1739 Hrs:
Two Car MVA / A Street at Longfellow Street
Improper Left Turn / No Injuries

01-18-96 Thursday 1550 Hrs:
One car MVA / B Street at West Street
Ice / No Injuries

03-01-96 Friday 1712 Hrs:
Two Car MVA / A Street at West Street
Fail to Yield / No Injuries

04-08-96 Monday 1803 Hrs:
Two Car MVA / A Street at Glenn Street
Improper Left Turn / No Injuries

04-20-96 Saturday 1033 Hrs:
One Car (truck) MVA / Longfellow Street at Morton Street
Improper turning (Right hand Turn) / No Injuries

04-26-96 Friday 0805 Hrs:
Two Car MVA / Washington Street at Court Street
Illegal U Turn / No Injuries

05-20-96 Monday 1454 Hrs:
two Car MVA / Holland Street at E Street
Improper Backing / No Injuries

05-30-96 Thursday 0950 Hrs:
Two Car MVA / Washington Street at Court Street
Improper Left Turn / Possible Injury

06-16-96 Sunday 1354 Hrs:
two car MVA / A Street at Glenn Street
Improper Left Turn / No Injuries

07-05-96 Friday 1650 Hrs:
two car MVA / A Street at Short Street
Improper Left Turn / No Injuries

07-06-96 Saturday 0840 Hrs:
two car MVA / Smith Street at A Street
Improper Backing / No Injuries

08-12-96 Monday 1030 Hrs:
Three car mva / Washington Street at Glenn Street
Fail to obey traffic control device / No Injuries

9-7-96 Saturday 1227 HRS.
Two car MVA / Washington St. at Longfellow St.
Improper Left Turn / No Injuries

09-18-96 Wednesday 1710 Hrs:
two car mva / Hwy #26 (12th Street) at Oregon Street
Improper Passing / No Injuries

10-01-96 Tuesday 1215 Hrs:
two car MVA / Glenn Street at Washington Street
Fail to obey traffic control device/ No Injuries

10-22-96 Tuesday 1420 Hrs:
two car MVA / D Street at Cottage Street
Illegal Backing / No Injuries

11-07-96 Thursday 0835 Hrs:
two car MVA / B Street at Bryant Street
Illegal Backing / No Injuries

11-22-96 Friday 1230 Hrs:
two car MVA / A Street at Glenn Street
Improper Left Turn / No Injuries

12-20-96 Friday 1300 Hrs:
One Car MVA / A Street at Nachez Street
Ice / No Injury

12-23-96 Monday 1836 Hrs:
two car MVA / 12th Street at Harrison Street
Fail to Yield / No Injuries

1997 MVA's City of Vale

02-07-97 Friday 0615 Hrs:
One Car MVA / Cottage Street at D Street
Inattentive Driving / No Injuries

02-12-97 Wednesday 2145 Hrs:
two car MVA / Holland Street at A Street
Improper Backing / No Injuries

04-14-97 Monday 1215 Hrs:
two Car MVA / Smith Street at Washington Street
unsafe backing / No Injuries

06-28-97 Saturday 1724 Hrs:
two car MVA / Washington Street at Main Street
improper Left Turn / No Injuries

07-13-97 Sunday 1830 Hrs:
two car MVA / A Street at Smith Street
Dangerous Left Turn / No Injuries

07-18-97 Friday 1437 Hrs:
two car MVA / B Street at Cottage Street
Fail to obey traffic control device / No Injuries

07-25-97 Friday 1331 Hrs:
two car MVA / Main Street at Washington Street
Improper Backing / No Injuries

08-16-97 Saturday 0925 Hrs:
two Car MVA / 12th Street at Hope Street
inattentive Driving / No Injuries

08-25-97 Monday 1313 Hrs:
two car MVA / Washington Street at Glenn Street
Improper Left Turn / No Injuries

MP 245.71 TO 246.79 04/29/94 TO 01/23/96

7, CENTRAL OREGON HWY

SERIAL NO./ INVEST	DATE/ DAY- TIME	COUNTY/ CITY	SYSTEM/ PFX-MILEP	FIRST/ INTRSCT	CONN -RAMP	ROAD- CHAR/ DIREC -LOC	INTER OR (MEDIAN) TYPE/TURN LEGS OR (LANES)	WEATH/ SURF- LIGHT	TYPE ACC- COLL/ CLASS	PARTI- CIPNT/ SEVRTY	VEH OWNER/ TYPE	RES- LIC/ AGE- SEX	MOVE/ FR-TO	ERROR/ ACTION	EVENT/ CAUSE
00094 CITY	02/22/95 WED 07A	MALHEUR VALE	0 245.71	0402 1701		INTER CN 3	CROSS NONE	FOG DRY DAY	B ANGL INJ	01 MVOP PDO 02 MVOP PDO 03 INJC	PRI PASS PRI PASS	OR1-Y 18 M OR2-Y 50 F 32 F PSNGR	STRGHT R S STRGHT W E	NO ROFWY GO A/RED NONE NONE	NO-YIELD
00216 CITY	05/31/94 TUE 12N	MALHEUR VALE	0 245.71	0101 1701		INTER CN 4	3-LEG NONE	CLR DRY DAY	B TURN PDO	01 MVOP PDO 02 MVOP PDO	PRI PASS PRI PASS	OR1-Y 72 M OR1-Y 19 M	STRGHT W E TURN-L S W	NONE NONE NO ROFWY GO A/RED	NO-YIELD
00486 CITY	10/10/95 TUE 06P	MALHEUR VALE	0 245.91	0101 2202		INTER CN 1	CROSS NONE	CLDY DRY DLIT	B TURN PDO	01 MVOP PDO 02 MVOP PDO	PRI PASS PRI PASS	OR1-Y 16 F OR1-Y 46 M	TURN-L N E STRGHT W E	NO ROFWY GO A/RED NONE NONE	NO-YIELD
00323 NONE	07/10/95 MON 02P	MALHEUR VALE	0 246.23	0405 0101		STRGHT W 2	(UNDIV) (2)	CLR DRY DAY	F PARI PDO	01 MVOP PDO 02 NONE PDO	PRI PASS PRI PASS	OR1-Y 60 M UNK-U 00 U	PARKIN W E PARK-P W E	IMP PARK PAR PARK NONE PAR PARK	OTH-IMP
00339 CITY	07/26/94 TUE 04P	MALHEUR ONTARIO	0 246.24	0101 0405		INTER CN 4	CROSS NONE	CLR DRY DAY	H TURN PDO	01 MVOP PDO 02 MVOP PDO	PRI PASS PRI PASS	OR1-Y 50 F 70 F	TURN-L N E STRGHT S N	NO ROFWY GO A/RED NONE GO A/RED	NO-YIELD
00053 NOTREC	01/17/96 WED 05P	MALHEUR VALE	0 246.34	0101 1401		INTER CN 3	CROSS NONE	CLR DRY DUSK	D TURN PDO	01 MVOP PDO 02 MVOP PDO 03 UNOA	PRI PASS PRI PASS	OR1-Y 37 M OR1-Y 20 F 02 M PSNGR	TURN-L E S STRGHT E W	TRNFRWNG NONE NONE NONE	IMP-TURN
00492 CITY	10/06/94 THU 11A	MALHEUR VALE	0 246.39	0101 0902		INTER CN 2	CROSS NONE	CLR DRY DAY	H TURN INJ	01 MVOP INJB 02 MVOP PDO 03 INJC	PRI PASS PRI PASS	OR1-Y 17 F NON-Y 58 M 17 F PSNGR	TURN-L N E STRGHT S N	NO ROFWY GO A/RED NONE GO A/RED	NO-YIELD

MP 245.71 TO 246.79 04/29/94 TO 01/23/96

7, CENTRAL OREGON HWY

SERIAL NO./ INVEST	DATE/ DAY- TIME	COUNTY/ CITY	SYSTEM/ PFX-MILEP	FIRST/ INTRSCT	CONN -RAMP	ROAD- CHAR/ DIREC -LOC	INTER OR (MEDIAN) TYPE/TURN LEGS OR (LANES)	WEATH/ SURF- LIGHT	TYPE ACC- COLL/ CLASS	PARTI- CIPNT/ SEVRTY	VEH OWNER/ TYPE	RES- LIC/ AGE- SEX	MOVE/ FR-TO	ERROR/ ACTION	EVENT/ CAUSE
00564 CITY	11/09/94 WED 11A	MALHEUR VALE	0 246.39	0101 0902		INTER CN 4	CROSS NONE	RAIN WET DAY	B ANGL INJ	01 MVOP PRI INJC PASS		NON-Y 27 M	STRGHT S N	NO ROFWY GO A/RED	NO-YIELD
										02 MVOP PRI PDO TRCKTT		NON-Y 45 M	STRGHT W E	NONE NONE	
00190 NOTREC	04/29/94 FRI 11P	MALHEUR RURAL	0 246.55			BRIDGE UN 1	(UNDIV) (2)	CLR DRY DLIT	B FIX PDO	01 MVOP PRI PDO PASS BRIDGE RAILING		OR1-Y 21 M	STRGHT W E	UNSFEVEH LOSTCONT	TIREFAIL MACH-DEF
00003 COUNTY	01/03/96 WED 08A	MALHEUR RURAL	0 246.55			ALLEY UN 3	0-LEG 2	CLR DRY DAY	E REAR PDO	01 MVOP PRI PDO PASS		OR1-N 73 M	STRGHT N S	REAR-END NONE	FOL-CLOS
										02 MVOP PRI PDO PASS		OR1-Y 26 M	STOP N S	NONE WAITFORL	

*** C O D E S E M P L O Y E D I N P R E V I O U S A C C I D E N T S ***

CLASS	CODE	USED	DESCRIPTION	
DRIVER ACTION	08	2	PAR PARK	PARALLEL PARKING
	12	1	WAITFORL	STOPPED FOR LEFT TURN
	15	8	GO A/RED	GO AFTER STOPPING FOR SIGN OR FLASHING RED
	17	1	LOSTCONT	LOST CONTROL OF VEHICLE
PED-ACTION	NO CODES USED			
DRIVER ERROR	06	1	TRNFRWNG	TURNED FROM WRONG LANE
	1?	1	UNSFEVEH	DRIVING UNSAFE VEHICLE
	1E	1	IMP PARL	OTHER IMPROPER PARKING MOVEMENT
	26	1	REAR-END	FAILED TO AVOID STOPPED OR PARKED VEHICLE
	28	6	NO ROFWY	DID NOT HAVE RIGHT-OF-WAY
PED MOVEMENT	NO CODES USED			
EVENTS	29	1	TIREFAIL	TIRE FAILURE
	46	1	BR RAIL	BRIDGE RAILING

TYPE OF ACCIDENT CODES

COLLISION WITH ANOTHER MOTOR VEHICLE IN TRAFFIC

A ENTERING AT ANGLE - ONE VEHICLE STOPPED
B ENTERING AT ANGLE - ALL OTHERS
C FROM SAME DIRECTION - BOTH GOING STRAIGHT
D FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT
E FROM SAME DIRECTION - ONE STOPPED
F FROM SAME DIRECTION - ALL OTHERS (INCL PARKING)
G FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT
H FROM OPPOSITE DIRECTION - ONE LEFT TURN, ONE STRAIGHT
I FROM OPPOSITE DIRECTION - ONE STOPPED
J FROM OPPOSITE DIRECTION - ALL OTHERS (INCL PARKING)

COLLISION OF MOTOR VEHICLE WITH:

1 MOTOR VEHICLE ON OTHER ROADWAY
2 PARKED MOTOR VEHICLE
3 PEDESTRIAN
4 RAILROAD TRAIN
6 BICYCLIST
7 ANIMAL
8 FIXED OBJECT
9 OTHER OBJECT
& OVERTURNED
0 OTHER NON-COLLISION

APPENDIX C

LEVEL OF SERVICE DESCRIPTION

Table C-1
LOS Definitions (Signalized Intersections)

LOS	Average Delay per Vehicle
A	Very low average stopped delay, less than five seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Average stop delay is in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for a LOS A, causing higher levels of average delay.
C	Average stopped delay is in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Average stopped delays are in the range of 25.1 to 40.0 seconds per vehicle. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle length, or high volume/capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Average stopped delays are in the range of 40.1 to 60.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume/capacity ratios. Individual cycle failures are frequent occurrences.
F	Average stop delay is in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation. It may also occur at high volume/capacity ratios below 1.00, with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such high delay levels.

1. Most of the material in this appendix is adapted from the Transportation Research Board, *Highway Capacity Manual*, Special Report 209 (1994) [Reference 1].

Unsignalized Intersections

Table C2
LOS Criteria for Signalized Intersections

LOS	Stopped Delay per Vehicle (Seconds)
A	≤5.0
B	5.1 to 15.0
C	15.1 to 25.0
D	25.1 to 40.0
E	40.1 to 60.0
F	≥ 60.0

Unsignalized intersections include two-way stop controlled (TWSC) and all-way stop controlled (AWSC) intersections. The *1994 Highway Capacity Manual* [Reference 1] provides new models for estimating total vehicle delay at both TWSC and AWSC intersections. Unlike signalized intersections, where LOS is based on stopped delay, unsignalized intersections base LOS on total vehicle delay. A qualitative description of the various service levels associated with an unsignalized intersection is presented in Table C3. A quantitative definition of LOS for unsignalized intersections is presented in Table C4. Using this definition, LOS E is generally considered to represent the minimum acceptable design standard. It should be noted that the LOS criteria for unsignalized intersections are somewhat different than the criteria used for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, there are a number of driver behavior considerations that combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, while drivers on minor street approaches to TWSC intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized

intersections than signalized intersections. For these reasons, it is considered that the total delay threshold for any given LOS is less for an unsignalized intersection than for a signalized intersection. **While overall intersection LOS is calculated for AWSC intersections, LOS is only calculated for the minor approaches and the major street left turn movements at TWSC intersections.** No delay is assumed to the major street through movements. For TWSC intersections, the overall intersection LOS is defined by the movement having the worst LOS (typically a minor street left turn).

Table C3
General LOS Descriptions for Unsignalized Intersections

LOS	Average Delay per Vehicle to Minor Street
A	• Nearly all drivers find freedom of operation. • Very seldom is there more than one vehicle in the queue
B	• Some drivers begin to consider the delay an inconvenience. • Occasionally there is more than one vehicle in the queue.
C	• Many times there is more than one vehicle in the queue. • Most drivers feel restricted, but not objectionably so.
D	• Often there is more than one vehicle in the queue. • Drivers feel quite restricted.
E	• Represents a condition in which the demand is near or equal to the probable maximum number of vehicles that can be accommodated by the movement. • There is almost always more than one vehicle in the queue. • Drivers find the delays approaching intolerable levels.
F	• Forced flow. • Represents an intersection failure condition that is caused by geometric and/or operational constraints external to the intersection.

Table C4
LOS Definitions (Unsignalized Intersections)

LOS	Average Total Delay per Vehicle (Seconds)
A	≤5
B	5-10
C	10-20
D	20-30
E	30-45
F	≥ 45

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Impact Analysis Report
Level Of Service

	Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
	1 US 20 / Vale-West Highway / Na	B	1.6	0.000	B	1.6	0.000	+ 0.000 V/C
#	3 "A" St / Main Street	B	1.2	0.000	B	1.2	0.000	+ 0.000 V/C
	5 "A" St / Bryant St.	B	1.1	0.000	B	1.1	0.000	+ 0.000 V/C
#	6 "A" St / Glenn St	B	2.0	0.000	B	2.0	0.000	+ 0.000 V/C
	7 Washington St / Glenn St	B	2.4	0.000	B	2.4	0.000	+ 0.000 V/C
	8 US 20/26 / 10th Street	A	0.3	0.000	A	0.3	0.000	+ 0.000 V/C
#	10 Washington St / Bryant St	B	1.1	0.000	B	1.1	0.000	+ 0.000 V/C
	12 Washington St / Main Street	B	1.0	0.000	B	1.0	0.000	+ 0.000 V/C

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 US 20 / Vale-West Highway / Nachez St.

Average Delay (sec/veh): 1.6 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	1	1	29	78	9	4	1	82	10	25	87	13
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Initial Bse:	1	1	29	78	9	4	1	82	10	25	87	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.9
PHF Volume:	1	1	32	86	10	4	1	90	11	27	96	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	1	1	32	86	10	4	1	90	11	27	96	14
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.0
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	1	1	35	94	11	5	1	90	11	30	96	149
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxx
Capacity Module:												
Cnflict Vol:	302	369	96	311	300	170	245	xxxx	xxxxx	101	xxxx	xxxx
Potent Cap.:	708	698	1238	699	759	1135	1310	xxxx	xxxxx	1534	xxxx	xxxx
Adj Cap:	0.97	0.98	1.00	0.95	0.98	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxx
Move Cap.:	685	682	1238	666	741	1135	1310	xxxx	xxxxx	1534	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	5.3	5.3	3.0	6.2	4.9	3.2	2.8	xxxx	xxxxx	2.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR	-	RT	LT - LTR	-	RT	LT - LTR	-	RT	LT - LTR	-	RT
Shared Cap.:	xxxx	1177	xxxxx	xxxx	686	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	3.2	xxxxx	xxxxx	6.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx
Shared LOS:	*	A	*	*	B	*	*	*	*	*	*	*
ApproachDel:		3.1			5.9			0.0			0.3	

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 "A" St / Main Street

Average Delay (sec/veh): 1.2 Worst Case Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 1 0 1 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	11	27	5	37	0	2	232	15	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	11	27	5	37	0	2	232	15	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	0	14	33	6	46	0	2	286	19	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	14	33	6	46	0	2	286	19	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	15	37	7	50	0	3	286	19	0	0	0
Critical Gap Module:												
MoveUp Time:	xxxxx	3.3	2.6	3.4	3.3	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	6.0	5.5	6.5	6.0	xxxxx	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	298	152	296	307	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	761	1159	714	752	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	1.00	1.00	0.95	1.00	xxxxx	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	760	1159	680	751	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	4.8	3.2	5.3	5.1	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	1006	742	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	3.8	5.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	B	*	*	*	*	*	*	*	*
ApproachDel:		3.7			5.1			0.0			0.0	

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 "A" St / Bryant St.

Average Delay (sec/veh): 1.1 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 1 0 1 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	7	19	23	20	0	8	227	5	0	0	
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Initial Bse:	0	7	19	23	20	0	8	227	5	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.8
PHF Volume:	0	8	22	27	23	0	9	264	6	0	0	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	8	22	27	23	0	9	264	6	0	0	
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.0
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	9	24	29	26	0	10	264	6	0	0	0
Critical Gap Module:												
MoveUp Time:	xxxxx	3.3	2.6	3.4	3.3	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	6.0	5.5	6.5	6.0	xxxxx	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	276	135	277	279	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	781	1183	732	779	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxx
Adj Cap:	xxxx	0.99	1.00	0.97	0.99	xxxxx	1.00	xxxx	xxxxx	xxxx	xxxx	xxxx
Move Cap.:	xxxx	776	1183	707	774	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	4.7	3.1	5.3	4.8	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	1037	736	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	3.6	5.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	B	*	*	*	*	*	*	*	*
ApproachDel:		3.5			5.1			0.1			0.0	

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 "A" St / Glenn St

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	1	0	0 1 0	1	0	0 1 0	1	0	0 0 0	0	0
Volume Module:												
Base Vol:	20	9	0	0	55	29	116	182	14	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	20	9	0	0	55	29	116	182	14	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	20	9	0	0	55	29	116	182	14	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	20	9	0	0	55	29	116	182	14	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	22	10	0	0	61	32	128	182	14	0	0	0
Critical Gap Module:												
MoveUp Time:	3.4	3.3	xxxxx	xxxxx	3.3	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	6.5	6.0	xxxxx	xxxxx	6.0	5.5	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	347	305	xxxxx	xxxx	312	0	0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	667	755	xxxxx	xxxx	748	1385	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	0.86	0.92	xxxxx	xxxx	0.92	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	571	695	xxxxx	xxxx	689	1385	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	6.5	5.2	xxxxx	xxxxx	5.7	2.7	2.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	605	xxxx	695	689	xxxx	833	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	6.3	xxxx	5.2	5.7	xxxx	4.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	B	B	*	A	*	*	*	*	*	*
ApproachDel:		6.1			4.6			0.9			0.0	

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Washington St / Glenn St

Average Delay (sec/veh): 2.4 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 1 0 0			0 0 1 1 0			0 0 0 0 0			0 1 0 1 0		
Volume Module:												
Base Vol:	22	86	0	0	54	57	0	0	0	15	199	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	86	0	0	54	57	0	0	0	15	199	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	86	0	0	54	57	0	0	0	15	199	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	22	86	0	0	54	57	0	0	0	15	199	4
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	24	95	0	0	59	63	0	0	0	17	199	4
Critical Gap Module:												
MoveUp Time:	3.4	3.3	xxxxx	xxxxx	3.3	2.6	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	xxxxx	xxxxx	6.0	5.5	xxxxx	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	241	218	xxxxx	xxxx	216	102	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	768	838	xxxxx	xxxx	840	1230	xxxx	xxxx	xxxxx	1714	xxxx	xxxxx
Adj Cap:	0.89	0.99	xxxxx	xxxx	0.99	1.00	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	684	830	xxxxx	xxxx	832	1230	xxxx	xxxx	xxxxx	1714	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	5.4	4.8	xxxxx	xxxxx	4.6	3.1	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
LOS by Move:	*	A	*	*	A	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	795	xxxx	xxxxx	xxxx	xxxx	998	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	5.2	xxxx	xxxxx	xxxxx	xxxx	4.1	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	A	*	*	*	*	*	*
ApproachDel:		5.0			3.8			0.0			0.2	

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 US 20/26 / 10th Street

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 0 0 1			0 0 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	20	0	0	0	0	243	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	20	0	0	0	0	243	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
PHF Volume:	0	0	0	0	0	22	0	0	0	0	273	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	0	0	22	0	0	0	0	273	8
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	0	0	25	0	0	0	0	273	8
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	2.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	5.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	277	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	1002	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	xxxx	xxxx	1.00	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	1002	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	A	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			3.7			0.0			0.0		

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #10 Washington St / Bryant St

Average Delay (sec/veh): 1.1 Worst Case Level Of Service:

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	0		0	0	0	1	0		0	0	0	0	0		0	1	0	1	0	
Volume Module:																								
Base Vol:	22	12		0			0	15		15			0	0		0			21	272				
Growth Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
Initial Bse:	22	12		0			0	15		15			0	0		0			21	272				
User Adj:	1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00		
PHF Adj:	0.90	0.90		0.90			0.90	0.90		0.90			0.90	0.90		0.90			0.90	0.90		0.90		
PHF Volume:	24	13		0			0	17		17			0	0		0			23	302				
Reduct Vol:	0	0		0			0	0		0			0	0		0			0	0		0		
Final Vol.:	24	13		0			0	17		17			0	0		0			23	302				
Adjusted Volume Module:																								
Grade:		0%						0%						0%						0%				
% Cycle/Cars:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
% Truck/Comb:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
PCE Adj:	1.10	1.10		1.10			1.10	1.10		1.10			1.10	1.00		1.00			1.10	1.00		1.00		
Cycl/Car PCE:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
Trck/Cmb PCE:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
Adj Vol.:	27	15		0			0	18		18			0	0		0			26	302				
Critical Gap Module:																								
MoveUp Time:	3.4	3.3	xxxxx	xxxxx			3.3	2.6	xxxxx	xxxx	xxxxx		2.1	xxxx	xxxxx									
Critical Gp:	6.5	6.0	xxxxx	xxxxx			6.0	5.5	xxxxx	xxxx	xxxxx		5.0	xxxx	xxxxx									
Capacity Module:																								
Cnflict Vol:	334	329	xxxxx	xxxx			327	153	xxxx	xxxx	xxxxx		0	xxxx	xxxxx									
Potent Cap.:	678	733	xxxxx	xxxx			735	1159	xxxx	xxxx	xxxxx		1714	xxxx	xxxxx									
Adj Cap:	0.95	0.98	xxxxx	xxxx			0.98	1.00	xxxx	xxxx	xxxxx		1.00	xxxx	xxxxx									
Move Cap.:	647	721	xxxxx	xxxx			723	1159	xxxx	xxxx	xxxxx		1714	xxxx	xxxxx									
Level Of Service Module:																								
Stopped Del:	5.8	5.1	xxxxx	xxxxx			5.1	3.2	xxxxx	xxxx	xxxxx		2.1	xxxx	xxxxx									
LOS by Move:	*	*	*	*			*	*	*	*	*		A	*	*									
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	671	xxxx	xxxxx	xxxx			xxxx	890	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx									
Shrd StpDel:	5.7	xxxx	xxxxx	xxxxx			xxxx	4.2	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
Shared LOS:	B	*	*	*			*	A	*	*	*		*	*	*									
ApproachDel:		5.5						4.1						0.0						0.2				

PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction.

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #12 Washington St / Main Street

****

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 0	0	0 0	0 1	0	0 0	0 0	0	0 1	0 1	0
Volume Module:												
Base Vol:	10	12	0	0	15	15	0	0	0	40	257	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	12	0	0	15	15	0	0	0	40	257	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	12	14	0	0	17	17	0	0	0	47	299	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	12	14	0	0	17	17	0	0	0	47	299	3
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	13	15	0	0	19	19	0	0	0	51	299	3
Critical Gap Module:												
MoveUp Time:	3.4	3.3	xxxxx xxxxx	3.3	2.6	xxxxx xxxx xxxxx				2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	xxxxx xxxxx	6.0	5.5	xxxxx xxxx xxxxx				5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	354	349	xxxxx xxxx	347	151	xxxx xxxx xxxxx				0	xxxx	xxxxx
Potent Cap.:	660	716	xxxxx xxxx	717	1161	xxxx xxxx xxxxx				1714	xxxx	xxxxx
Adj Cap:	0.94	0.97	xxxxx xxxx	0.97	1.00	xxxx xxxx xxxxx				1.00	xxxx	xxxxx
Move Cap.:	620	692	xxxxx xxxx	694	1161	xxxx xxxx xxxxx				1714	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	5.9	5.3	xxxxx xxxxx	5.3	3.1	xxxxx xxxx xxxxx				2.2	xxxx	xxxxx
LOS by Move:	*	*	* *	*	*	* *	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	657	xxxx	xxxxx	xxxx	xxxx	868	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	5.7	xxxx	xxxxx	xxxxx	xxxx	4.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	A	*	*	*	*	*	*
ApproachDel:		5.6			4.2			0.0			0.3	

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 US 20 / Vale-West Highway / Na	C	2.6	0.000	C	2.6	0.000	+ 0.000 V/
# 3 "A" St / Main Street	B	1.6	0.000	B	1.6	0.000	+ 0.000 V/C
# 5 "A" St / Bryant St.	B	1.5	0.000	B	1.5	0.000	+ 0.000 V/
# 6 "A" St / Glenn St	C	2.9	0.000	C	2.9	0.000	+ 0.000 V/C
# 7 Washington St / Glenn St	B	3.2	0.000	B	3.2	0.000	+ 0.000 V/
# 8 US 20/26 / 10th Street	A	0.4	0.000	A	0.4	0.000	+ 0.000 V/
# 10 Washington St / Bryant St	B	1.5	0.000	B	1.5	0.000	+ 0.000 V/C
# 12 Washington St / Main Street	B	1.4	0.000	B	1.4	0.000	+ 0.000 V/

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #1 US 20 / Vale-West Highway / Nachez St.

****

Average Delay (sec/veh): 2.6 Worst Case Level Of Service:

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	1	1	29	78	9	4	1	82	10	25	87	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1	29	78	9	4	1	82	10	25	87	136
User Adj:	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
PHF Adj:	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
PHF Volume:	2	2	55	149	17	8	2	156	19	48	166	259
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	2	2	55	149	17	8	2	156	19	48	166	259
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	2	2	61	163	19	8	2	156	19	52	166	259
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	2.6	2.1	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	5.5	6.5	6.0	5.5	5.0	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	523	640	166	539	520	295	425	xxxx	xxxxx	175	xxxx	xxxxx
Potent Cap.:	527	503	1141	516	582	981	1076	xxxx	xxxxx	1414	xxxx	xxxxx
Adj Cap:	0.93	0.95	1.00	0.91	0.95	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	489	477	1141	468	552	981	1076	xxxx	xxxxx	1414	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	7.4	7.6	3.3	11.3	6.7	3.7	3.4	xxxx	xxxxx	2.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	1049	xxxxx	xxxx	486	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	3.6	xxxxx	xxxxx	11.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	C	*	*	*	*	*	*	*
ApproachDel:		3.6			10.5			0.0			0.3	

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #3 "A" St / Main Street

****

Average Delay (sec/veh): 1.6 Worst Case Level Of Service:

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 1 0 1 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	11	27	5	37	0	2	232	15	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	11	27	5	37	0	2	232	15	0	0	0
User Adj:	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
PHF Adj:	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
PHF Volume:	0	24	58	11	79	0	4	497	32	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	24	58	11	79	0	4	497	32	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	26	64	12	87	0	5	497	32	0	0	0
Critical Gap Module:												
MoveUp Time:	xxxxx	3.3	2.6	3.4	3.3	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	6.0	5.5	6.5	6.0	xxxxx	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	517	264	513	533	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	584	1017	535	573	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxx
Adj Cap:	xxxx	1.00	1.00	0.90	1.00	xxxxx	1.00	xxxx	xxxxx	xxxx	xxxx	xxxx
Move Cap.:	xxxx	582	1017	483	571	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	6.4	3.8	7.6	7.3	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	836	559	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx
Shrd StpDel:	xxxxx	xxxx	4.8	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	B	*	*	*	*	*	*	*	*
ApproachDel:		4.5			7.4			0.0			0.0	

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #5 "A" St / Bryant St.

****

Average Delay (sec/veh): 1.5 Worst Case Level Of Service:

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 1 0			0 1 0 0 0			0 1 0 1 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	7	19	23	20	0	8	227	5	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	7	19	23	20	0	8	227	5	0	0	0
User Adj:	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	0	14	38	46	40	0	16	458	10	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	14	38	46	40	0	16	458	10	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	16	42	51	44	0	18	458	10	0	0	0
Critical Gap Module:												
MoveUp Time:	xxxxx	3.3	2.6	3.4	3.3	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	6.0	5.5	6.5	6.0	xxxxx	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	479	234	481	484	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	612	1054	558	608	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	0.99	1.00	0.93	0.99	xxxxx	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	604	1054	520	601	xxxxx	1714	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	6.1	3.5	7.6	6.4	xxxxx	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	878	555	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	4.4	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	B	*	*	*	*	*	*	*	*
ApproachDel:		4.2			7.1			0.1			0.0	

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #6 "A" St / Glenn St

****

Average Delay (sec/veh): 2.9 Worst Case Level Of Service:

****

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	1	0		0	1	0	1	0		0	1	0	1	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	20	9	0				0	55	29				116	182	14				0	0	0			
Growth Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.0			
Initial Bse:	20	9	0				0	55	29				116	182	14				0	0				
User Adj:	1.73	1.73	1.73				1.73	1.73	1.73				1.73	1.73	1.73				1.73	1.73	1.73			
PHF Adj:	1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.00				1.00	1.00	1.0			
PHF Volume:	35	16	0				0	95	50				201	316	24				0	0				
Reduct Vol:	0	0	0				0	0	0				0	0	0				0	0	0			
Final Vol.:	35	16	0				0	95	50				201	316	24				0	0				
Adjusted Volume Module:																								
Grade:	0%						0%						0%						0%					
% Cycle/Cars:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
% Truck/Comb:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
PCE Adj:	1.10	1.10	1.10				1.10	1.10	1.10				1.10	1.00	1.00				1.10	1.00	1.00			
Cycl/Car PCE:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
Trck/Cmb PCE:	xxxx	xxxx					xxxx	xxxx					xxxx	xxxx					xxxx	xxxx				
Adj Vol.:	38	17	0				0	105	55				221	316	24				0	0	0			
Critical Gap Module:																								
MoveUp Time:	3.4	3.3	xxxxx	xxxxx			3.3	2.6					2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Critical Gp:	6.5	6.0	xxxxx	xxxxx			6.0	5.5					5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
Capacity Module:																								
Cnflict Vol:	602	529	xxxxx	xxxx			541	0					0	xxxx	xxxxx	xxxx	xxxx	xxxxx						
Potent Cap.:	475	576	xxxxx	xxxx			567	1385					1714	xxxx	xxxxx	xxxx	xxxx	xxxx						
Adj Cap:	0.71	0.86	xxxxx	xxxx			0.86	1.00					1.00	xxxx	xxxxx	xxxx	xxxx	xxxx						
Move Cap.:	339	493	xxxxx	xxxx			485	1385					1714	xxxx	xxxxx	xxxx	xxxx	xxxxx						
Level Of Service Module:																								
Stopped Del:	11.8	7.5	xxxxx	xxxxx			9.2	2.7					2.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx						
LOS by Move:	*	*	*	*			*	*					A	*	*	*	*	*						
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	376	xxxx	493				485	xxxx	626				xxxx	xxxx	xxxxx				xxxx	xxxx	xxxx			
Shrd StpDel:	11.1	xxxx	7.5				9.2	xxxx	7.5				xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			
Shared LOS:	C	*	B				B	*	B				*	*	*				*	*	*			
ApproachDel:	10.5						7.0						0.9						0.0					

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Washington St / Glenn St

Average Delay (sec/veh): 3.2 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	1 0	0	0 0	1 1	0	0 0	0 0	0	0 1	0 1	0
Volume Module:												
Base Vol:	22	86	0	0	54	57	0	0	0	15	199	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	86	0	0	54	57	0	0	0	15	199	4
User Adj:	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	149	0	0	94	99	0	0	0	26	345	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	38	149	0	0	94	99	0	0	0	26	345	7
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	42	164	0	0	103	109	0	0	0	29	345	7
Critical Gap Module:												
MoveUp Time:	3.4	3.3	xxxxx	xxxxx	3.3	2.6	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	xxxxx	xxxxx	6.0	5.5	xxxxx	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	418	378	xxxxx	xxxx	375	176	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	607	691	xxxxx	xxxx	694	1128	xxxx	xxxx	xxxxx	1714	xxxx	xxxxx
Adj Cap:	0.79	0.98	xxxxx	xxxx	0.98	1.00	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	478	678	xxxxx	xxxx	681	1128	xxxx	xxxx	xxxxx	1714	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	8.2	6.8	xxxxx	xxxxx	6.1	3.5	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
LOS by Move:	*	B	*	*	B	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	625	xxxx	xxxxx	xxxx	xxxx	855	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	8.2	xxxx	xxxxx	xxxxx	xxxx	5.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	B	*	*	*	*	*	*
ApproachDel:		7.1			4.8			0.0			0.2	

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #8 US 20/26 / 10th Street

****

Average Delay (sec/veh): 0.4 Worst Case Level Of Service:

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0	0	0 0 0	0 1		0 0 0	0 0		0 0 0	1 0	
Volume Module:												
Base Vol:	0	0	0	0	0	20	0	0	0	0	243	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.0
Initial Bse:	0	0	0	0	0	20	0	0	0	0	243	
User Adj:	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
PHF Adj:	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.8
PHF Volume:	0	0	0	0	0	39	0	0	0	0	473	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	0	0	39	0	0	0	0	473	1
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	0	0	43	0	0	0	0	473	14
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	2.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	5.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	480	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	791	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx
Adj Cap:	xxxx	xxxx	xxxxx	xxxx	xxxx	1.00	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	791	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	4.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	A	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			4.8			0.0			0.0		

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

Intersection #10 Washington St / Bryant St

Average Delay (sec/veh): 1.5 Worst Case Level Of Service:

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0	0	0 0	0	1 0	0 0	0	0 0	0 1	0	1 0
Volume Module:												
Base Vol:	22	12	0	0	15	15	0	0	0	21	272	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	22	12	0	0	15	15	0	0	0	21	272	3
User Adj:	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	42	23	0	0	29	29	0	0	0	40	524	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	42	23	0	0	29	29	0	0	0	40	524	6
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	47	25	0	0	32	32	0	0	0	45	524	6
Critical Gap Module:												
MoveUp Time:	3.4	3.3	xxxxx	xxxxx	3.3	2.6	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	xxxxx	xxxxx	6.0	5.5	xxxxx	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	579	570	xxxxx	xxxx	567	265	xxxx	xxxx	xxxxx	0	xxxx	xxxxx
Potent Cap.:	489	548	xxxxx	xxxx	550	1017	xxxx	xxxx	xxxxx	1714	xxxx	xxxxx
Adj Cap:	0.90	0.97	xxxxx	xxxx	0.97	1.00	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	442	531	xxxxx	xxxx	533	1017	xxxx	xxxx	xxxxx	1714	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	9.0	7.1	xxxxx	xxxxx	7.1	3.6	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	470	xxxx	xxxxx	xxxx	xxxx	699	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	8.9	xxxx	xxxxx	xxxxx	xxxx	5.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	B	*	*	*	*	*	*
ApproachDel:		8.3			5.4			0.0			0.2	

20-Yr Future PM Peak Hour (4:30 to 5:30)
Adjusted to reflect averge monthly ADT, based on volume data at Cairo Junction. (Annual Growth Rate = 2.79%)

Level Of Service Computation Report
1994 HCM Unsignalized Method (Base Volume Alternative)

****

Intersection #12 Washington St / Main Street

****

Average Delay (sec/veh): 1.4 Worst Case Level Of Service:

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolle		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0 0	0	0 0	0 1	0	0 0	0 0	0	0 1	0 1	0
Volume Module:												
Base Vol:	10	12	0	0	15	15	0	0	0	40	257	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.(
Initial Bse:	10	12	0	0	15	15	0	0	0	40	257	
User Adj:	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73	1.73
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.(
PHF Volume:	20	24	0	0	30	30	0	0	0	81	518	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	20	24	0	0	30	30	0	0	0	81	518	
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	22	27	0	0	33	33	0	0	0	89	518	6
Critical Gap Module:												
MoveUp Time:	3.4	3.3	xxxxx xxxxx		3.3	2.6	xxxxx xxxx xxxxx			2.1	xxxx	xxxxx
Critical Gp:	6.5	6.0	xxxxx xxxxx		6.0	5.5	xxxxx xxxx xxxxx			5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	614	605	xxxxx	xxxx	602	262	xxxx xxxx xxxxx			0	xxxx	xxxxx
Potent Cap.:	467	525	xxxxx	xxxx	527	1020	xxxx xxxx xxxxx			1714	xxxx	xxx
Adj Cap:	0.88	0.94	xxxxx	xxxx	0.94	1.00	xxxx xxxx xxxxx			1.00	xxxx	xxx
Move Cap.:	409	493	xxxxx	xxxx	495	1020	xxxx xxxx xxxxx			1714	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	9.3	7.7	xxxxx	xxxxx	7.7	3.6	xxxxx xxxx xxxxx			2.2	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR		- RT	LT - LTR		- RT	LT - LTR		- RT	LT - LTR		- RT
Shared Cap.:	451	xxxx	xxxxx	xxxx	xxxx	666	xxxx xxxx xxxxx			xxxx	xxxx	xxx
Shrd StpDel:	8.9	xxxx	xxxxx	xxxxx	xxxx	5.9	xxxxx xxxx xxxxx			xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	B	*	*	*	*	*	*
ApproachDel:	8.4			5.7			0.0			0.3		

APPENDIX D

PROJECT COST ESTIMATES

Project Alternatives - Estimated Costs

	Project 2 Realign Intersection of Graham Boulevard, Washington Street, and "A" Street	Project 3 Construct New North-South One-Way Couplet	Project 4 Install Curb Extenders on "A" Street and Washington Street	Project 5 Construct Ellsworth Street Extension	Project 5 Construct Yakima Street Extension	Project 6 Improve Glenn Street	Project 10 Widen Glenn Street to Four Lanes	Project 10 Widen Glenn Street to Three Lanes	Project 13 Construct New Bicycle Path along the Malheur River
Existing Conditions									
Street Width	N/A	N/A	N/A	N/A	N/A	32	32	32	N/A
R-O-W	N/A	N/A	N/A	N/A	N/A	60	60	60	N/A
Street Improvement Needs									
Length (ft.)	300	1,100		2,200	500	800	1,800.00	1,800	
$ / ft.*	$369.90	$369.90		$239.16	$239.16	$369.90	$429.69	$369.90	
Cost	$110,969	$406,888	$0	$526,148	$119,579	$295,918	$773,438	$665,816	$0
R-O-W Needs									
Number of Lots	1	3							
$ /Lot	$58,100	$60,844							
Additional Sq. Ft.		400							
$ / Sq. Ft.		$2.00							
Cost	$58,100	$183,331	$0	$0	$0	$0	$0	$0	$0
Miscellaneous									
Bridge									
Length (ft)					100				
Width (ft)					50				
Sq. Ft.					5,000				
$ / Sq. Ft.					$125.00				
Cost	$0	$0	$0	$0	$625,000	$0	$0	$0	$0
Bicycle Path									
Length (ft)									13,200
$ / Lin. Ft.									$29
Cost	$0	$0	$0	$0	$0	$0	$0	$0	$378,827
At-Grade Railroad Crossing**									
Cost	$275,000	$0	$0	$0	$0	$0	$275,000	$275,000	$0
Curb Extenders									
Number			16						
Sidewalk Each (Sq. Ft.)			27						
$ / Sq. Ft.			$30						
Curb Each (ft.)			50						
$ / Ft.			$10						
Cost	$0	$0	$20,802	$0	$0	$0	$0	$0	$0
Subtotal	**$444,069**	**$590,219**	**$20,802**	**$526,148**	**$744,579**	**$295,918**	**$1,048,438**	**$940,816**	**$378,827**
Mobilization 7%	$31,085	$41,315	$1,456	$36,830	$52,121	$20,714	$73,391	$65,857	$26,518
TP&DT 5%	$22,203	$29,511	$1,040	$26,307	$37,229	$14,796	$52,422	$47,041	$18,941
Subtotal	**$497,358**	**$661,045**	**$23,298**	**$589,286**	**$833,929**	**$331,429**	**$1,174,250**	**$1,053,714**	**$424,286**
E&C 40%	$198,943	$264,418	$9,319	$235,714	$333,571	$132,571	$469,700	$421,486	$169,714
TOTAL	**$696,301**	**$925,463**	**$32,617**	**$825,000**	**$1,167,500**	**$464,000**	**$1,643,950**	**$1,475,200**	**$594,000**

* This cost includes the installation of curb, gutter, sidewalk and storm drains.

** This cost includes the installation the new road bed and signals/crossing arms.

APPENDIX E

TRANSPORTATION SYSTEMS FUNDING SOURCES

APPENDIX E
TRANSPORTATION SYSTEMS FUNDING SOURCES

Table 1
Transportation Systems Plan
Summary of Road-Related Transportation Funding Programs: Federal Sources

Program Name	Description
Intermodal Surface Transportation Efficiency Act (ISTEA)	ISTEA is designed to provide flexibility in federal funding of transportation projects. ISTEA established several funding programs including the 1) National Highway System; 2) Interstate Program; 3) Surface Transportation Program; 4) Congestion Management and Air Quality Improvements Program; and 5) National Scenic Byways Program.
Surface Transportation Program (STP)	The Surface Transportation Program was authorized by Title I of the ISTEA. The STP funds are allocated to the State and suballocated to cities and counties on a formula basis by the Oregon Transportation Commission. STP funds may be used for any road that is not functionally classified as a local or rural minor collector and must be included in the Transportation Improvement Program to receive STP funds.
Transportation Enhancement Program (Part of STP)	The ISTEA includes provisions that require the State to set aside a portion of its Surface Transportation Program (STP) funds for projects that will enhance the cultural and environmental value of the State's transportation system. Eligible transportation enhancement projects must be directly related to the intermodal transportation system. This program funds enhancements including pedestrian and bicycle facilities; preservation of abandoned railway corridors; landscaping and other scenic beautification; control and removal of outdoor advertising; acquisition of scenic easements and scenic or historic sites; scenic or historic highway programs; historic preservation; rehabilitation and operation of historic transportation buildings, structures or facilities; archaeological planning and research; and mitigation of water pollution due to highway runoff.
Highway Enhancement System (HES)	The FHWA Highway Enhancement System Program provides funding for safety improvement projects on public roads. Safety improvement projects may occur on any public road and must be sponsored by a county or city. To be eligible for Federal aid, a project should be part of either the annual element of a Regional Transportation Plan or the annual listing of rural projects by ODOT, although they do not have to be part of the approved State Highway Improvement Program to receive HES funding.
Timber Receipts (USFS)	The United States Forest Service shares 25 percent of national forest receipts with counties. By Oregon law (ORS 294.060), the County then allocates 75 percent of the national forest receipts to the road fund and 25 percent to local school districts.
Community Development Block Grants (CDBG)	Community Development Block Grants (CDBG) are administered by the Department of Housing and Urban Development (HUD) and could potentially be used for transportation improvements in eligible areas.

Table 2
Transportation Systems Plan
Summary of Road-Related Transportation Funding Programs: State Level

Program Name	Description
State Highway Fund	The State Highway Fund composed of gas taxes, vehicle registration fees, and weight-mile taxes assessed on freight carrier. In 1994, the state gas tax was $0.24 per gallon. Vehicle registration fees were $15 annually. Revenues are divided as follows: 15.57 percent to cities, 24.38 percent to counties, and 60.05 percent to ODOT. The city share of the State Highway Fund is allocated based on population. ORS 366.514 requires at least one percent of the State Highway Fund received by ODOT, counties and cities be expended for the development of footpaths and bikeways. ODOT administers the bicycle funds, handles bikeway planning, design, engineering and construction, and provides technical assistance and advice to local governments concerning bikeways.
Special Public Works Fund (SPWF)	The State of Oregon allocates a portion of revenues from the state lottery for economic development. The Oregon Economic Development Department provides grants and loans through the SPWF program to construct, improve and repair infrastructure to support local economic development and create new jobs. The SPWF provides a maximum grant of $500,000 for projects that will help create a minimum of 50 jobs.
Transportation Access Charges	The most familiar form of a transportation access charge is a bridge or highway toll. Transportation access charges are most appropriate for high-speed, limited access corridors; service in high-demand corridors; and bypass facilities to avoid congested areas. Congestion pricing, where drivers are charged electronically for the trips they make based on location and time of day, is the most efficient policy for dealing with urban congestion. It not only generates revenue for maintenance and improvements; but also decreases congestion and the need for capital improvements by increasing the cost of trips during peak periods. The Oregon Revised Statutes allow ODOT to construct toll bridges to connect state highways and improve safety and capacity. The Statues also allow private development of toll bridges. Recent actions by the Oregon legislature provide authority for developing toll roads. State authority for congestion pricing does not exist; new legislation would be required.
Immediate Opportunity Fund (IOF)	Financed at a level of $5 million per year to a maximum of $40 million through FY96. The fund is to support specific economic developments in Oregon through the construction and improvement of roads and is restricted for use in situations that require a quick response and commitment of funds. It is anticipated that the maximum amount available for a single project is $500,000 or 10 percent of the annual program level. This fund may be used only when other sources of financial support are unavailable or insufficient and are not a replacement or substitute for other funding sources.

OR Transportation Infrastructure Bank	As a pilot program for the USDOT, the Oregon Transportation Commission has made $10 million available from projects that will not be contracted in FY 1996. The OTIB will make loans for transportation projects and will offer a variety of credit enhancements. Initial loans must be for improvements on federal aid highways, repayments go into an account that will be made available for any mode. Ability to repay will be a key factor in all loans.
Traffic Control Projects	The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminaire units at intersections between State highway and city streets (or county roads). Intersections involving a State highway and a city street (or county road) which are included on the state-wide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.
Hazard Elimination Program (HEP)	ODOT administers the HEP statewide for projects that correct a known safety problem or concern. Limited funds are allocated statewide based on a competitive cost/benefit analysis, and then projects are added to the STIP. In Region 5, the only current HEP projects include: • Pumpkin Center road signal • ION Highway (78) rumble strip application.

Table 3
Transportation Systems Plan
Summary of Road-Related Transportation Funding Programs: Local Sources

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

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

W&H PACIFIC

Table 4
Currently Used Revenue Sources For Cities (millions of 1995 dollars)

Facility	Revenue Source	Importance (not 100%)	3-Year Trend	Dedication	Rate
Streets/Bridges/ Sidewalks/ Bike Lanes	Oregon Highway Trust Fund	51% of total road or $89.	Growing about 1.75% per year.	Constitutionally limited to funding activities that benefit autos & trucks.	24¢/gal. for gas; $30/biennium registration fee.
	General Fund Transfers	9% or $15.	Varies but assume growth @ 3%/yr. But not used by all cities.	May be used for any purpose.	Varies widely.
	Special Property Tax Levies	5% or $7.	Increasing, only used by about 18 cities.	May be used for purpose described in election.	Varies widely.
	Improvement District Assessments	7% or $12.5.	Varies but increases when local development increases.	May be used for construction of adjacent streets-sidewalks.	Varies with construction cost & local ordinances.
	Systems Development Charges/Traffic Impact Fees	4% or $7.	Varies but increases when local development increases, only used by about 2 dozen cities.	May be used for construction of new streets.	Varies with construction cost & local ordinances. Rates generally higher in Portland Metro area.
	Utility Franchise Fees	3% or $4.	Grows roughly w/population and inflation.	Is a general revenue used by some cities for streets.	Statutory limit of 5% of utility gross receipts.
	Interest Earnings	4% or $6.	Varies w/current interest rates.	Have same Constitutional limits as Highway Fund.	Used as general street revenue.
	Local Gas Tax	0.44% or $0.7	Unchanged.	Have same Constitutional limits as Highway Fund.	Used by Tillamook, The Dalles, and Woodburn.
	Private Contributions	3% or $4.3	Varies widely.	Usually contributions are related to specific development street impacts.	Negotiated individually.
	Misc. - permit fees, finds, fines, parking, Motel Tax, other	8% or $14.5.	Gradual growth.	General revenues used for streets.	Varies widely by City.
	Federal - FHWA+HUD	3% or $5.6.	Relatively stable	Used mainly for new construction w/some rehab.	Based on federal allocation to Oregon.
	Misc. State Revenues - mainly Lottery funds.	2% or $3.	Varies, no trend.	Used mainly for economic development capital improvements.	Specific grants to individual cities each year.
Off-street Bike Paths	Misc. general funds & ISTEA	??	Varies from year to year.	ISTEA & General Funds used for construction, General Funds used for maintenance & repair.	Varies from year to year.

Table 5
Transportation System Plan
Summary of Transit Funding Programs

Program Name	Description
FEDERAL SOURCES	All funds from the Federal Transit Administration (FTA) pay 80 percent of capital costs and require a 20 percent local match.
FTA Section 18	Section 18 is a federally sponsored program for small urban and rural areas (under 50,000 population) to support both capital and operating needs. These funds are dispersed through ODOT and distributed on a population basis.
FTA Section 16	These funds are distributed through ODOT to support the capital needs of nonprofit social service transportation providers. Funding of paratransit vehicles for public agencies is done through FTA Section 16.
FTA Section 9	If an urban area reaches a population of 50,000, it will no longer be eligible for Section 18 funds but will be eligible for Section 9 funds for urban populations greater than 50,000. Operating assistance is available to a predetermined regional cap based on the size and productivity of the operation. Capital assistance is available with a limit of 80 percent of a capital project. FTA funds are allocated to transit agencies based on a complex formula which includes population, population density, and the number of revenue service hours operated within a year.
FTA Section 3	FTA Section 3 funds are limited to capital purchases and fall into three categories: 1) bus/bus facilities, 2) new rail starts, and 3) rail upgrade. As with other FTA grants, the Section 3 Discretionary funds provide 80 percent funding with a 20 percent required local match.
Congestion Management/Air Quality Program (CMAQ)	This program was included in ISTEA for non-attainment areas as defined in the Federal Clean Air Act. ISTEA funds are administered by ODOT and are generally focused on air quality improvements.
STATE SOURCES	
Oregon Public Transit Assistance (In-Lieu Payroll Tax)	This fund source is a local payroll tax disbursed by the state to support transit services. To be eligible for these funds, a transit district must be formed and it must be generating local revenues (i.e., property tax). The amount is determined based on the number of State and Federal employees within the Transit District and is the reimbursement of payroll taxes collected from those employees. There is a restriction on the funds specifying that the amount of money received cannot exceed the amount of funding generated locally through the property tax. These funds can be used to support operations or as local match for federal capital grants.

Developer Impact Fees	An impact fee is a charge imposed on new development to compensate for its impact on the local transportation infrastructure. A fee is typically assessed on square footage of planned development. Impact fees can be implemented by local ordinance with specific criteria for establishing an impact fee and can be imposed in downtown urban areas or in outlying growth areas. An impact fee is a controversial measure and, like other developer fees, must show a connection between the development and the service provided.
Parking Taxes and Fees	A parking tax or fee could be levied by a city and all or a portion of it dedicated to transit uses. Many downtown areas levy parking fees and as the city grows, the levy can be used as a strategy to encourage transit use for trips to the downtown area.

Table 6
Transportation System Plan
Currently Used Transit Revenue Sources in Oregon

Transit Service Type/Function	Funding Source	Status
Urban Public Transportation (Portland & Eugene) (operating & capital)	1. Local Payroll Tax - operating 2. Federal grants - capital 3. Federal grants - operating 4. Fares & advertising	1. Major Source - $100 million/yr. Growing - Sensitive to Economic Conditions 2. Major source - $10 million/yr - Stable 3. Minor source - $5 million/yr - Declining 4. Minor source - Growing w/ridership
Urban Public Transportation (Salem, Corvallis, Medford, K-Falls)	1. Property tax (typically a taxbase or stand-alone levy w/in $10 cap for local gov't services) 2. Federal grants - capital 3. Federal grant - operating 4. Fares & advertising	1. Major Source - Growing Slowly 2. Major Source - $2 million/yr. - Stable 3. Major Source - $2 million/yr. - Declining 4. Minor Source - Growing w/ridership
Small City & Rural (Astoria, Union County, etc.) (operating & capital)	1. Federal grants - capital & operating 2. Local Property Tax (typically w/in city or county operating levy) 3. Fares, donations & advertising	1. Major Source - Declining 2. Major Source - Stable 3. Minor Source - Stable
Mobility for Seniors & People with Disabilities - (operating & capital)	1. Special Transportation Fund (2¢ state cigarette tax) - operating & capital 2. Social Service Agency grants / contracts - operating 3. Local Property Tax (typically w/in city or county operating levy) 4. Federal grants - capital & operating 5. Fares, donations advertising	1. Major Source - $5 million/yr. - Declining 2. Major Source - Declining 3. Minor Source - Stable 4. Major Source - Declining 5. Minor - Stable
Intercity Bus (operating & capital)	1. Major Interstate Routes: Fares 2. Branch & feeder routes: Private capital, Fares	1. Sole Source - Declining 2. Private

APPENDIX F

MALHEUR COUNTY TSP FINANCIAL PLAN
(County Wide Funding Recommendations)

Financial Pla

alheur County Transportation System Plan

W&H PACIFIC

CHAPTER 8:
FINANCIAL PLAN

INTRODUCTION

The Malheur County TSP financial plan includes a transportation financing program that includes:

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

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

This chapter summarizes the financing program defined for the Malheur County TSP as required by the TPR. It summarizes the transportation improvement projects, identifies general timing and rough cost estimates of transportation system improvements, and summarizes the existing and potential future financial resources to pay for these improvements, as a general policy guideline.

TRANSPORTATION SYSTEM IMPROVEMENTS - COST AND TIMING

The total cost of all transportation system improvements in Malheur County is expected to exceed $33 million. Malheur County's portion of these costs is estimated at almost $9 million. These improvements include roadway, bicycle and airport facility improvements on the State and County transportation system over the next 20 years (as identified in Chapter 7 - TSP).

Appendix E summarizes the individual projects along with their planning-level cost estimates. All costs are estimated in constant 1997 dollars. Table 8-1 provides an estimate of the schedule (five-year increments) and jurisdiction (State, County, city and private) responsible for making major roadway improvements. Descriptions of the types of projects and their associated costs follow.

Table 8-1
Financial Plan

PROJECT DESCRIPTION	PROJECT / PROGRAM SCHEDULE (YEARS)					COST	PARTNERSHIP				CAPITAL OUTLAY (millions) ODOT (YEARS)				CAPITAL OUTLAY (millions) Malheur County (YEARS)				PROPOSED LOCAL REVENUE SOURCE		
	0-5	6-10	11-15	16-20	20+	(millions)	State	County	City	Private	0-5	6-10	11-15	16-20	0-5	6-10	11-15	16-20	Local Gas Tax	Local Vehicle Registration Fee	Road Bond
Roadway System Plan																					
1 Railroad Avenue Extension						$13.50	50%	22%	22%	6%	$3.38	$3.38	$0.00	$0.00	$0.99	$0.99	$0.99		$0.99	$0.99	$0.99
2 Ontario North-South Arterial						TBD	✓	*TBD*	✓	*TBD*											
3 Columbia Avenue Extension						$2.60		100%									$0.65	$1.95	$0.78	$0.78	$1.04
4 US 95 Re-Alignment (Jordan Valley TSP)						TBD	✓														
5 Replace Functionally Obsolete Bridges [2]						$7.60	100%				$3.80	$3.80									
6 Replace Structurally Deficient Bridges [2]						$1.01	90%	10%			$0.23	$0.23	$0.23	$0.23	$0.03	$0.03	$0.03	$0.03	$0.05	$0.05	
7 Special Roadway Reconstruction Projects [1]						$2.40	72%	28%			$0.66	$0.66			$0.34	$0.34			$0.34	$0.34	
8 Highway 201 Intersections						$0.19	100%					$0.19									
9 Improve Wildlife Safety Conditions						TBD	✓	✓													
10 Highway 201 RR Crossings Removal						$0.25	100%					$0.25									
11 Highway 201 Re-Alignment						$2.70	100%						$2.70								
12 Arcadia Ave/Alameda Blvd "S" Curves						$0.19		100%								$0.19			$0.10	$0.10	
13 Clark Boulevard Intersections						TBD		✓													
14 Boat Landing Road						TBD	✓														
15 Sage Road/Canyon Road Intersection						TBD		✓													
16 Stanton Boulevard Extension						$1.08		100%									$0.27	$0.81	$0.27	$0.32	$0.49
17 Highway 20 Bridge Pier Removal						TBD	✓														
Bicycle System Plan (see Roadway Projects 1-4 & 7)						*TBD*	✓	✓	✓	✓											
18 Graham Boulevard/Bully Creek Road Bike Lanes						$1.72	50%	50%						$0.86			$0.43	$0.43		$0.86	
Public Transportation System Plan (including Transportation Demand Management programs)						*TBD*	✓	✓	✓	✓											
Rail System Plan						*TBD*	✓			✓											
Air System Plan						*TBD*	✓			✓											
Jordan Valley Airport Construction						$0.25	25%	50%		25%			$0.06				$0.13			$0.13	
Vale Airport Extension						$0.05	25%	25%	25%	25%			$0.01				$0.01			$0.01	
Pipeline / Waterway / Utilities Plan						*TBD*	✓	✓	✓	✓											
COST PER 5-YEAR INCREMENT:											$8.27	$8.71	$3.00	$1.09	$1.35	$1.54	$2.50	$3.22			
TOTAL REVENUE NEEDS BY SOURCE:																			$2.52	$3.57	$2.52

NOTES:

[1] Roadway projects not included in current ODOT STIP or within regular ODOT and County maintenance programs: Hwy 201 (Olds Ferry Rd), Parma Spur and Owyhee Ave..
[2] ODOT bridge improvement programs are based on significant Federal funding sources.

Roadways

Fourteen roadway improvement projects will be needed to upgrade the roadway and highway system within Malheur County over the next 20 years. Approximately $31 million of the total transportation system improvements are attributed to these roadway projects. Target dates for project construction have been tentatively identified by five-year increment, as illustrated in Table 8-1.

Bicycle Facilities

New bicycle facilities (along collector/arterial roads) in the Malheur County transportation system will increase by approximately 32 miles, most of which are included in roadway improvement projects. The Graham Boulevard/Bully Creek Road shoulder widening project, estimated at $1.7 million provides a significant system improvement linking Bully Creek Reservoir to the major state highway system of bicycle facilities.

Pedestrian Facilities

New pedestrian facilities (along collector/arterial roads) in the Malheur County transportation system will also increase by approximately 32 miles, all of which are included in roadway improvement projects.

Airport Facilities

The estimated cost for the siting and development of a new airstrip in the Jordan Valley area is $250,000. The Malheur County's share of that amount is estimated to be $ 125,000, planned for completion in the 11-15 year time frame.

Timing

Project priorities have been grouped into five-year categories. Table 8-1 summarizes the improvements that will occur within those time frames. Malheur County expenditures to extend and improve Railroad Avenue are the greatest in the first 10 years, averaging about $290,000 per year. Other major expenditures for transportation improvements are expected in the last 10 years for an estimated $5 million to widen Bully Creek Road and extend Stanton Boulevard and Columbia Boulevard. The County will be expected to make investments to improve transportation facilities for existing development and to improve major collectors and arterials that serve the entire area.

EXISTING AND HISTORIC FINANCING SOURCES

Road-Related Funding

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

The most significant portion of Oregon's highway user taxes and fees come from federal fuel and vehicle taxes, state taxes, and general motor vehicle fees. These categories account for 32 percent, 34 percent, and 25 percent, respectively, of all highway user taxes and fees collected in the state. During the 1980's, Oregon's transportation budget was bolstered by a series of two-cent annual gas tax increases. At the same time, the Federal Government was increasing investment in highways and public transportation. The situation is different today. The last two Legislatures failed to increase the gas tax and federal budget cuts are reducing transportation funding available to Oregon. The State Highway Fund is further losing buying power because the gas tax is not indexed to inflation, and increased fuel efficiency of vehicles reduces overall consumption.

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

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

Oregon's basic vehicle registration fee is $15 per year regardless of the vehicle being registered. Oregon law permits local governments (counties) and governmental entities to impose local option vehicle registration fees. To date, no county has implemented this tax.

Cities have relied more than counties on transfers from their general funds to support roadway improvements. Ballot Measure 5, however, approved by the voters in 1990, reduced the range of funding and financing options available to both cities and counties. Measure 5 limited the property tax rate for purposes other than for payment of certain general obligation indebtedness to $15 per $1000 of assessed value. The measure further divided the $15 per $1000 property tax

authority into two components: $5 per thousand dedicated to the public schools; the remaining $10 dedicated to other local government units, including cities, counties, special service districts, and other non-school entities. The tax rate limitation for cities and counties went into effect in 1992. The school portion of the measure is being phased in over a five-year period beginning in FY 1992. In 1996, voters again approved a property tax limitation measure, Ballot Measure 47/50, which will further impact the ability of cities and counties to pay for needed infrastructure through historic or traditional means.

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

Given this funding environment, current funding levels and sources are not adequate to meet the transportation needs of the State, cities and counties for the next 20 years. In response to this gap between needs and funding, Governor Kitzhaber organized the Oregon Transportation Initiative to look at statewide transportation needs and to develop a program to address how these needs will be met. Through a public process led by business and civic leaders across the state, findings and recommendations on the state of transportation needs and methods to address those needs was submitted to the Governor in July 1996. A result of these recommendations was appointment of a committee to develop a legislative proposal to the 1997 Legislature regarding transportation funding. Part of that proposal identified a "base" transportation system, with a priority of maintenance, preservation and operation of a system of transportation facilities and services that ensures every Oregonian a basic level of mobility within and between communities. It is expected that other components will include efficiencies resulting from better intergovernmental cooperation (shared resources and equipment, better communication on project needs and definition), and elimination of legislative barriers to more efficient and cost-effective methods of providing transportation services. However, the 1997 Legislature failed to pass either the Governor's measures or their own.

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

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

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

Transit Funding

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

Federal Transit Administration (FTA) grants account for 69 percent of Oregon's funding for transit capital construction, which includes purchase of buses and other equipment. Federal funding for transit was increased through the flexibility provided by ISTEA. This federal legislation expired September 30, 1997 and, while new legislation is still pending, there is strong indication that current flexibility will be retained, although it will be dependent on Congressional approval to continue current programs. The largest source of transit operating revenues, $87 million, are local funds, which provide 64 percent of revenues needed for transit operations. Passenger fares cover 22 percent of Oregon's transit system operating costs. Transportation for the elderly and disabled is funded through dedication of two cents of the state cigarette tax and through federal programs.

Airport Funding

Federal grants from the Federal Aviation Administration (FAA) Airport Improvement Program (AIP) are used to support general airport infrastructure improvements, with 90 percent Federal funding and a 10 percent local match. Given the ability to adjust user charges to address inflation, revenues will likely remain stable for operation and maintenance of the airport, particularly in relation to funding issues faced by other transportation modes. and advertising

space in the terminal, and a variety of user fees - fuel flowage fees, aircraft landing fees, terminal rent fees for airlines, rental cars and the restaurant.

MALHEUR COUNTY TRANSPORTATION FUNDING

Revenues for roadway purposes for fiscal years 1991-1996 for Malheur County are summarized in Table 8-2. The majority of funds have been received from state gas tax revenues. The other sources of income have been on interest on reserves, and moneys from the State Highway fund. State Highway Fund moneys have historically been dedicated to operation and maintenance of the road-related system. There are minimal local sources of funding applied to transportation improvements within Malheur County.

In review and summary, it appears that Malheur County is continuing to keep pace with roadway maintenance needs. The County also has some reserve funds to improve a limited number of bridges in the future. However, Malheur County currently has no significant revenue programs to match needed capital improvements over the next 20 years like the Railroad and Alberta Avenue extension projects.

Table 8-2
Malheur County Revenues For Roadway Purposes

Fiscal Year:	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97
REVENUE						
Federal (ISTEA, other)	202,221	92,132	62,930	113,079	430,780	369,708
State (gas tax, veh.reg.)	1,319,260	1,556,577	1,955,171	1,551,321	1,982,676	1,510,398
Local (property tax *)	560,657	543,803	560,196	657,500	669,481	N/A
Other (interest, sales, etc.)	89,786	104,524	117,033	147,886	139,619	N/A
SUBTOTAL	2,171,924	2,297,036	2,695,330	2,469,786	3,222,556	NA
EXPENSE						
Cash Carryovers	892,759	1,013,018	1,150,098	1,646,687	1,468,765	N/A
Dedicated Reserves (equipment, bridges, projects)	498,178	591,520	714,695	625,845	649,580	N/A
TOTAL AVAILABLE	3,562,861	3,901,574	4,560,123	4,742,318	5,340,901	N/A

* only road assessment districts
N/A = not available

POTENTIAL FUTURE TRANSPORTATION FUNDING SOURCES

There are a variety of methods to generate revenue for transportation projects. Funding for transportation improvement projects are derived from three sources: federal, state and local governments. Appendix G provides a summary of federal, state and local highway, bridge, sidewalk, bicycle and transit funding programs that have typically been used in the past.

Although property tax is listed as a possible revenue source, the impacts of Ballot Measure 47/50 are likely significant, but still vague.

Recommendations for Receiving Federal and State Sources

Most Federal funding is passed through ODOT to the local jurisdictions. *A good working relationship with ODOT Region 5 planners and the Region Manager is important to have major transportation improvements included as part of the STIP when it is updated every two years.* ODOT maintains interstate and state highways - in Malheur County this includes I-84 and Highways 20, 26, 78, 95 and 201. State and federal funds administered through ODOT are the primary sources of funding for improvements to this facility. Projects that involve ODOT bridges and highways account for approximately $16 million in the next ten years and $5 million in the remaining 10 year period.

As shown in Figure 8-1, ODOT's contribution towards transportation improvements in unincorporated Malheur County is needed within the next 10 years. The two significant projects include partnering with Malheur County and the City of Ontario to extend Railroad Avenue and improve and extend 18th Street across the UPRR; and replacing obsolete bridges along state highways, particularly across the \Snake River. ODOT currently has approximately $12 million in the current STIP for the "Ontario Transportation Solution Package." A portion of this funding package should be dedicated to the Railroad Avenue/18th Street Extension (approximately $6.5 million) and the remaining should be dedicated towards the North-South Arterial (ODOT, City of Ontario and Malheur County project to be determined as part of the Ontario TSP).

ODOT should update the STIP to prioritize needed bridge improvements. Current federal and state revenue programs will likely fall short of needs in Malheur County. Hence, *Malheur County and ODOT should take an active role in representing their priorities to the Oregon State Legislature, Governor and members of the US Congress and Senate to enhance state and federal investment in Malheur County bridge infrastructure.*

As noted earlier, the 1997 Oregon Legislature failed to pass enhancements to transportation infrastructure investment. In lieu of statewide funding enhancements, Malheur County must look to local measures to fund future capacity projects.

Recommendations for Developing Local Funding Sources

The 1997 Oregon Legislature failed to adopt statewide funding program enhancements. An increase in Oregon gas tax, associated weight-mile tax, vehicle registration fees and dedicated transit funding would have helped Malheur County (significantly) meet the needs for new transportation system improvements. Without those measures, Malheur County will have to rely on enhanced local funding measures, at least until statewide funding measures are secured. T*he County should consider developing local financing to support funding the higher priority projects, to be more attractive for state and federal allocations by providing a larger local match.* Malheur County could consider any one or combination of the following financing measures:

- Local improvement district (LID)
- System development charges/traffic impact fees (SDC/TIF)
- Local/regional gasoline taxes and vehicle registration fees
- Roadway improvement levies or bonds
- Roadway maintenance/utility fees

Potential funding sources are typically judged based on a number of criteria, including:

- legal authority;
- financial capacity;
- stability;
- administrative feasibility;
- equity; and
- political acceptability.

In general recognition of these criteria, new LID's, SDC's/TIF's and roadway maintenance fees were considered but dropped as viable, local funding measures for new transportation improvement projects in the Malheur County rural areas for the following reasons:

- roadway maintenance is already funded through current road programs (statewide gas tax/vehicle registration fees and weight-mile taxes), new maintenance/utility fees could be interpreted as over- or double-taxing;
- rural development is not likely to occur at significant levels, yielding low impact fee revenues - or impact fees would need to be extremely high in order to yield significant revenue, quite possibly resulting in discouraging even the smallest of developments (as planned); and,
- LID's would be difficult to form around large county projects, placing the financial burden disproportionately in select areas instead of across the county (to all those who benefit by the projects).

Hence, the Malheur County TSP includes a more focused evaluation of local gasoline taxes, vehicle registration fees and road improvement bonds as new and viable measures to fund the Malheur County share of needed transportation system improvements. A range of funding options were investigated to ascertain the level of revenue generated based on county-wide application for each funding measure. As described separately below, each county-wide funding measure is also summarized by reporting the revenue generated for each of the County jurisdictions (assuming a revenue distribution to local jurisdictions based on future, year 2017 population).

Local Vehicle Registration Fee

Statewide vehicle registration fees are lowest in Oregon ($15/year) when compared to neighboring states, as shown in Table 8-3. Only counties can implement local vehicle registration fees in Oregon. A summary of annual and 20-year revenues from a local vehicle

registration fee in Malheur County is provided in Table 8-4. Local revenues are listed by jurisdiction, with options for both a $10 and $20 local fee in addition to the current $15/year statewide fee. County-wide (including incorporated cities) revenues from a $10-$20 local vehicle registration fee ranges from $8.4 to $16.8 million over 20 years. Revenues allocated to unincorporated Malheur County are estimated at $3.6 million over 20 years based on a $10 per year local vehicle registration fee. Regardless of the option chosen, a local vehicle registration fee would require local voter approval.

Table 8-3
Comparison of Automobile-Related Taxes
(as of March 1997)

Tax	Oregon	Washington	California	Idaho	Nevada
Gas Tax	$.24/gal*	$.23/gal	$.25/gal*	$.25/gal	$.28/gal*
Registration Fee	$15/year	$36/year	$29/year	$28/year	$33/year
Ad Valorem Tax	$0	$172/year	$148/year	$0	$78/year
Auto Sales Tax**	$0	$191/year	$191/year	$123/year	$172/year

Source: ODOT, Policy Section.
* California includes sales tax, Oregon and Nevada include local option tax.
** Prorated over eight years.

Table 8-4
Local Vehicle Registration Fee Option

Jurisdiction	Future (2017) Population	Distribution	1998 ANNUAL REVENUE Local Vehicle Registration Fee Options $10/yr	1998 ANNUAL REVENUE Local Vehicle Registration Fee Options $20/yr	20-YEAR REVENUE 1998-2017 Local Vehicle Registration Fee Options $10/yr	20-YEAR REVENUE 1998-2017 Local Vehicle Registration Fee Options $20/yr
Adrian	143	0.4%	$1,500	$2,900	$32,900	$65,700
Jordan Valley	502	1.4%	$5,100	$10,200	$115,400	$230,800
Nyssa	3,400	9.3%	$34,500	$69,100	$781,500	$1,563,000
Ontario	14,364	39.4%	$145,900	$291,800	$3,301,700	$6,603,400
Vale	2,500	6.9%	$25,400	$50,800	$574,600	$1,149,300
Unincorporated Co.	15,557	42.7%	$158,000	$316,000	$3,575,900	$7,151,800
TOTAL	**36,466**	**100.0%**	**$370,400**	**$740,800**	**$8,382,000**	**$16,764,000**

Local Gasoline Tax

Oregon's state-wide gasoline tax, as summarized in Table 8-3, is quite similar to neighboring states, and is $.01 (per gallon) lower than Idaho. Raising a Malheur County gasoline tax may introduce impacts to the Oregon/Idaho economy of gasoline sales and the revenues they generate locally. By assuming no change in the gasoline sales/revenue economy, the estimated annual and

20-year revenues from a county-wide local gasoline tax can yield significant revenues for transportation system improvements. As shown in Table 8-5, county-wide revenues over a 20-year period range from approximately $6.0 to $12.0 million based on a $.01-$.02 local gas tax (per gallon). Revenues allocated to unincorporated Malheur County range from $2.5 to $5.1 million over the next 20 years based on the same local gas tax options.

Table 8-5
Local Option Gas Tax

Jurisdiction	1996 Gallons	Future (2017) Population	Distribution	LOCAL OPTION GAS TAX: Annual Revenue $0.01/Gal	Annual Revenue $0.02/Gal	20-Year Revenue 1998-2017 $0.01/Gal	20-Year Revenue 1998-2017 $0.02/Gal
Adrian		143	0.4%	$1,200	$2,300	$23,400	$46,900
Jordan Valley		502	1.4%	$4,100	$8,200	$82,300	$164,600
Nyssa		3,400	9.3%	$27,900	$55,700	$557,500	$1,115,000
Ontario		14,364	39.4%	$117,800	$235,500	$2,355,200	$4,710,400
Vale		2,500	6.9%	$20,500	$41,000	$409,900	$819,800
Unincorporated Co.		15,557	42.7%	$127,500	$255,100	$2,550,800	$5,101,700
TOTAL	29,896,036	36,466	100.0%	$298,960	$597,921	$5,979,207	$11,958,414

Road Bond Measure

Local property taxes could be used to fund transportation improvements. Roadway capital improvements are typically funded by a serial levy that implements property taxes for a set period of time, often for a specific set or list of projects. Voter approval is required for serial levies. Since passage of Measures 5 and 47/50, property tax levies are primarily used to support General Obligation bonds that finance transportation improvements, because levies for bonded indebtedness are exempt from property tax limitations.

Table 8-6 summarizes a range of road bond options based on the rate of added bond indebtedness ranging from $.25 to $.60 per $1,000 assessed property value. The estimated 20-year revenues from county-wide bond measure options ranges from $5.5 to $13.1 million. Revenues allocated to unincorporated Malheur County range from $2.3 to $5.6.

Summary

A summary of the estimated revenues generated by the county-wide funding sources described above is provided in Table 8-7. Annual, five-year and 20-year revenues are listed in the table,

Table 8-6
Road Bond Option

Jurisdiction	Future Population	Distribution	ROAD BOND OPTIONS 20-Year Revenues* Rate per $1,000 Assessed Value $0.25	$0.30	$0.35	$0.40	$0.45	$0.50	$0.55	$0.60
Adrian	143	0.4%	$21,400	$25,700	$29,900	$34,200	$38,500	$42,800	$47,000	$51,300
Jordan Valley	502	1.4%	$75,100	$90,100	$105,100	$120,100	$135,100	$150,100	$165,200	$180,200
Nyssa	3,400	9.3%	$508,500	$610,200	$711,900	$813,500	$915,200	$1,016,900	$1,118,600	$1,220,300
Ontario	14,364	39.4%	$2,148,100	$2,577,700	$3,007,400	$3,437,000	$3,866,600	$4,296,200	$4,725,800	$5,155,500
Vale	2,500	6.9%	$373,900	$448,600	$523,400	$598,200	$673,000	$747,700	$822,500	$897,300
Uninc. Co.	15,557	42.7%	$2,326,500	$2,791,800	$3,257,100	$3,722,400	$4,187,700	$4,653,000	$5,118,400	$5,583,700
TOTAL	**36,466**	**100.0%**	**$5,453,433**	**$6,544,120**	**$7,634,806**	**$8,725,493**	**$9,816,179**	**$10,906,866**	**$11,997,553**	**$13,088,239**

*** Based on a 1996/1997 Total Assessed Valuation of $1,090,686,597.**

and were used in the process of matching the scope and timing of transportation system needs in Malheur County, with the appropriate type and mix of new funding sources. Table 8-8 summarizes the recommended funding sources (and their implementation period) which include the following:

- $.01 per Gallon, County-wide Local Gas Tax over the next 20 years;
- $10 per year, County-wide Vehicle Registration Fee over the next 20 years; and,
- $0.55 per $1,000 assessed value, Road Bond over the last 10 year period.

The county-wide local gas tax and vehicle registration fee rates, coupled with the current statewide rates, appear to be minimal when compared to other states and jurisdictions. Each measure generates significant revenue, both for the County and cities, and should be relatively stable over the 20-year lifetime of the TSP.

Currently, many of the cities and unincorporated areas of Malheur County have a number of local and county-wide programs funded through property taxes. The introduction of a new county-wide road bond might receive significant opposition within the next few years, but could be well received towards later years in the TSP time frame. To generate the remaining revenue needs within the 20-year TSP, a county-wide road bond levied at $0.55 per $1,000 assessed value over the last 10 years is needed.

Table 8-7
Estimated Revenue from Additional Funding Sources

Funding Source and Rate	ADDITIONAL REVENUE Annual	5-Year [2]	20-Year
County-Wide Local Gas Tax [1]			
$0.01 *per gallon*	$298,960	$1,494,802	$5,979,207
$0.02 *per gallon*	$597,921	$2,989,604	$11,958,414
County-Wide Vehicle Registration Fee [1]			
$10 *per year*	$370,400	$1,903,174	$8,382,000
$20 *per year*	$740,800	$3,806,349	$16,764,000
County-Wide Road Bond			
$0.25 *per $1,000 assessed value*	$272,672	$1,363,358	$5,453,433
$0.30 *per $1,000 assessed value*	$327,206	$1,636,030	$6,544,120
$0.35 *per $1,000 assessed value*	$381,740	$1,908,702	$7,634,806
$0.40 *per $1,000 assessed value*	$436,275	$2,181,373	$8,725,493

[1] Based on 20-year growth in registered vehicles, commensurate with forecasted population growth.
[2] Revenue projections for 1998-2002.

W&H PACIFIC

Table 8-8
Recommended Funding Sources

Funding Source/ Rate	ADDITIONAL REVENUE					
	Adrian	Jordan Valley	Nyssa	Ontario	Vale	Uninc. Malheur County
County-Wide Local Gas Tax - 20 Years [1]						
$0.01 *per gallon*	$23,400	$82,300	$557,500	$2,355,200	$409,900	$2,550,800
County-Wide Vehicle Registration Fee - 20 Years [1]						
$10 *per year*	$32,900	$115,400	$781,500	$3,301,700	$574,600	$3,575,900
County-Wide Road Bond - 10 Years (2008-2017)						
$0.55 *per $1,000 assessed value*	$23,500	$82,600	$559,300	$2,362,900	$411,250	$2,559,200
Total Revenue	$79,800	$280,300	$1,898,300	$8,019,800	$1,395,750	$8,685,900
Malheur County Transportation System Needs (unincorporated area)						*$8,620,000*

[1] Based on 20-year growth in registered vehicles, commensurate with forecasted population growth.

The Malheur County TSP Financial Plan, summarized previously in Table 8-1, includes the proposed local revenue sources utilizing the recommended local gas tax, vehicle registration fee and road bond funding measures. As only one scenario among many, these financing measures together provide the level of local funding to pay for needed transportation system improvements in rural Malheur County. They also raise significant revenues for transportation system improvements within each of the municipalities.

The diversification of residential, commercial/industrial and agricultural activities in Malheur County makes it difficult to translate the real, added cost of new transportation funding measures. The valuation of homes and industry vary greatly across the County, as do the current property tax levels. For the purposes of illustrating the impact of these new funding measures a simplified summary is provided based on a typical[1] household (dwelling) in Malheur Country. Table 8-9 summarizes the added expenses for a "typical" dwelling to pay for needed transportation system improvements in the unincorporated areas of Malheur County through these measures. Beginning in 1998, each typical dwelling would pay $42.22 per year in added local gas tax and vehicle registration fees. Beginning in 2008, the 10-year Road Bond would add $66.00 in local property tax to the local gas tax and vehicle registration fees, totaling $108.22 in annual expense to the typical dwelling.

[1] Single-family dwelling assessed at $120,000, with 2 automobiles accumulating 20,000 miles per year at 18 miles per gallon.

Table 8-9
Added Cost of New Transportation Funding Measures

New, County-Wide Transportation Revenue Measures	Added Annual Expense (1997 dollars) for Typical Dwelling: in 1998	in 2008
20-Year Local Gas Tax ($.01/gal)	$22.22	$22.22
20-Year Local Vehicle Registration Fee ($10/year)	$20.00	$22.00
10-Year[2] Road Bond ($.55 per $1,000 assessed value)		$66.00
TOTAL	$42.22	$108.22

Additional evaluation of the economic impact of any new tax and bonding measures, particularly a local gasoline tax should be completed before a public vote and eventual implementation (assuming voter approval). Furthermore, the introduction of new local funding measures will require significant public support. Those measures adopted by the County will require definition of local programs to administer the fee and/or tax collection programs.

Malheur County should continue to explore state and federal funding opportunities to meet its long-term transportation needs. State funding is available for funding bike lane modifications, with a state requirement that one percent of the State Highway Fund be spent for the development of pedestrian and bikeways. Federal ISTEA programs include the Surface Transportation Program that provides funds for any road not classified as a local or rural minor collector. The Transportation Enhancement Program provides funds for enhancing pedestrian and bicycle facilities, landscaping and other scenic beautification, and improvements to scenic or historic sites. This program may be a source of funds for projects that include adding bicycle lanes, sidewalks and off-road pathways. The Highway Enhancement Program provides funds for safety improvement projects on public roads. All of these programs are coordinated through the ODOT Region 5 staff and must be included in the STIP.

[2] 2008-2017.

APPENDIX G

DRAFT TSP COMMENTS

STATE OF OREGON

Department of Transportation
Planning Section
Mill Creek Office Park
555 13th Street NE
Salem, Oregon 97310
(503) 986-4112 FAX (503) 986-4174

INTEROFFICE MEMO

File Code: PLA 19

Date: February 23, 1998

TO: John Preston
Region 5 Environmental/Planning

FROM: Harlan Nale, P.E., Transportation Analysis
Transportation Analysis Unit

SUBJECT: Review of Draft to City of Vale Transportation System Plan

First to respond to the comment from Andy Mortensen of W&H Pacific in his letter to Mike Gillett, dated January 23, 1998 (see attached), regarding a straight line forecast for future traffic volumes based on PTR data on Highway 20/26 at Cario Junction. As per the Transportation System Planning Guidelines, a Level 1 - trending forecast should be adequate for a city under 2,500 population, such as Vale. In line with that, and our review of the TSP, we do not have a problem with the proposed method, with the following reservations:

- There aren't any large employers expected in Vale's 20-year future that would adversely effect the trend forecast.
- There is no anticipated growth in neighboring areas that would cause a rapid increase (greater than the trend line) in traffic volumes.

The remaining comments are from the review of the draft City of Vale Transportation System Plan. Here are those comments:

Page 2-10: Table 2-3
Comment: The heavily outlined cells represent the wrong category of LOS standards for the City of Vale. The correct category could be either "Urban Parts of Other Cities" or "Urbanizing Areas and Rural Development Centers."

Page 4-10: Table 4-2
Comment: All of the LOS calculations are "delay" based. What is the LOS and Volume/Capacity (v/c) ratio for each intersection using "Volume/Capacity" methodologies? What year does this table represent?

Page 5-3: "The ATR on Highway 20/26 is located XXX miles east of Vale."
Comment: The Cairo Junction ATR is located approximately 11.34 miles east of Vale or 0.3 miles west of Cairo Junction.

Page 5-5: Figure 5-4
Comment: Figure 5-4 should be renamed Figure 5-5.

Page 5-5: Figure 5-5
Comment: This figure implies there are fewer trucks at the Cairo Junction ATR than at either the Juntura ATR or the Basque ATR. The Cairo Junction ATR has approximately twice as many trucks as either of the other two ATRs does. The other two ATRs have a higher percentage of trucks. However, the ADT of the Juntura ATR is approximately 4.5 times greater than the ADT at either one of the other two ATRs.

Page 6-6: "In Vale, an STA is recommended on Highway 20 ...". "Within the STA, access standards should allow intersection spacing at a minimum of 250 feet and driveway spacing at a minimum of 100 feet."
Comment: Locating an STA within the City of Vale can be appropriate. Special Transportation Areas (STAs) are compact areas in which growth management considerations outweigh standard design hour operating criteria. STAs include central business districts, transit-oriented development areas and other activity or business centers oriented to non-auto (principally pedestrian) travel. They do not apply to whole cities or strip development areas along individual highway corridor. If an STA is located in the City of Vale, it should be located in the downtown area where the storefronts are and should be only a few blocks in length.

Comment: We recommend that you drop all references to a specific spacing standard for approach roads within the STA. Ideally, there should be additional public street connections, and very few approach roads for private use which is usually the case where development is dense and adjacent to the sidewalks.

Comment: There should be a discussion of the Level of Importance of the state highways within the Transportation System Plan area. An access management strategy needs to be identified that is consistent with the function of the highway that can be implemented over time.

Comment: If current land holding patterns prevent the ability to achieve the spacing standards as identified in the 1991 Oregon Highway Plan, then wording should establish ODOT's requirement to provide access where a right of access exists, and where the property would be otherwise landlocked.

Comment: This discussion should also include techniques to consider such as joint use approach roads, construction of parallel and interconnecting city streets, well designed frontage roads, etc.

Comment: Care should be exercised through the document to not "legalize" existing road approaches that are not legal. Examples of illegal road approaches include road approaches constructed sine 1949 that are not permitted, accesses where no rights of access exist and road approaches that are wider than allowed by rule or established on the permit.

Page 7-17: "A cursory review of accidents reported at these locations indicate the most frequent causes to be improper movement through the intersection and failure to obey traffic a control device."
Comment: Please reverse the words "traffic and a".

Page 8-12: Pages 8-12 through 8-15.
Comment: Missing.

Appendices: Chapter 8.
Comment: Chapter 8 (pages 8-1 through 8-15) is placed after the appendices.

HN:kaj

Attachment

cc: Erik East

GENERAL COMMENT RESPONSE
Concur with finding to implement Level 1 (straight line forecast) analysis to estimate future traffic in Vale as part of TSP.

COMMENT 1 RESPONSE
Comments (p 2-10, Table 2-3) regarding LOS standards noted and changes made accordingly.

COMMENT 2 RESPONSE
Comments (Table 4-2) regarding LOS calculation noted. All intersections in Vale are unsignalized. TSP project employed 1994 HCM methods for LOS analysis at unsignalized intersections, and reported average delay per vehicle characteristics and LOS grade (a-f) are indicated. Volume-to-capacity indicators are not reported using the standard HCM methods. The scope and contract for the Malheur County TSP (including Vale, Jordan Valley and Adrian TSPs) does not include and define specific tools that are used to measure LOS. Should ODOT require the use of SIGCAP and UNSIG10, the Vale TSP analysis can be recalculated. This activity would be an additional expense to the project and would require additional funding outside the current contract. Since all Vale intersections operate at LOS B or better (and C or better in the future), well within the acceptable LOS range policy (C or better), we suggest that no additional contract work be undertaken to generate v/c ratios for unsignalized intersections.

Table 4-2 represents 1997 PM peak hour LOS, and changes to the table title are made accordingly.

COMMENT 3 RESPONSE
Comment noted, changes made accordingly.

COMMENT 4 RESPONSE
Comment noted, changes to figure number referencing made accordingly.

COMMENT 5 RESPONSE
Comment noted, changes to figure and text description of modal mix (truck traffic) made accordingly.

COMMENT 6 RESPONSE
Comment noted, changes made accordingly.

COMMENT 7 RESPONSE
Comment noted, changes made accordingly.

COMMENT 8 RESPONSE
Comment noted, no changes made (see Comment #9 below).

COMMENT 9 RESPONSE
Comment noted, Appendix includes the Financial Plan for the Malheur County TSP (pages 8-1 through 8-15). No changes to final TSP made.

Feb. 4, 1998

Mr. Andrew Mortensen
W & H Pacific
8405 SW Nimbus Ave
Beaverton OR 97008

Dear Sir;

I've looked over your Transportation Plan for the City of Vale and have a few comments and questions for you.

What is the relationship between this plan and the proposed LID for the north part of Vale?

The private home owners that got caught in the LID, with out knowing what was happening until it was almost too late, are working at stopping its implementation. We have got to court once and may have to again if the plan continues as proposed. We are concerned about the way the project was started and how they plan to soak the private home owners for the improvements that will only benefit the commercial interests on the north side.

We do not want the 14th street crossing closed and see no need for the 17th street crossing, especially since your plan includes a way to fix the Graham Blvd and Highway 20 intersection. We have always thought this was the way to go.

On page 4-6, of your document you only list one bridge across the Malheur River for highway 20. There are actually two, one for each direction of traffic.

On page 6-1 and 6-12, you mention increasing the length of runway at Miller Memorial airport. I think there is more of a need in getting the existing runway paved. There are a number of flyers who would use the airport of it were paved, instead of the Ontario Airport. What would be done to prevent flyers from using the north end of the runway if it is increased to the south?

Page 6-2, you mention opening Yakima from Hope to Barkley. During the discussion on the LID, this street opening was eliminated. Also if the 17th street crossing was eliminated you would not need to fix 17th street.

Page 6-13, the Ellsworth to Yakima street would be going through industrial area as it is now being developed.

Finally just a bit of information your surveyors missed. There is sidewalk on most of the west side of 16th street between Hope and Oregon. I put it in front of my house several years ago.

Sincerely yours,

Tom Gray

Tom Gray
Box 705
533 N 16th St
Vale OR 97918

APPENDIX H

CITY OF VALE

TRANSPORTATION SYSTEM PLAN ANALYSIS AND RECOMMENDATIONS FOR COMPREHENSIVE PLAN AND DEVELOPMENT CODE AMENDMENTS

I. TSP ELEMENTS

1. Rule Requirements

OAR 660-12-020 (2)(b)
TSP shall include a road plan including a functional classification consistent with state and regional TSPs. Road standards for local streets to:

1) Address extensions of existing streets
2) Connections to existing/planned arterials and collectors
3) Connections to neighborhood destinations

OAR 660-12-020 (2)(c)
TSP shall include a description of public transportation services for the disadvantaged including:

1) identification of inadequacies
2) description of intercity bus and passenger rail system

OAR 660-12-020 (2)(d)
The TSP shall include a bicycle and pedestrian plan.

OAR 660-12-045(6)
Bicycle and pedestrian plans must include improvements that connect neighborhood activity centers (schools, shopping, etc.).

OAR 660-12-020 (2)(e)
The TSP shall include air, rail, water and pipeline transportation plans.

2. Analysis

COMPREHENSIVE PLAN:

The Vale Comprehensive Plan (1992) addresses Transportation in the Public Facilities and Services Section (Section 9), specifically on pages 36 to 37. This section provides a brief description of the existing transportation system, and the capability of the system to handle the traffic.

3. Recommendations

Make the following changes in Section 9 to the Transportation Policy Objectives on page 39: (Additions are shown with underline, deletions with ~~strikethrough~~)

7. The City ofVale Transportation System Plan, 1998 (TSP) is an element of the City of Vale Comprehensive Plan. All development proposals, plan amendments or zone changes shall conform to the adopted TSP.

8. All City street activities (except those concerning state highways) will comply with the City of Vale road design, construction and improvement standards as adopted within the Vale Transportation System Plan (TSP). In addition, all development proposals, plan amendments, or zone changes shall conform with the adopted TSP.

9. Amendments to the comprehensive plan and land use regulations which ***significantly affect*** a transportation facility shall assure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. A plan or land use regulation amendment ***significantly affects*** a transportation facility if it:

   a. Changes the functional classification of an existing or planned transportation facility;

   b. Changes standards implementing a functional classification system;

   c. Allows types or levels of land use that would result in levels of travel or access that are inconsistent with the functional classification of a transportation facility or;

   d. Would reduce the level of service of the facility below the minimum acceptable level identified in the Transportation System Plan.

10. Through the implementation of the Zoning Regulations (Title VIII) and Subdivision Ordinance (Title IX) the City shall endeavor to develop a transportation system that enhances livability and accommodates growth and development through careful planning and management of existing and future transportation facilities. Plans for new transportation facilities and extensions of existing facilities will identify (a) street connections to existing and planned arterials and collectors, including interconnection with neighborhood destinations; (b) and conformance with bicycle and pedestrian plans.

11. Plans for new transportation facilities will identify impacts on: (a) local land use patterns; (b) the local economy; (c) environmental quality; (d) energy use and

resources; (e) existing transportation systems; (f) fiscal resources; and (g) natural resources.

12. The City shall endeavor to increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and transit) through improved access, safety and service.

LAND DEVELOPMENT CODE:

No code amendments recommended at this time to meet the above sections of the TPR.

II. TSP PREPARATION

1. Rule Requirements

OAR 660-12-015 (4)
The TSP prepared by the City must be adopted as part of their Comprehensive Plan

OAR 660-12-015 (5)
Preparation of the TSP will be coordinated with state and federal agencies and other jurisdictions.

OAR 660-12-015 (6)
Transportation airport and port districts must participate in preparation of the TSP and adopt plans for the transportation facilities they maintain consistent with the TSP.

2. Analysis

The TSP shall be adopted as part of the City's Comprehensive Plan. The development of the TSP is being coordinated with the County TSP and ODOT.

3. Recommendations

COMPREHENSIVE PLAN:

See recommendation for additions above. The specific text changes included in this Appendix are included in a separate document provided to the City to provide clear documentation of the changes to their plans and ordinances.

LAND DEVELOPMENT CODE:

No code amendments recommended at this time to meet the above sections of the TPR.

III. PROTECTION OF TRANSPORTATION FACILITIES/IMPROVEMENTS ON ROAD SYSTEM

1. Rule Requirements

OAR 660-12-045(2)
Local governments shall adopt regulations/policies to protect transportation facilities for the following topics:

1) access management standards
2) future operation of roads and transit corridors (if applicable)
3) control of land use around airports
4) coordinated review of transportation facility projects, including notice to ODOT of certain actions
5) land use, density should be consistent with road classifications in TSP

OAR 660-12-045(3)
Local governments must amend subdivision regulations in accordance with the following directions:

1) provide bike parking in multi-family developments 4 units or more, and new commercial and industrial development
2) provision of pedestrian connections from new subdivisions/multi-family development to neighborhood activity centers
3) off-site road improvements must accommodate bicycle and pedestrian facilities on arterials and major collectors

OAR 660-12-045 (7)
Local governments shall provide street standards that minimize right-of-way widths and pavement width

2. Analysis

Much of these sections of the TPR are aimed at urban areas larger than Vale, Therefore, the following analyses note where the TPR requirements do not apply.

OAR 660-12-045(2)

1) There are no standards for access management in the Comprehensive Plan, Zoning Code or Subdivision Ordinance. The TSP (Chapter 7) recommends Access Management standards for access onto Highways 20 and 26, and local streets. These are recommended for inclusion in the Zoning Ordinance below.

The TSP designates downtown Vale as a Special Transportation Area (STA), with appropriate exceptions to access management standards, which will also be included in the code revisions.

2) Future operation of roads is discussed in the Comprehensive Plan's Transportation Policies, additional language is recommended which will aid in clarifying the Comprehensive Plan in regard to this requirement. Transit corridors do not apply to Vale since there is no public transportation system.

3) Land uses and density provisions are consistent with the street classification system recommended in the TSP. No changes are needed.

OAR 660-12-045(3)

1) There are no references to bicycle parking requirements in the existing comprehensive plan or development standards. New language to accommodate bicycle facilities is proposed.

2) Provisions for pedestrian connections are generally addressed in the City's Code under Title IX (9.6.4). Additional guidelines and development ordinances are suggested below.

3) The street standards for Vale are shown in the TSP in Figure 7-2, which accommodates bicycle and pedestrian activity. The street cross sections will be incorporated into the Subdivision Ordinance (Title IX).

OAR 660-12-045(7)

New local street standards are provided in the TSP in Figure 7-2 with a provision for 35 to 60-foot right-of-way on local streets and collectors. These cross sections provides for auto, bicycle and pedestrian traffic and minimizes the right-of-way width. As mentioned above, these standards will be incorporated into the Subdivision Ordinance (Title IX).

3. Recommendations

OAR 660-12-045(2)

COMPREHENSIVE PLAN:

Add the following text to Transportation Policy Objectives on page 39:

13. Access control onto State Highways will be guided by Access Management guidelines as developed in the Transportation System Plan and instituted in the Subdivision and Zoning Ordinances. In the Downtown core of Vale, Access Management standards may be modified within the Special Transportation Area (STA) to provide for a more pedestrian friendly atmosphere.

14. The City shall protect the function of existing and planned roadways as identified in the TSP. Such protection shall occur through the application of appropriate land use regulations.

15. The City shall coordinate with the Oregon Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Transportation System Plan and comprehensive plan.

LAND DEVELOPMENT CODE:

Add the following text as Chapter 16 to Title VIII:

CHAPTER 16: TRANSPORTATION IMPACTS OF DEVELOPMENTS

8.16.1
PURPOSE

To institute the provision of the Vale Transportation System Plan (1998) (TSP) and meet the requirements of the Transportation Planning Rule as set forth in Oregon Statutes.

8.16.2
ACCESS MANAGEMENT PLAN

The 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 Vale 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.

It should be noted that existing developments and 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, or a major construction project is begun on the street.

The following provides general access management guidelines for each of the street classifications that join onto the State Highway. General access management techniques include restricting the spacing of private driveways based on the type of development.

8.16.3
STATE HIGHWAYS

(A) Future developments on state highways (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the 1991 Oregon Highway Plan Level of Importance (LOI) and Access Management policies and standards. Within urban or urbanizing areas, a new development will need to maintain an 500-foot (*Category 4 highways*)[1] spacing (centerline-to-centerline) between either existing private or public access points on both sides of the roadway and to either side of the proposed access point. Additional property frontage along the state highway does not guarantee that additional approach roads will be allowed.

(B) Proposed land use actions that do not comply with the designated access spacing policy will be required to apply for an access variance from the City of Vale and/or ODOT. In addition, according to the 1991 OHP, the impact in traffic generation from proposed land uses must allow an LOS "C" to be maintained for *Category 4* segments within the development's influence area along the highway. The influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property-line of the development (whichever is greater). Construction standards for access on all roadways within the City of Vale roadway system are listed in the Table below.

City of Vale
Access Management Guidelines for Streets

Functional Classification	Intersection			
	Public Road		Private Drive	
	Intersection Type	Spacing	Intersection Type	Spacing
Arterial	at-grade	¼ mile	Left/Right Turns	500 feet
Collector	at-grade	¼ mile	Left/Right Turns	75-100 feet
Local	at-grade	400 feet	Left/Right Turns	Access to each lot.

[1] Highways 20 and 26 through Vale are classified as a Category 4 statewide highway in accordance with the Oregon Highway Plan (1991). Refer to Table 2-5, Access Management Classification System.

(C) The existing *legal* driveway connections, traffic intersection spacings and other accesses to the state highway system are not required to meet the spacing standards of the assigned category immediately upon adoption of this access management plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, ODOT is required to ensure the all safety and capacity issues are addressed.

(D) A conditional access permit may be issued by ODOT and the City of Vale for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards. These conditions would 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.

8.16.4 SPECIAL TRANSPORTATION AREAS

(A) While the access management policies described above can be applied to some portions of Highways 20 and 26 within the Vale city limits, in the developed, downtown core, these spacing distances may be excessive. Shorter block lengths and a well-developed grid system are important to small cities, along with convenient and safe pedestrian facilities. To address this issue, the Oregon Highway Plan allows for the designation of Special Transportation Area (STA) for compact areas in which growth management considerations outweigh the need to limit access.

(B) In Vale, the City adopted an STA on portions of Highways 20 and 26. The designation of an STA in Vale is intended to accommodate the existing public street spacing and compact development pattern, including private driveways. Specific access management conditions for the designated STA on Highways 20 and 26 in Vale include:

1. Within the STA the minimum spacing for public road approaches is the current city block spacing. Public road connections are preferred over private driveways, and in STA's driveways are discouraged. ODOT will work with the City of Vale and each property owner regarding access issues based on safety, alternative access, and the opportunity of combining access in the future.

2. Where a right to access exists, access will be allowed to property at less than the designated spacing standard only if that property does not have reasonable alternative access. If possible, other options should be considered, such as joint access.

3. Where the right to access exists, the number of approach roads (driveways) to a single property shall be limited to one. More than one approach road may be considered if, in the judgment of the ODOT Access Management Coordinator or the District Manager, additional approach roads are necessary to accommodate and service such traffic as may be reasonably anticipated commensurate with driver expectancy and the safety of the traveling public.

4. Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Minimum sight distance to achieve stopping sight distance on wet pavement as defined by AASHTO is required for all approach roads. Additionally, approach roads are not allowed at points which interfere with the placement and proper functioning of traffic control signs, signals, lighting or other devices that affect traffic operation.

5. If a property is landlocked (no reasonable alternative access exists), if an approach road cannot be safely constructed and operated, and if all other alternatives are explored and rejected, ODOT must purchase the property. (Note, if a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT has no responsibility for purchasing the property.)

OAR 660-12-045(2)

COMPREHENSIVE PLAN:

No plan amendments recommended at this time to meet the above sections of the TPR.

LAND DEVELOPMENT CODE:

Add the following text to Chapter 16 of Title VIII:

8.16.5
TRAFFIC IMPACT ANALYSIS
For proposed developments that are likely to generate more than 400 average daily motor vehicle trips (ADT's), the applicant shall provide adequate information, such as a traffic impact study or traffic counts, to demonstrate the level of impact to the surrounding street system. The developer shall be required to mitigate impacts attributable to the project. The determination of impact or effect and the scope of the impact study should be coordinated with the provider of the affected transportation facility.

OAR 660-12-045(3)

COMPREHENSIVE PLAN:

Add the following text to the Transportation Policy Objectives on page 39.

16. It is the policy of the City to plan and develop a network of streets, access ways, and other improvements, including bikeways and safe street crossings where applicable to promote safe bicycle and pedestrian opportunities.

17. The City shall require streets and access ways where appropriate to provide direct and convenient access to neighborhood activity centers.

18. In areas of new development the City shall investigate the existing and future opportunities for bicycle and pedestrian access ways. Many existing access ways such as user trails established by school children distinguish areas of need and should be incorporated into the transportation system.

19. Bikeways and pedestrian access way should help to connect to regional travel routes.

20. Bikeways and pedestrian access ways shall be designed and constructed to minimize potential conflicts between transportation modes. Design and

construction of such facilities shall follow the guidelines established by the Oregon Bicycle and Pedestrian Plan.

21. Maintain and repair of existing bikeways and pedestrian access ways (including sidewalks) shall be given equal priority to the maintenance and repair of motor vehicle facilities.

LAND DEVELOPMENT CODE:

Amend the City of Vale Zoning Ordinance (Title VIII) by adding the following text to Chapter 6, as new section 8.6.4:

8.6.4
GENERAL PROVISIONS - BICYCLE PARKING:

Bicycle parking and storage provisions are intended to provide bicycle parking facilities to accommodate bicycle travel and encourage additional bicycle trips. Bicycle parking facilities shall be either lockable enclosures in which the bicycle is stored or stationary racks which accommodate bicyclist's locks securing the frame and both wheels. Bicycle racks or lockers shall be securely anchored to the surface or to a structure.

Bicycle parking shall be separated from motor vehicle parking and maneuvering areas by a barrier or sufficient distance to prevent damage to parked bicycles.

New multi-family, commercial or public facility construction that requires City review should bring the property into conformance with the Bicycle Parking Standards. For building expansions, the additional required bicycle parking improvements shall be related to the expansion only.

Fractional numbers of spaces shall be rounded up to the next whole space.
For facilities with multiple uses (such as commercial center), the bicycle parking requirements shall be calculated by using the total number of motor vehicle parking spaces for the entire development and may be clustered in one or several locations.

Bicycle parking shall have direct access to both the public right-of-way and to a main entrance of the principal use. Bicycle parking may also be provided inside a building in suitable, secure and accessible locations.

(A) *Bicycle Parking Standards:*

It is unlikely that there will be multi-family construction in Vale, but in the event that there is such development, the following standards are suggested:

Multi-Family Residences. Every residential use of four (4) or more dwelling units shall provide at least one bicycle parking space for each unit.

Parking Lots. All new public and commercial parking lots shall provide a minimum of one bicycle parking space for every 10 motor vehicle parking spaces.

Rural Schools, Service Centers, and Industrial Parks. Bicycle parking shall be provided at a rate of 10% of the required parking spaces for the development. A minimum of two bicycle parking spaces per use shall be required.

(B) *Pedestrian Walkway Connections in Multi-Family Developments:*

If applicable, a safe, convenient and direct pedestrian walkway shall connect all building entrances with pedestrian access to walkways, sidewalks, multi-use paths, alleyways, or any other pedestrian connection in order to accommodate access to neighborhood activity centers (schools, parks, shopping areas, etc.)

(C) *Pedestrian Walkway Design Standards:*

Pedestrian Walkways shall be:

1. At least five feet of impervious surface in width, except walkways bordering parking spaces which shall be at least seven feet wide unless concrete bumpers, bollards or curbing and landscaping or other similar improvements are provided which prevent parked vehicles from obstructing the walkway.

(D) *Exceptions to Pedestrian Walkway Standards:*

A required walkway or walkway connection need not be provided where an alternate route of travel is reasonably direct.

OAR 660-12-045(7)

COMPREHENSIVE PLAN:

No plan amendments recommended at this time to meet the above sections of the TPR.

LAND DEVELOPMENT CODE:

The street standards recommended in the Vale TSP (Figure 7-2), once adopted as part of the Comprehensive Plan, should be referenced directly by the existing Subdivision Ordinance (Title IX). For easy reference, Figure 7-2 from the Vale TSP should be inserted directly into the Vale Subdivision Ordinance as Section 9.6.2 (O). No additional policies or ordinance are required at this time to meet the above sections of the TPR

IV. COORDINATION OF LAND USE REVIEWS AND DECISIONS/PLAN AND LAND USE AMENDMENTS

1. Rule Requirements

OAR 660-12-045(2)(f)
Local government must notify ODOT of following land use actions:

1) Land use actions requiring a public hearing
2) Subdivisions and partitions
3) Applications that affect private access to roads
4) Applications within airport overlay districts

OAR 660-12-060
Amendments to comprehensive plans that significantly affect a transportation facility shall assure that allowed land uses are consistent with identified function, capacity and level of service on that road.

OAR 660-12-025
Findings of compliance with applicable statewide planning goals and acknowledged comprehensive plan policies shall be developed with the adoption of the TSP.

2. Analysis

OAR 660-12-045(2)(f)

The Comprehensive Plan contains language in regard to coordination with ODOT for access to state highways and applicable road improvement and maintenance issues. Further refinement of the notification procedure will clarify compliance with this requirement.

OAR 660-12-060

Current policies include language which refers to development in general, not specifying comprehensive plan amendments which affect transportation facilities. Additional policy language will clarify compliance with this requirement.

OAR 660-12-025

Appropriate statewide planning goals are addressed within the TSP.

3. **Recommendations**

OAR 660-12-045(2)(f)

COMPREHENSIVE PLAN:

Add the following to Section 10 (Planning Procedures):

4A. The City shall notify the Oregon Department of Transportation and Malheur County in regard to land use actions requiring a public hearing, land use applications for land division, development applications which affect private access to roads, and all development applications which occur within Airport Overlay Zones.

LAND DEVELOPMENT CODE:

No code amendments recommended at this time to meet the above sections of the TPR.

OAR 660-12-060

COMPREHENSIVE PLAN:

Add the following to Section 10 (Planning Procedures):

2A. The City shall review all proposed Comprehensive Plan Amendments which significantly affect transportation facilities to assure that allowed land uses are consistent with identified function, capacity and level of service.

LAND DEVELOPMENT CODE:

No code amendments recommended at this time to meet the above sections of the TPR.

V. DETERMINATION OF TRANSPORTATION NEED

1. Rule Requirements

OAR 660-12-030(1)
The TSP should identify the following transportation needs:

1) state, regional and local
2) needs of the transportation disadvantaged
3) freight movement for industrial and commercial uses

OAR 660-12-030(2) and (3)
City TSPs shall use the state and regional (county) TSPs for information on state and regional needs. Within UGBs, local transportation needs are based on population and employment forecasts for 20 years

2. Analysis

Current transportation policies are based on out-of-date state and regional information and needs. Several chapters within the TSP (2, 3, 4, and 5) include updated data and information, which is utilized in producing policies and recommendations. Additional language is recommended which will aid in clarifying the Comprehensive Plan in regard to this requirement.

3. Recommendations

COMPREHENSIVE PLAN:

Add the following to Section 10 (Planning Procedures):

2B. City Council will periodically review the city's, county's and state's transportation needs, and review the transportation element of the comprehensive plan every five years (or whenever a more urgent need exists), and supplement the Comprehensive Plan as needed.

LAND DEVELOPMENT CODE:

No code amendments recommended at this time to meet the above sections of the TPR.

VI. EVALUATION AND SELECTION OF TRANSPORTATION SYSTEM ALTERNATIVES

1. Rule Requirements

OAR 660-12-035(1)
The following alternatives shall be analyzed in the TSP:

1) improvements to existing facilities
2) new facilities
3) system management
4) demand management measures
5) no build alternative

OAR 660-12-035(3)
Standards for evaluation include:

1) transportation system shall support urban and rural development by providing transportation system that will serve the land uses identified in the comprehensive plan;
2) transportation system shall be consistent with state and federal protection of air, land and water quality measures;
3) transportation system shall minimize adverse economic, social, environmental and energy consequences;
4) the transportation system shall minimize conflicts between modes;
5) the transportation system shall avoid reliance on one mode of travel and reduce reliance on the automobile.

OAR 660-12-035(8)
Where existing and committed transportation facilities can adequately serve land uses in the acknowledged comprehensive plan, local governments are not required to evaluate alternatives (above).

2. Analysis

The existing and committed transportation facilities are deemed adequate to serve land uses in the acknowledged Vale Comprehensive Plan. Hence, no alternatives analyses within the TSP, nor supporting Comprehensive Plan policies of ordinances are required.

3. Recommendations

Not Applicable.

REVISED GOAL 12: TRANSPORTATION POLICIES (AT A GLANCE) VALE COMPREHENSIVE PLAN

Section 9: Public Facilities and Services, Transportation Policies and Objectives.

7. The Vale Transportation System Plan, 1998 (TSP) is an element of the City of Vale Comprehensive Plan. All development proposals, plan amendments or zone changes shall conform to the adopted TSP.

8. All City street activities (except those concerning state highways) will comply with the City of Vale road design, construction and improvement standards as adopted within the Vale Transportation System Plan (TSP). In addition, all development proposals, plan amendments, or zone changes shall conform with the adopted TSP.

9. Amendments to the comprehensive plan and land use regulations which ***significantly affect*** a transportation facility shall assure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the Transportation System Plan. A plan or land use regulation amendment ***significantly affects*** a transportation facility if it:

   a. Changes the functional classification of an existing or planned transportation facility;

   b. Changes standards implementing a functional classification system;

   c. Allows types or levels of land use that would result in levels of travel or access that are inconsistent with the functional classification of a transportation facility or;

   d. Would reduce the level of service of the facility below the minimum acceptable level identified in the Transportation System Plan.

10. Through the implementation of the Subdivision Regulations (Ordinance #92) and Zoning Regulations (Ordinance #91) the City shall endeavor to develop a transportation system that enhances livability and accommodates growth and development through careful planning and management of existing and future transportation facilities. Plans for new transportation facilities and extensions of existing facilities will identify (a) street connections to existing and planned arterials and collectors, including interconnection with neighborhood destinations; (b) and conformance with bicycle and pedestrian plans.

11. Plans for new transportation facilities will identify impacts on: (a) local land use patterns; (b) the local economy; (c) environmental quality; (d) energy use and resources; (e) existing transportation systems; (f) fiscal resources; and (g) natural resources.

12. The City shall endeavor to increase the use of alternative modes of transportation (walking, bicycling, rideshare/carpooling, and transit) through improved access, safety and service.

13. Access control onto State Highways will be guided by Access Management guidelines as developed in the Transportation System Plan and instituted in the Subdivision and Zoning Ordinances. In the Downtown core of Vale, Access Management standards may be modified within the Special Transportation Area (STA) to provide for a more pedestrian friendly atmosphere.

14. The City shall protect the function of existing and planned roadways as identified in the TSP. Such protection shall occur through the application of appropriate land use regulations.

15. The City shall coordinate with the Oregon Department of Transportation to implement the highway improvements listed in the Statewide Transportation Improvement Program (STIP) that are consistent with the Transportation System Plan and comprehensive plan.

16. It is the policy of the City to plan and develop a network of streets, access ways, and other improvements, including bikeways and safe street crossings where applicable to promote safe bicycle and pedestrian opportunities.

17. The City shall require streets and access ways where appropriate to provide direct and convenient access to neighborhood activity centers.

18. In areas of new development the City shall investigate the existing and future opportunities for bicycle and pedestrian access ways. Many existing access ways such as user trails established by school children distinguish areas of need and should be incorporated into the transportation system.

19. Bikeways and pedestrian access way should help to connect to regional travel routes.

20. Bikeways and pedestrian access ways shall be designed and constructed to minimize potential conflicts between transportation modes. Design and

construction of such facilities shall follow the guidelines established by the Oregon Bicycle and Pedestrian Plan.

21. Maintain and repair of existing bikeways and pedestrian access ways (including sidewalks) shall be given equal priority to the maintenance and repair of motor vehicle facilities.

Section 10: Planning Procedures

4A. The City shall notify the Oregon Department of Transportation and Malheur County in regard to land use actions requiring a public hearing, land use applications for land division, development applications which affect private access to roads, and all development applications which occur within Airport Overlay Zones.

2A. The City shall review all proposed Comprehensive Plan Amendments which significantly affect transportation facilities to assure that allowed land uses are consistent with identified function, capacity and level of service.

2B. The City Council will periodically review the city's, county's and state's transportation needs, and review the transportation element of the comprehensive plan every five years (or whenever a more urgent need exists), and supplement the Comprehensive Plan as needed.

VALE DEVELOPMENT ORDINANCE REVISIONS AMENDMENTS

Add the following text as Chapter 16 to Title VIII:

CHAPTER 16: TRANSPORTATION IMPACTS OF DEVELOPMENTS

8.16.1 PURPOSE

To institute the provision of the Vale Transportation System Plan (1998) (TSP) and meet the requirements of the Transportation Planning Rule as set forth in Oregon Statutes.

8.16.2 ACCESS MANAGEMENT PLAN

The 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 Vale 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.

It should be noted that existing developments and 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, or a major construction project is begun on the street.

The following provides general access management guidelines for each of the street classifications that join onto the State Highway. General access management techniques include restricting the spacing of private driveways based on the type of development.

8.16.3 STATE HIGHWAYS

(A) Future developments on state highways (zone changes, comprehensive plan amendments, redevelopment, and/or new development) will be required to meet the 1991 Oregon Highway Plan Level of Importance (LOI) and Access Management policies and standards. Within urban or urbanizing areas, a new development will need to maintain an 500-foot (*Category 4 highways*)[2] spacing

[2] Highways 20 and 26 through Vale are classified as a Category 4 statewide highway in accordance with the Oregon Highway Plan (1991). Refer to Table 2-5, Access Management Classification System.

(centerline-to-centerline) between either existing private or public access points on both sides of the roadway and to either side of the proposed access point. Additional property frontage along the state highway does not guarantee that additional approach roads will be allowed.

(B) Proposed land use actions that do not comply with the designated access spacing policy will be required to apply for an access variance from the City of Vale and/or ODOT. In addition, according to the 1991 OHP, the impact in traffic generation from proposed land uses must allow an LOS "C" to be maintained for *Category 4* segments within the development's influence area along the highway. The influence area is defined as the area in which the average daily traffic is increased by 10 percent or more by a single development, or 500 feet in each direction from the property-line of the development (whichever is greater). Construction standards for access on all roadways within the City of Vale roadway system are listed in the Table below.

City of Vale
Access Management Guidelines for Streets

Functional Classification	Intersection			
	Public Road		Private Drive	
	Intersection Type	Spacing	Intersection Type	Spacing
Arterial	at-grade	¼ mile	Left/Right Turns	500 feet
Collector	at-grade	¼ mile	Left/Right Turns	75-100 feet
Local	at-grade	400 feet	Left/Right Turns	Access to each lot.

(C) The existing *legal* driveway connections, traffic intersection spacings and other accesses to the state highway system are not required to meet the spacing standards of the assigned category immediately upon adoption of this access management plan. However, existing permitted connections not conforming to the design goals and objectives of the roadway classification will be upgraded as circumstances permit and during redevelopment. At any time, an approach road may need to be modified due to a safety problem or a capacity issue that exists or becomes apparent. By statute, ODOT is required to ensure the all safety and capacity issues are addressed.

(D) A conditional access permit may be issued by ODOT and the City of Vale for a single connection to a property that cannot be accessed in a manner that is consistent with the spacing standards. These conditions would 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.

8.16.4 SPECIAL TRANSPORTATION AREAS

(A) While the access management policies described above can be applied to some portions of Highways 20 and 26 within the Vale city limits, in the developed, downtown core, these spacing distances may be excessive. Shorter block lengths and a well-developed grid system are important to small cities, along with convenient and safe pedestrian facilities. To address this issue, the Oregon Highway Plan allows for the designation of Special Transportation Area (STA) for compact areas in which growth management considerations outweigh the need to limit access.

(B) In Vale, the City adopted an STA on portions of Highways 20 and 26. The designation of an STA in Vale is intended to accommodate the existing public street spacing and compact development pattern, including private driveways. Specific access management conditions for the designated STA on Highways 20 and 26 in Vale include:

1. Within the STA the minimum spacing for public road approaches is the current city block spacing. Public road connections are preferred over private driveways, and in STA's driveways are discouraged. ODOT will work with the city of Vale and each property owner regarding access issues based on safety, alternative access, and the opportunity of combining access in the future.

2. Where a right to access exists, access will be allowed to property at less than the designated spacing standard only if that property does not have reasonable alternative access. If possible, other options should be considered, such as joint access.

3. Where the right to access exists, the number of approach roads (driveways) to a single property shall be limited to one. More than one approach road may be considered if, in the judgment of the ODOT Access Management Coordinator or the District Manager, additional approach roads are necessary to accommodate and service such traffic as may be reasonably anticipated commensurate with driver expectancy and the safety of the traveling public.

4. Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Minimum sight distance to achieve stopping sight distance on wet pavement as defined by AASHTO is required for all approach roads. Additionally, approach roads are not allowed at points which interfere with the placement and proper functioning of traffic control signs, signals, lighting or other devices that affect traffic operation.

5. If a property is landlocked (no reasonable alternative access exists), if an approach road cannot be safely constructed and operated, and if all other alternatives are explored and rejected, ODOT must purchase the property. (Note, if a hardship is self-inflicted, such as by partitioning or subdividing a property, ODOT has no responsibility for purchasing the property.)

Amend the City of Vale Zoning Ordinance Title VIII by adding the following text to Chapter 6 as 8.16.4.

8.16.4
GENERAL PROVISIONS - BICYCLE PARKING:

Bicycle parking and storage provisions are intended to provide bicycle parking facilities to accommodate bicycle travel and encourage additional bicycle trips. Bicycle parking facilities shall be either lockable enclosures in which the bicycle is stored or stationary racks which accommodate bicyclist's locks securing the frame and both wheels. Bicycle racks or lockers shall be securely anchored to the surface or to a structure.

Bicycle parking shall be separated from motor vehicle parking and maneuvering areas by a barrier or sufficient distance to prevent damage to parked bicycles.

New multi-family, commercial or public facility construction that requires City review should bring the property into conformance with the Bicycle Parking Standards. For building expansions, the additional required bicycle parking improvements shall be related to the expansion only.

Fractional numbers of spaces shall be rounded up to the next whole space.
For facilities with multiple uses (such as commercial center), the bicycle parking requirements shall be calculated by using the total number of motor vehicle parking spaces for the entire development and may be clustered in one or several locations.

Bicycle parking shall have direct access to both the public right-of-way and to a main entrance of the principal use. Bicycle parking may also be provided inside a building in suitable, secure and accessible locations.

(A) *Bicycle Parking Standards:*

It is unlikely that there will be multi-family construction in Vale, but in the event that there is such development, the following standards are suggested:

Multi-Family Residences. Every residential use of four (4) or more dwelling units shall provide at least one bicycle parking space for each unit.

Parking Lots. All new public and commercial parking lots shall provide a minimum of one bicycle parking space for every 10 motor vehicle parking spaces.

Rural Schools, Service Centers, and Industrial Parks. Bicycle parking shall be provided at a rate of 10% of the required parking spaces for the development. A minimum of two bicycle parking spaces per use shall be required.

(B) *Pedestrian Walkway Connections in Multi-Family Developments:*

If applicable, a safe, convenient and direct pedestrian walkway shall connect all building entrances with pedestrian access to walkways, sidewalks, multi-use paths, alleyways, or any other pedestrian connection in order to accommodate access to neighborhood activity centers (schools, parks, shopping areas, etc.)

(C) Pedestrian Walkway Design Standards:

Pedestrian Walkways shall be:

1. At least five feet of impervious surface in width, except walkways bordering parking spaces which shall be at least seven feet wide unless concrete bumpers, bollards or curbing and landscaping or other similar improvements are provided which prevent parked vehicles from obstructing the walkway.

(D) *Exceptions to Pedestrian Walkway Standards:*

A required walkway or walkway connection need not be provided where an alternate route of travel is reasonably direct.

I:\PROJECT\32110101\RPTVLFIN\APPH.DOC