

3. PLANNING CONTEXT

3.1 DOCUMENTS REVIEWED

The TSP is required to be consistent with state, regional, county, and local plans. Three jurisdictions own the public roadways serving Pendleton: the City of Pendleton, Umatilla County, and ODOT. In order to identify applicable standards and policies, as well as potential inconsistencies, the Pendleton TSP and Comprehensive Plan were reviewed for compliance and consistency with the numerous plans and policies.

Additional plans and codes were reviewed to determine their impacts to transportation system planning and to derive applicable findings and recommendations. Some of these plans will not be summarized in this report; however, their conclusions will be incorporated into the network plans, base maps, and computer model simulations of the existing and future transportation system for Pendleton. For example, the Pendleton Urban Fringe Study, Phase II, helped to identify areas of the city and surrounding county likely to be developed in the immediate and more distant future. These areas will be considered during the development of the land use inputs to the transportation regional model. Furthermore, the Pendleton Ramps (US 395) Refinement Plan proposed a short-term system improvement as well as options for long-term improvements. These will be incorporated into mapping and analysis. The Umatilla County Transit Needs Analysis has not been summarized herein, but has been thoroughly reviewed and incorporated into the transit section of the TSP.

Oregon Transportation Plan (1992)

ODOT utilizes several planning documents to guide transportation planning efforts and transportation system improvements in the state. The Oregon Transportation Plan (OTP) is ODOT's policy guiding document. The OTP and its modal elements represent the State's Transportation System Plan and drives all transportation planning in Oregon. The plans provide a framework for cooperation between ODOT and local jurisdictions and offer guidance to cities and counties for developing local modal plans. The following table lists the different modal plans that have been established and the year each plan was adopted by the Oregon Transportation Commission (OTC).

Table 3-1. Adopted Elements of the Oregon Transportation Plan

Oregon Transportation Plan or Plan Element	Year Adopted
Oregon Transportation Plan	1992
Aviation System Plan	2000
Bicycle/Pedestrian Plan	1995
Transportation Safety and Action Plan	1995
Public Transportation Plan	1997
Oregon Highway Plan	1999
Rail Freight and Passenger Plan	2001

The OTC adopted the OTP in September 1992. An update of the OTP is underway and may be adopted in early 2007. The OTP has three elements: (1) Goals and Policies; (2) Transportation System; and (3) Implementation. The OTP meets a legal requirement that the

OTC develop and maintain a plan for a multimodal transportation system for Oregon. Further, the OTP implemented the federal Intermodal Surface Transportation Efficiency Act¹ (ISTEA) requirements for the state transportation plan. The OTP also meets land use planning requirements for state agency coordination and the Goal 12 Transportation Planning Rule. This rule requires ODOT, Cities, and Counties to cooperatively plan and develop balanced transportation systems.

Oregon Aviation System Plan (2000)

The Oregon Aviation System Plan was adopted in increments. It provides forecasts and inventories for public access airports in the state. Some key issues that affect development of the aviation component of the Pendleton TSP are:

- Local governments own most airports.
- The federal government owns most of the navigational system.
- FAA determines funding levels and prioritization of expenditures.

Other aspects of this Plan were incorporated into the Eastern Oregon Regional Airport Master Plan, section 1.5 of this report.

Oregon Bicycle and Pedestrian Plan (1995)

The goal of this plan is to provide safe, accessible and convenient bicycling and walking facilities in the state, and to support and encourage increased levels of bicycling and walking. The plan identifies policies, classification of bikeways, construction and maintenance guidelines, and suggested actions to achieve these objectives. These actions address the need to: (1) provide bikeway and walkway systems that are integrated with other transportation systems; (2) create a safe, convenient, and attractive bicycling and walking environment, and (3) develop education programs that improve bicycle and pedestrian safety.

Oregon Transportation Safety and Action Plan (1995)

This plan established the safety priorities for Oregon by identifying 70 actions relating to all modes of transportation and the roadway, driver and vehicle aspects. Included in this plan is a specific action regarding the way safety issues should be considered in local transportation planning.

Local transportation plans, as well as modal and corridor plans should consider the following:

- Involvement in the planning process of engineering, enforcement, and emergency service personnel as well as local transportation safety groups.
- Safety objectives.
- Resolution of goal conflicts between safety and other issues.

¹ On August 10, 2005, President George W. Bush signed into law the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The two landmark bills that brought surface transportation into the 21st century, the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21), shaped the highway program to meet the nation's changing transportation needs. SAFETEA-LU builds on this firm foundation, supplying the funds and refining the programmatic framework for investments needed to maintain and grow our vital transportation infrastructure.

Oregon Public Transportation Plan (1997)

This plan is primarily focused on public transportation in metropolitan and urban areas. The minimum public transportation level of service standards (for communities with a population of at least 2,500 located within 20 miles of an urban central city) that apply for conditions in 2015 are as follows:

- Coordinate intercity senior and disabled services with intercity bus and van services open to the general public.
- Coordinate local public transportation and senior and disabled services to intercity bus services.
- Provide an accessible ride to anyone requesting services.
- Provide at least 1.7 annual hours of public transportation service per capita with fixed-route, dial-a-ride or other service types.
- Provide at least one accessible vehicle for every 40 hours of service.
- Provide backup vehicle for every 3.5 miles.
- Provide daily peak hour commuter service to the core areas of the central city.
- Provide a guaranteed ride home program to all users of the public transportation system and publicize it well.
- Provide park and ride facilities along transit route corridors to meet reasonable peak and off-peak demand for such facilities.
- Maintain vehicles and corresponding facilities in a cost-effective manner and replace vehicles when they reach suggested retirement age.
- Establish ridematching and demand management programs in communities of 5,000 where there are employers with 500 or more workers who are not already covered by a regional ridematching/demand management program.
- Establish ridematching and demand management programs in communities of 10,000.

In addition to public transportation, the plan also describes minimum level of service standards for intercity bus and passenger rail.

Oregon Highway Plan (1999)

This Oregon Highway Plan (OHP) defines policies and investment strategies for Oregon's state highways for the next 20 years. It further refines the goals and policies of the OTP and is part of Oregon's Statewide Transportation Plan. The OHP has three main elements:

- The Vision presents a vision for the future of the state highway system, describes economic and demographic trends in Oregon, future transportation technologies, summarizes the policy and legal context of the OHP, and contains information on the current highway system.
- The Policy Element contains goals, policies, and actions in five policy areas: system definition, system management, access management, travel alternatives, and environmental and scenic resources.

- The System Element contains an analysis of state highway needs, revenue forecasts, descriptions of investment strategies, implementation strategies, and performance measures.

The OHP gives policy and investment direction to corridor plans and transportation system plans that are being prepared around the state, but it leaves the responsibility for identifying specific projects and modal alternatives to these plans.

Specifically relevant to the Pendleton area are level-of-service and access management standards. The OHP has also been used to clarify the highway classifications in downtown Pendleton. It includes special designations such as the Special Transportation Areas (STAs) and Urban Business Areas (UBAs). These have special standards which are incorporated into the operational analysis of the alternatives and also have special access management standards which were incorporated by the City in 1997. Table 3-2 shows the designations in the City of Pendleton.

Table 3-2. Special Highway Designations

Highway	MP	Segment Beginning and End	Mileage Length	STA/UBA	OHP Classification	Class NHS
Oregon 11 (Oregon-Washington Hwy)	0.70	Emigrant Ave	0.02	STA	Statewide	Yes
	0.68	Court Ave				
Oregon 37 (Pendleton Hwy)	2.48	SW 18th St	1.44	STA	District	No
	3.92	SE 10th St				
Oregon 37 (Pendleton Hwy)	2.57	Pendleton Hwy, Rdwy	1.23	STA	District	No
	3.80	SE Dorion Ave				
US 395 (Pendleton-John Day Hwy)	0.05	Oregon 11	0.97	STA	Statewide	No
	1.02	SW 10th St				
US 395 (Pendleton-John Day Hwy)	0.39	SE 4th St	0.41	STA	Statewide	No
	0.80	SW 4th St				
US 395 (Pendleton-John Day Hwy)	1.63	Pendleton-John Day Hwy, Rdwy	1.11	UBA	Statewide	Yes
	2.74	City limits 2003				

Source: Oregon Highway Plan (1999).

Oregon Administrative Rules on Access Management (OAR 734-051)

ODOT manages access to the highway facilities of the state to the degree necessary to maintain functional use, highway safety, and the preservation of public investment consistent with the OHP and adopted local comprehensive plans. These access management rules govern the issuing of construction, operation, maintenance and use permits for approaches onto state highways, state highway rights-of-way and properties under the State's jurisdiction. These rules also govern closure of existing approaches, spacing standards, medians, variances to the standards, appeal processes, and grants of access.

Through these rules, the State indicates its policy to manage the location, spacing and type of road and street intersections and approaches on state highways to assure the safe and efficient operation of state highways consistent with their classification, and the designation of the particular highway segment. OAR 734-051 contains policies and standards regulating access, and generally holds that access control should be considered where beneficial, such as when:

- Ensuring safe and efficient operation between connecting highways in interchange areas,
- Protecting resource lands,
- Preserving highway capacity on land adjacent to an UGB, or
- Ensuring safety on segments with sharp curves, steep grades or restricted sight distance or those with a history of accidents.

Oregon's access management rules and standards apply to those Pendleton roadways on the state highway system, including: I-84; US 395; US 30, Oregon 37; and Oregon 11.

Oregon Rail Freight and Passenger Plan (2001)

This plan presents an overview of the rail system in Oregon. It outlines the state rail planning process and examines specific rail lines in detail that may be eligible for state or federal financial assistance. The plan examines the trend of service on low-density rail lines increasingly provided by the short haul (Class III) railroads. In addition, the plan describes minimum level of service standards for freight and passenger rail systems in Oregon. The previously adopted Passenger Policy and Plan (1994) is now a component of the Oregon Rail Freight and Passenger Plan. Details from this plan will be incorporated into the Freight Section of the Pendleton TSP.

Statewide Transportation Improvement Program (2006–2009)

Oregon's Statewide Transportation Improvement Program (STIP) is the State's transportation capital improvement program, which fulfills the requirements of the Transportation Equity Act for the 21st Century (TEA-21). The STIP lists the schedule of transportation projects for the 4-year period from 2006 to 2009. It is a compilation of projects utilizing various federal and state funding programs, and includes projects on the state, county and city transportation systems as well as projects in the national parks, national forests, and Indian Reservations. The improvement projects programmed in the 2006–2009 STIP for the Pendleton area are listed below and further detailed in subsequent chapters of this TSP update.

The STIP is not a planning document; it is a project prioritization and scheduling document developed through various planning processes involving local and regional governments, transportation agencies, and the interested public. Through the STIP, ODOT allocates resources to those projects that have been given the highest priority in these plans.

ODOT 2006–2009 STIP Projects Near Pendleton

Name: I-84: MP 214 Mission & OR 320: MP 26.5 Madison VMS
Description: Install variable message signs
Notes: 3-4 miles east of Pendleton

Name: OR 331: Access Improvements
Description: Operational and access improvements – OTIA III Mod

Name: US 395: McKay Cr – N Fork John Day – Bundle 406
Description: Replace bridges 08050, 02561, 04728, 04729
Notes: Bridge 08050 is just south of Pendleton

Name: US 395: Pendleton Interchange Ramps, MPs 1.58 to 1.68
Description: Reconstruction of the US 395/I-84 interchange

Name: WCL Pendleton – Milton-Freewater
Description: Pavement preservation

Name: Stage Gulch Ditch (Cooper Rd) Bridge
Description: Replace Bridge #59C680
Notes: Not an OTIA III bridge

Name: McKay Creek (SW Quinney) Bridge
Description: Replace bridge #59C001
Notes: Located in southern Pendleton, west of US 395; not an OTIA III bridge

Name: Barnhart-Airport Road (Pendleton) Connector
Description: Construct new local road
Notes: Located in northwest Pendleton

Of these projects, the most significant are the US 395: Pendleton Interchange Ramps which will improve the ramp exit's operations which have been determined to be a deficiency and the Barnhart-Airport Road (Pendleton) Connector which will also use federally earmarked funds to provide a much-needed improvement for the industrial areas near the airport.

Pendleton Comprehensive Plan – Transportation Plan Element

The purpose of the Comprehensive Plan is to provide for orderly growth and to encourage development of a community that meets the needs of its current and future residents. The Comprehensive Plan is the City's highest tier policy document, and establishes the policy framework for future growth decisions. The Transportation Plan is an element within the Comprehensive Plan. It expresses the City's policies for an orderly, efficient, and safe multimodal transportation system. The Transportation Plan is currently implemented through the 1996 TSP, Capital Facilities Plan, and city ordinances. This element's policies were amended concurrently with adoption of the 1996 TSP.

The Transportation Plan includes goals, policies, programs, and other direction on how the City should plan and maintain the transportation system. The guidance begins with the identification of the "Needs" provided below. There are additional sections of the plan which address related topics such as a pedestrian connectivity.

Needs

1. There is a need for an efficient integrated hierarchical street system and standards thereto.
2. There is a need for a system whereby County roads inside the City can be improved to the appropriate urban standards as development occurs in an area served by a County road.
3. There is a need for a logical streets naming and numbering system within the Pendleton Urban Area.
4. There is a need for adequate off-street parking.
5. There is a need for free, regulated vehicular parking in the downtown area.

6. There is a need for a program and funding of street repair and maintenance.
7. There is a need for safe traffic flows in and within the existing and any future one-way couplets
8. There is a need for safe street intersections.
9. There is a need for available alternative modes of transportation to facilitate an individual's mobility.
10. There is a need for A: protective railroad crossing devices to protect through traffic at all new street grade crossings; and B: a smoother, safe, and durable surface at all existing and new street-grade railroad crossings.
11. There is a need for passenger and freight rail.
12. There is a need for an integrated bicycle system.
13. There is a need to provide pedestrian and bicycle linkage between residential, business, educational, and recreational areas.
14. There is a need for subsidized transportation for senior citizens, limited or fixed income citizens, disabled and handicapped individuals.
15. There is a need for bridle paths.
16. There is a need for competitive truck delivery services.
17. There is a need for air service.
18. There is a need for coordination with the ODOT in the implementation of its six-year Highway Improvement Program.
19. There is a need for improved access to Pendleton's industrial sites, including the Pendleton Industrial Park and the Air Business and Industries Park.

Pendleton Bicycle System Master Plan (1996)

Pendleton Bicycle Master Plan was completed in 1981. The Bicycle Master Plan Committee, established by the Pendleton City Council in 1980, led the development of this plan. Particular focus is placed on how bicycle facility improvements can support the City's goals of increased economic growth and improved traffic safety.

- Assure that new roadway improvements projects consider bicycle needs
- Identify bicycle improvements to existing facilities and off street routes
- Provide safe and secure bicycle parking
- Promote bicycle safety and education.

The Pendleton Bicycle System Master Plan includes an inventory of bicycle facilities in the city, a list of system deficiencies, as well as goals and standards. Many of these objectives are similar to related Transportation Planning Rule requirements for bicycle facilities, but were not incorporated into the County's development code. With this TSP update, the bicycle project list and related codes have been comprehensively reviewed and updated.

Umatilla County Transportation System Plan (2002)

The 2002 Umatilla County Transportation System Plan (TSP) guides the management of existing transportation facilities and the design and implementation of future facilities in Umatilla County for 20 years. The TSP constitutes the transportation element of the County's Comprehensive Plan and satisfies the requirements of the Oregon Transportation Planning Rule (TPR) established by the Department of Land Conservation and Development (OAR 660-12-045). It identifies transportation projects for implementation under a Umatilla County Capital Improvement Program (CIP) and inclusion in the ODOT Statewide Transportation Improvement Program (STIP).

The County TSP identifies the following goals:

1. Preserve the function, capacity, level of service, and safety of the local streets, county roads, and state highways.
2. Ensure that the road system within the county is adequate to meet public needs, including those of the transportation disadvantaged.
3. Improve coordination among the cities of Umatilla County, the Oregon Department of Transportation (ODOT), the US Forest Service (USFS), the Federal Highway Administration (FHWA), and the county.
4. Increase the use of alternative modes of transportation (walking, bicycling, and public transportation) through improved access, safety, and service.
5. Support efforts to maintain the airport facilities for commercial, small aircraft, and charter services.
6. Encourage the continued and improved rail transportation of goods and reinstatement of rail passenger service.
7. Encourage continued and improved water transportation of goods.
8. Encourage continued and improved pipeline transportation of goods.

The plan includes lists of facilities, level of service analyses, and improvement project plans. Many of the projects will have little to no effect on the transportation system planning in the City of Pendleton. However, nearby projects will be considered during the development of the networks, models, and maps for Pendleton (e.g., Reith Road from I-84 to west end of Reith and, SW Hailey Avenue from SW 30th to Kirk Ave on SW 37th.)

Eastern Oregon Regional Airport at Pendleton – Master Plan Update (2002)

The City of Pendleton updated the Master Plan for the Eastern Oregon Regional Airport at Pendleton in 2002. This Master Plan Update describes the current facilities and usage of the airport, predicts future demand, and determines the best development strategy to meet this demand.

One component of the development strategy outlined in this plan is to improve access to the airport and the surrounding industrial park. Currently, the airport's only access road is Airport Road, which has an excessively steep grade that limits its use by various trucks. Furthermore, there are no alternate routes to the airport, creating potential access problems in the event of a road closure due to weather, accident, or construction. The Master Plan Update calls for construction of a new road extending from the Barnhart Road/I-84 interchange to Avenue A that runs along the southern edge of the airport. Such a project would require a Goals Exception analysis because the road would be located outside of the Pendleton's UGB.

4. LAND USE ANALYSIS

4.1 INTEGRATED LAND USE AND TRANSPORTATION PLANNING

The Oregon Transportation Planning Rule (TPR) implements Statewide Planning Goal 12 related to transportation. The TPR promotes development of safe, convenient, and economic transportation systems that are designed to reduce reliance on the automobile so that air pollution, traffic and other livability problems faced by urban areas in other parts of the country might be avoided. The TPR aims to help local governments improve the livability of urban areas by promoting changes in land use patterns and the transportation system that make it more convenient to walk, bicycle, use transit, and drive less to meet daily needs.

State policy puts special emphasis on metropolitan planning areas and the opportunities that exist within these areas to coordinate transportation planning and investment decisions with overall community development objectives. Because metropolitan areas are by their nature more varied and complex, land use and transportation plans can result in more than a one-size-fits-all approach. Some areas such as downtowns, transit oriented districts, and other mixed-use centers will be very convenient for all means of travel, while other areas will remain automobile-oriented and include more modest measures to accommodate walking, bicycling, and transit users. It is left to regional and local plans to work out the details.

The integration of land use and transportation decision-making has been discussed at some length in the Pendleton Comprehensive Plan and 1996 TSP. The purpose of the Comprehensive Plan is to provide for orderly growth and to encourage development of a community that meets the needs of its current and future residents. The Comprehensive Plan is the City's highest tier policy document, and establishes the policy framework for future growth decisions. The Transportation Plan is an element within the Comprehensive Plan. It expresses the City's policies for an orderly, efficient, and safe multimodal transportation system.

The following are excerpts from the Comprehensive Plan Transportation Plan. Those in bold text speak to the integrated planning of land use and transportation.

- a. There is a need for an efficient integrated hierarchical street system and standards thereto.
- b. There is a need for a system whereby County roads inside the City can be improved to the appropriate urban standards as development occurs in an area served by a County road.
- c. There is a need for a logical streets naming and numbering system within the Pendleton Urban Area.
- d. **There is a need for adequate off-street parking.**
- e. **There is a need for free, regulated vehicular parking in the downtown area.**
- f. There is a need for a program and funding of street repair and maintenance.
- g. There is a need for safe traffic flows in and within the existing and any future one-way couplets.
- h. There is a need for safe street intersections.
- i. **There is a need for available alternative modes of transportation to facilitate an individual's mobility.**

- j. There is a need for A: protective railroad crossing devices to protect through traffic at all new street grade crossings; and B: a smoother, safe, and durable surface at all existing and new street-grade railroad crossings.
- k. **There is a need for passenger and freight rail.**
- l. **There is a need for an integrated bicycle system.**
- m. **There is a need to provide pedestrian and bicycle linkage between residential, business, educational, and recreational areas.**
- n. There is a need for subsidized transportation for senior citizens, limited or fixed income citizens, disabled and handicapped individuals.
- o. There is a need for bridle paths.
- p. There is a need for competitive truck delivery services.
- q. There is a need for air service.
- r. There is a need for coordination with the ODOT in the implementation of its six-year Highway Improvement Program.
- s. **There is a need for improved access to Pendleton's industrial sites, including the Pendleton Industrial Park and the Air Business and Industries Park.**

Development Patterns

Two trends typify development and infrastructure decision-making in the United States since the creation of the interstate highway system. The first trend is one of segregating land uses. Community planning efforts for most of the latter half of the 20th century have required a physical separation of different types of development from one another. For example, new residential areas were specifically designed to be far from stores, offices and industry, requiring people to drive, often great distances, to meet all their needs. This segregation of uses directly contributed to increased road congestion.

The second decision-making trend is that infrastructure planning increasingly occurred on a piecemeal basis. This trend is typified by road construction struggling to keep up with demand as it arose, rather than being strategically designed to serve communities efficiently into the future. Development was allowed to occur in a manner which precluded future transportation improvements. For example, new residential, commercial and industrial development often occurred along an arterial or at a cul-de-sac that is attached to an arterial, funneling all traffic to a single road. By moving away from the grid system, roads across the nation often became congested within a decade of their construction. This TSP update project has developed code amendments that will enable the City to better preserve right-of-way and develop an interconnected transportation system. The new code language allows the enforceability of the Transportation System Plan Map and addresses the following issues:

- Block length standards
- Block perimeter standards
- Provisions for alleys
- Limitations on driveways and cul-de-sacs
- Requirements to complete circulation plans
- Requirements for stub streets
- Requirements to make connections to stubbed streets

Thankfully, development and infrastructure trends have begun to change in many communities. U.S. cities and towns are often looking at more efficient historic land use and transportation patterns that better serve the community. The City of Pendleton can use a variety of these tools to more efficiently plan for the future. Tools that will protect infrastructure investments and give residents and business owners more opportunities in choosing the style of community in which they want to live and do business. The proposed amendments to the Pendleton city code and policy are designed to achieve these aims.

Mixed Uses

Traditionally, different types of land uses were accommodated near one another. A sea of single-family homes was not the only housing style available on the market, rather there were a mix of housing types, including single-family, duplexes and apartments, with conveniently located schools and shops to serve these neighborhoods. The buildings in these neighborhoods used land more efficiently by allowing some buildings, in appropriate locations, to be taller and required less or no on-site parking. Many of the buildings in these neighborhoods themselves accommodated mixed uses, with retail on the ground floor and residences above. Updating municipal development codes could provide people the choice to live a less auto dependent lifestyle, increasing protecting transportation investments. The following guidelines can begin the discussion or future policy and code amendments which encourage mixed uses.

- Mixed-use development should include medium to higher density residential development (e.g., 10 or 12 units per acre) and at least one of the following land uses: retail commercial, service commercial or light industrial. To be counted, residential and employment uses must be within 0.25 mile of each other (via a reasonably direct pedestrian route) and within 0.25 mile of a transit stop. Residential and other land uses may be located vertically in relation to each other. Other land uses such as parks or plazas, and/or civic, community and cultural uses are also appropriate in mixed use development areas.
- All development within the site is connected by internal sidewalks or other pedestrian pathways.
- The local street network includes a frequency of streets and street crossings that make it attractive and convenient to walk within the area and to the surrounding areas. Streetscape elements should include human-scaled design features that encourage safety and convenience of pedestrians, bicyclists, and transit users. On-street parking is allowed. Transit stops are incorporated into the design and function of the area.
- Primary building entrances are located on the street and are not separated from the street by off-street parking or maneuvering areas.
- Low-intensity, land extensive uses, and automobile-oriented uses are prohibited from the area.

Transit and Pedestrian Orientation

Requiring appropriate transit, bicycle and pedestrian infrastructure as a part of road construction also provides people an option to use alternative modes of transportation, again, protecting existing transportation investments and delaying the need for auto capacity increasing projects. The proposed street standards, code and Transportation System Plan Map will lead to greater pedestrian and bicycle connectivity. Addition work has been done to identify transit funding and potential transit stops. The following issues are being addressed with new policy and code amendments:

- Parking lot location (behind and beside buildings)
- Pedestrian access and safety through parking lots
- Off-street parking maximums
- Reduce off-street parking minimums
- Building orientation
- Bike parking
- And more

Infill Opportunities

UGBs are created to avoid inefficient leap-frog development patterns to serve with infrastructure. Pendleton can make the most of its existing transportation, sewer and water investments by increasing the use of existing infrastructure within the UGB before building new infrastructure to serve development in UGB expansion areas. The key to fully utilizing the existing street network, sewer and water lines is to develop or redevelop vacant or underutilized properties within Pendleton's UGB. We recommend the City undertake a future study to develop incentives that encourage infill development

Areas that show good potential for infill development are described below. This assessment is based on only a cursory review, without a quantifiable analysis of market conditions, land prices, or development costs. Further analysis of these areas, as well as consideration of infill incentives would help to refine the list of possible sites and the regulatory environment.

Downtown Rail Yards

No formal negotiations have begun and the property owner has not indicated any plan to relocate the Union Pacific Railroad switching and storage yard. However, it has been suggested that the facility is under-utilized and could be relocated. If this were agreed to there would be a considerable addition of land within the downtown core which could be developed as a mixed use site. Refer to the Industrial Access Technical Memorandum for a detailed description of this site.

Old K-Mart on Southgate

When this analysis started, the old K-Mart site was vacant. There are inefficiencies and blight conditions brought on by large vacant buildings and parcels within a city. This was a key site for infill development, and the City has been working to occupy the building with an active use; remodeling is currently underway. The site will be home to a new D & B Supply, selling farm supplies.

Between Airport and Northern Residential and Schools

The large area east of the airport is not currently in the UGB or the municipal boundaries. This area is not traditional infill, as it has not been passed over by sequential development. However the area, while it is undeveloped, separates major areas of the city to the north. If this area were to be urbanized, it could facilitate better connectivity between the northern airport/industrial areas and the residential areas north of downtown.

Industrial Areas With Vacant Land

Please refer to the Industrial Access Technical Memorandum for a detailed description of the numerous industrial sites which have vacant lands. The areas closest to the downtown grids (such as Area 8) would be the best for infill development. Area 8 is currently home to the city shops, which may be relocated to less valuable land, or consolidated onto only a portion of the site.

4.2 LAND USE ASSUMPTIONS

This section describes the population and employment data and assumptions that under gird the analysis of future transportation conditions, as well as the transportation network and services used in the regional travel demand modeling process.

Traffic patterns and the demand for transportation services within a community are closely interrelated with existing and anticipated future land use patterns. The location of housing, places of employment, shopping, education and other services, and the relationships between these land uses in terms of distance and transportation system connections, all influence the type and magnitude of travel demand that is experienced in a community. Locations where land use patterns are dispersed and built at lower densities will be difficult to serve by any other mode than the automobile. More compact, mixed use development where good multimodal transportation system connections are provided, will encourage the use of a variety of transportation modes making it possible for the traveler to choose whether to drive, walk, bicycle or take transit.

To estimate the future relationship of land uses and transportation system performance, land development expectations must be more specifically defined to describe the type, amount and location of anticipated future housing and employment growth. Planning for the community's land use and transportation system begins with a vision of where and how the community wants to grow, and follows with population forecasts, allocations of future housing and employment to commercial and industrial areas of the community, and an analysis of how land use patterns affect the need for transportation facilities and vice versa.

To forecast future travel demand for this TSP update, it was first necessary to establish horizon year population and employment forecasts. Each county in Oregon receives an allocation from the state economist, who prepares statewide population and employment growth estimates for a 20-year future planning period. These estimates were used in prior Pendleton land use and transportation planning, and were updated in January 2005. These countywide allocations serve as the foundation for long-term land use and transportation planning activities carried out by local governments.

The statewide allocation process considers a wide range of demographic, economic and geographic data, such as historic and projected birth rates and family sizes, ex-migration and in-migration rates, comprehensive plan and zoning designations, economic diversity, buildable land area, extent and needs of basic infrastructure, and many other factors. After receiving its 20-year allocation, each county then subdivides the future growth allocation based on development expectations for existing city, UGB, and rural areas within the county.

Population Growth

In 2004, the City worked with ODOT staff to develop an area-wide travel demand model that would translate existing and anticipated future population and employment estimates within the Pendleton UGB into future traffic forecasts on all major roadway segments within the UGB. Single houses and multi-family residences were mapped, as were employment regions

in government, retail, and other classifications. Based on projections of growth, the same mapping was completed for the planning horizon in 2025. A summary of the 2025 growth projections is shown in Table 4-1. For the subsequent traffic analysis the numbers were projected out to the planning horizon of 2027, by increasing the traffic volumes according to established state methodologies.

Table 4-1. Future Year Population Allocation

Jurisdiction	2000 Base Year ^a	2020 Allocation ^b	2025 Future Year ^c	2002-2025 Growth
Umatilla County	70,548	86,650	90,660	20,170
Pendleton UGB ^d	17,182	21,000	22,000	4,818
Umatilla Indian Reservation ^e	1,804	-	2,318	514
Study Area Outside UGB ^f	373	-	479	106

^a Based on 2000 U.S. Census data.

^b Based on 1999 Umatilla County coordinated population allocation.

^c Umatilla County control total based on 2004 OEA estimate. 2000-2025 average annual growth rate (AAGR) is 1.14 percent.

^d Pendleton Future Year allocation based on growth of 2020 allocation at 0.9 percent AAGR as determined by the City of Pendleton.

^e Study Area includes only a portion of the Reservation. Growth rate is based on a 1.14 percent average annual growth rate for the county as a whole.

^f Study Area includes TAZs that are outside the Pendleton UGB. Growth rate is based on a 1.14 percent average annual growth-rate for the county as a whole.

The growth shown above was distributed to individual Traffic Analysis Zones (TAZs) which are geographic subdivisions of the UGB that group areas with similar land use and transportation system access characteristics. For residential development, the following assumptions were made with respect to densities: These assumptions were based on building permit data, projected changes, existing zoning, and discussions with city staff.

- Low Density Residential (R1) 4 units/acre
- Medium Density Residential (R2) 7 units/acre
- High Density Residential (R3) 12 units/acre

The study area also includes TAZs outside of the Pendleton UGB. The assumed growth rate in these areas is consistent with the 1.14 percent average annual growth rate for the county as a whole.

Based on discussions with the City of Pendleton and an analysis of vacant land in the UGB, the residential growth within the Pendleton UGB is primarily focused south of I-84 as indicated in Table 4-2. In addition, the City has recently adopted a downtown urban renewal plan with a focus on high-density riverfront housing and rehabilitation of upper story units within historic buildings. Other areas, near the airport and north of town, are being reviewed as this TSP update is progressing. These additional lands are not now within the Pendleton UGB, and have not been modeled as urban areas in this project.

Table 4-2. Adjusted Future Household Growth

Subarea	Future Year (2025) Households
South of I-84	1,452
Downtown Riverfront	150
Other Areas of Pendleton UGB	402

Subarea	Future Year (2025) Households
CTUIR	154
Rural Areas	41
Total	2,199 households

Employment Growth

The long-range employment forecast was created using the Oregon Office of Economic Analysis (OEA) Long-Range Employment Forecast Years for the period from 2000 to 2040. It was assumed that the current employment sectors that make up the local economy would not change but that the percentage of the work force in each sector would change slightly over time. It was also assumed that 20 percent of future employment will involve an expansion of existing businesses and/or will be located in existing vacant building space. The remaining future employment growth was allocated to buildable land using average employees per acre values and placing business sectors in appropriately zoned areas. For the subsequent traffic analysis the numbers were projected out to the planning horizon of 2027, by increasing the traffic volumes according to established state methodologies.

A comparison of 2000 Base Year employment for the study area to countywide employment shows that 39 percent of Umatilla County employment is located within the Pendleton UGB. It was assumed that this ratio will remain constant through the planning horizon year 2027. Table 4-3 and Table 4-4 show the projected employment growth for the UGB.

Table 4-3. Future Year Employment Forecast

Jurisdiction	2000 Base Year	2025 Employment ^a	2000-2025 Growth
Umatilla County ^b	26,313	30,303	3,990
Pendleton Study Area ^c	10,269	11,818	1,549

^a OEA Forecast.

^b OEA Employment Estimate for January, 2000.

^c Base Year Employment Allocation.

Current employment within the Pendleton UGB includes seven unique employment sectors:

- Agricultural
- Industrial
- Retail Trade
- Services
- Education
- Government
- Other

Table 4-4. 2000 Base Year Employment Sector Distribution

Sector	2000 Base Year		2025 Future Year		Change Count
	Count	%	Count	%	
Agriculture	111	1.08%	128	1.08%	17
Industrial	986	9.60%	1,135	9.60%	149
Retail Trade	1,613	15.70%	1,905	16.12%	292
Services	3,465	33.74%	4,038	34.16%	573

Sector	2000 Base Year		2025 Future Year		Change
	Count	%	Count	%	Count
Education	998	9.72%	1,049	8.88%	51
Government	1,866	18.17%	2,147	18.17%	281
Other	1,230	11.98%	1,416	11.98%	186
Total Employment	10,269	100%	11,818	100%	1,549

4.3 REVIEW OF PLANS AND POLICIES

The City of Pendleton benefits from a dense, downtown core, multiple transportation modes, and savvy implementation of statewide land use goals and policies. A brief discussion of plans and policies that are relevant to the discussion of urban design and infrastructure issues within the city is provided in this chapter.

Urban Design and Infrastructure

Considerable effort has been made, in recent years, to plan the redevelopment and new development in the city. The team developing the 2006 update of the TSP has relied upon many of these recent studies to provide this overview of the significant factors influencing the urban form in Pendleton. From the start of the project, it has been the team's intention to consider land use and transportation issues together, moving between the two when seeking solutions to infrastructure challenges. Portions of the following assessment have been taken from the Urban Fringe Study and the Urban Renewal Area draft plan.

Urban Assets and Zoning

One of the area's greatest assets is its potential to serve as a major intermodal transportation center. In addition to being served by Union Pacific Railroad, a Class I line-haul freight railroad with connections to Portland and Boise, the area is within close proximity of both I-84 and Oregon 30. The Eastern Oregon Regional Airport offers commuter service between Pendleton, Portland and Seattle. To capitalize on its locational advantages and increase its capacity as an intermodal transportation center, it will be necessary to maintain, upgrade and expand upon existing transportation infrastructure.

Downtown Pendleton is blessed with a large and, in many cases, continuous standing stock of historic and other quality building structures. This is particularly true on Main Street north of Frazer. Many of the existing historic structures are in need of improvements, upgrades, renovations and "de-modernizations" to restore their former character. Along with streetscape improvements, such facade improvements can further strengthen the urban fabric of Downtown Pendleton. In certain other cases, more modern buildings can better contribute to the urban fabric by "urbanizing" certain features and aspects of their facades. Downtown Pendleton is mostly surrounded by residential and mixed use neighborhoods with much potential for additional attractiveness and livability. Some areas are well maintained and with fine historic homes and structures. Other areas, within the present urban renewal boundary and beyond, would greatly benefit from funded programs to encourage property maintenance and upgrades.

Main Street in Pendleton both anchors the downtown retail/commercial core and provides the major north/south vehicular connection running perpendicular to the predominant east-west transportation grid. Main Street differentiates itself from all other streets in Pendleton in a variety of ways including: a) larger block size, b) more building density, and c) more

developed existing streetscape elements. Main Street from Frazer to the river is almost totally lined with buildings, many of them multi-story.

The entrance into downtown Pendleton via Main Street from North Mill is dramatic and strong, passing across the Umatilla River by bridge. This entrance is anchored by historic and quality structures of the Arts Center, the church and two fine structures immediately south of the river. Thus, a strong gateway to downtown is already present in this location.

Other major downtown entries can be strengthened as gateways and plans are underway to unite them around a central theme. One suggestion is continuing the use of art and even statuary in center islands in streets such as Main Street at South Hill (Goodwin). These islands serve as a potential break in long and straight streets, and, more importantly, also identify and strengthen downtown as a distinct area. Such islands can also have the effect of calming traffic. Where it is determined that such islands may not be feasible or make sense (probably due to high traffic), pedestrian bulb-outs with art or treatments similar to islands can also create the same "gateway" effect.

The Umatilla River, along with the hills on either side, are the main natural features defining Pendleton, including downtown. However, due to the potential for flooding the levee that protects downtown also separates it from the river at street level. The levee has already been used to great advantage with the bike running/walking path on top.

Currently, land within the urban core is in the Medium and High Density Residential Zones, the Central Commercial and Service Commercial Zones, and a small portion in the Light Industrial Zone. The purposes of these districts are described in the Pendleton Zoning Ordinance as follows.

Medium Density Residential District

"To provide for land areas to be used predominantly for dwellings of varying types within a moderate density range, together with related uses." Residential development in this zone ranges in density from five to 18 units per acre.

High Density Residential District

"To provide for residential units, at increased densities, offering varying forms of urban living." Residential development in this zone ranges in density from 11 to 35 units per acre.

Central Commercial District

"To provide for land areas and uses that preserve and enhance the City's core area, within which occur the greatest concentration of retail and business activity." Residential development is also permitted in this district, at a density of up to 80 units per acre.

Service Commercial District

"To provide area for retail and service uses that are accessible to the entire community."

Light Industrial District

"To provide, enhance and protect areas to accommodate a wide range of manufacturing and allied uses that need generally flat topography and easy access to arterials and inter modal shipping facilities."

Growth Policy

The City of Pendleton guides development using the tools of policy and code. The following Comprehensive Plan Policies have implications to the land use/transportation relationship in the City or will specifically protect and invigorate the historic core of the city where the

development and use of multiple transportation modes is most likely. Each policy is followed by a recently completed assessment that is reported in the Urban Renewal Plan, which is covered more fully in a subsequent section of this report.

- *"It shall be the policy of the City of Pendleton to: A. Participate with Umatilla County in the establishment of a City-County Landmarks Commission, beginning no later than the fall of 1990, to review proposed alterations of existing historic resources and consider inclusion of newly inventoried sites in the Comprehensive Plan."* (CP-18)

Response: The City has met its goal for creating the Historic Landmarks Commission. Essential to an effective commission are requests to renovate or improve historic buildings. It is a goal of this plan to increase the vitality of downtown by rehabilitating commercial and residential buildings in the area. A development loan or grant program offered to property owners in the area will help to spur private investment in historic building improvements.

- *"It shall be the policy of the City to provide the downtown area with the essential elements of a Park (such as benches and picnic areas)."* (CP-26)

Response: Much of the downtown and riverfront areas are lacking in pedestrian amenities such as benches, picnic areas, lighting and landscaping. Consistent with the above policy, it is a goal of the Plan to provide locations and opportunities for small public spaces on Main Street and in other locations that would compliment larger tourist venues such as the Round-Up/Happy Valley Mall of Fame and the Umatilla County Museum.

- *"It is the policy of the City of Pendleton to: B. encourage in the Commercial areas of the City, proposals for conversion to Residential use or development of upper story floor space in existing or new commercial structures subject to appropriate controls to protect all residents and users of the area."* (CP-55)

Response: Complimentary to the above policy, a goal of the Plan is to increase the vitality of Pendleton's downtown by increasing its attraction as a place to live. By promoting the restoration of historic buildings, the Plan encourages renovation of upper floors for residential use. The Plan promotes private development loans or grants for building renovation or for new buildings. It also promotes residential redevelopment of underutilized or vacant parcels in the Area, especially those ideally located adjacent to the Umatilla River, or in the historic core near essential commercial services.

- *"It shall be the policy of the City of Pendleton to provide appropriate controls to ensure adequate off street parking is provided at all businesses except those in the core area."* (CP-66)

Response: Essential to the goals of increasing the vitality of downtown and attracting more business, tourists and residents, is the need to improve the public parking facilities in the Area. The provision of adequate parking in convenient locations is crucial to serve business, cultural activities and resident parking needs. A balanced program to assure adequate parking in the downtown core will entail coordination between property owners and public agencies whereby optimal public parking locations can be identified and funded through the Plan and other identified funding sources.

- *"It shall be the policy of the City of Pendleton within the downtown area to: A. Provide adequate public off-street parking through a collective participation of all business/activities within a designated off-street parking improvement district. The City of Pendleton shall encourage the continuation and expansion of an off street parking improvement district under the provisions of the applicable laws of the State of Oregon and the authority vested in the City by provisions of its charter."*

- *"It shall be the policy of the City of Pendleton to acquire properties for permanent off-street parking facilities as they become available, rather than to force relocation of existing business operations through acquisitions of properties for purposes of off-street parking. The City of Pendleton shall administer the off-street parking improvement district in such a manner that the district will be self-supporting."* (CP-68).

Response: The Urban Renewal Plan and the improvement projects address the needs described in the above city policy to provide for adequate public parking in the Area.

- *"It shall be the policy of the City to develop pathways along the Umatilla River with access from existing streets and with the addition of a pedestrian bridge."* (CP-70)

Response: Consistent with the above policy, the Plan proposes improvement projects that enhance the existing multi purpose pathway along the Umatilla River. The projects include adding benches and other gathering areas, adding landscaping and other amenities, increasing the number of pedestrian access points and improving visibility of the river from the core. The river is an important natural asset that can be better connected to the variety of cultural, historical, residential, service and entertainment assets of the Area.

- *"It shall be the policy of the City of Pendleton to develop and maintain a bicycle system in conjunction with the existing arterial and collector street routes."* (CP-70)

Response: The Plan promotes the development of an improved bicycle and pedestrian connection between the Convention Center and the downtown, consistent with current city policy to develop and maintain a bicycle system. The proposed improvement will provide a safe and comfortable transportation alternative in the Area for residents and tourists alike.

- *"It shall be the policy of the City of Pendleton to foster the development of the City center to include a downtown park, benches, water fountains, public restrooms, trees, landscaping and separation of pedestrians from vehicular modes of traffic."* (CP-81)

Response: In order to increase the vitality and attractiveness of Pendleton's downtown, the Plan calls for numerous streetscape improvement projects consistent with the above policy. The addition of benches, landscaping, street trees, lighting, utilities, sidewalk extensions and other improvements will also help to separate and protect the pedestrian from vehicular modes of traffic. For instance, extended corner sidewalks and mid-block pedestrian crossings on Main Street are projects that will emphasize the importance of the pedestrian.

- *"It shall be the policy of the city: A. to require the installation of sidewalks on both sides of all arterial, collector and minor streets where improved or upgraded except when topography dictates that the abutting property would not benefit by its installation as approved by the City Council; B. to encourage the installation of sidewalks in those areas presently void of them; and C. encourage development of diversity of walking paths in all recreation designated areas."* (CP-85)

Response: Many streets in the area are lacking in sidewalks. It is the intent of the Plan to provide a program to address these conditions in order to assure safe pedestrian connections between destinations and to encourage walking for recreation or as an alternative mode of travel.

NOTE: This particular issue will be a focus of the TSP update and of subsequent implementation.

Section 2 of the City's Urban Fringe Study Phase I is entitled "Overall Growth Policy Guidelines." The study states that the Growth Policy Guidelines "were endorsed by the Management Team and Technical Advisory Committee early in the land needs analysis process" (p. 4). The guidelines were developed based on Goal 9 (Economy) of the Oregon Statewide Planning Goals, the City of Pendleton Comprehensive Plan, the transportation-efficient land use alternative from the 1996 TSP, and the Vision Quest '94 Report from Eastern Oregon State College. The Growth and the Economic Development Policy Guidelines are presented here because they were meant to lead to an economically sustainable land use pattern that would be consistent with Oregon state planning goals. These guidelines are broader and apply to the entire Pendleton Urban Growth Area. Later, the Urban Renewal Plan will be reviewed in order to show the specific guidelines intended to be applied in the urban core. Infill and Redevelopment Guidelines were also developed in order to serve similar objectives.

Growth Policy Guidelines

These are guidelines for the Pendleton Urban Growth Area that are intended to direct the overall growth pattern, considering vacant developable lands and the 20-year land needs:

- Pendleton will pursue a moderate population growth rate of about 2 percent per year;
- Available lands within the UGB will develop prior to or commensurate with planned UGB expansion to meet the 20-year forecast land need by use type (i.e., industrial, commercial, single family, multi-family);
- Infill and redevelopment opportunities will provide increased housing and job opportunities; and
- Consideration will be given to the Pendleton TSP's efficient land use findings. This will address the potential for residential infill in downtown and additional housing north of West Gate and west of North Gate.

Economic Development Policy Guidelines

These guidelines are based primarily on the City of Pendleton Comprehensive Plan and the Vision Quest '94 Report:

- The City will continue to pursue new employers and work to retain existing employers to diversify the economic base and create family wage job opportunities;
- Adequate land will be made available for target industries, based on size, location, service and amenity needs per industry;
- Target industries for Pendleton and their siting criteria will be identified through an Economic Needs Analysis and documented Local Inquiries;
- Tourism and the area's western heritage will be promoted to assist in economic diversification;
- Economic development will be coordinated with the Confederated Tribes of the Umatilla Indian Reservation; and
- Tax breaks and other incentives will be pursued for new business location and existing business expansion.

Urban Renewal Plan

The Pendleton Downtown Riverfront Urban Renewal Plan (the "Plan") is intended to promote the vitality of downtown and the Umatilla riverfront as the cultural and tourism center of the Pendleton community. The Plan will provide for improvements to tourist and cultural facilities, riverfront access and development, downtown parking, street and utility improvements, and will promote housing downtown. It will also assist property owners in the rehabilitation, development or redevelopment of their properties.

The Plan was developed with the guidance of the Urban Renewal Plan Advisory Committee, a group of Pendleton residents, business and property owners. The planning process included meeting with representatives of the taxing districts that levy taxes within the Pendleton Downtown Riverfront Urban Renewal Area including Umatilla County, Blue Mountain Community College and the Pendleton School District, to review and discuss the proposed urban renewal plan. On June 26, 2003, the City of Pendleton Planning Commission held a public hearing on the proposed plan and recommended its approval by the City Council. On July 15, 2003, the Pendleton City Council held a public hearing on the proposed plan, notice of which was provided to each individual household within Pendleton. On August 5, 2003, the Council approved Ordinance # 3687, adopting the Plan.

The Plan sets many goals which were developed with consideration to both transportation and land use. These goals will help to prevent sprawl, encourage infill, and lead to an urban form that can be more efficiently served with limited transportation resources and can accommodate a multimodal commuter system. It will be administered by the Pendleton Development Commission, which is the designated urban renewal agency of the City. The Commission will provide for public involvement in administration of the Plan.

Urban Renewal Goals and Objectives

- Connect Downtown Pendleton to the Umatilla riverfront.
 - Increase access opportunities to the river from downtown and promote new housing and commercial development on riverfront properties.
 - Promote development of land adjacent to the riverfront walk for uses that take best advantage of riverfront location.
 - Improve access to the riverfront from throughout downtown.
 - Create additional ways of enjoying the riverfront.
- Improve Downtown Pendleton as a Convention and Tourism Destination
 - Enhance the city's identity and facilities to attract tourist and convention business to visit and stay in downtown Pendleton.
 - Strengthen the entrances to downtown from the I-84 freeway and US 30.
 - Improve downtown tourist and convention facilities.
 - Increase parking, and provide streetscape and pedestrian amenities to enhance downtown businesses.
 - Rehabilitate and/or redevelop the commercial and residential areas bordering the downtown core.
 - Improve downtown cultural facilities and promote construction of new cultural attractions.

- Develop a Range of Housing Opportunities for a Mixed Use Downtown
 - Encourage new downtown housing alternatives that support or are complimentary to retail, service, office and tourist commercial uses.
 - Promote attached single-family housing and multi family housing alternatives.
 - Promote housing in combination with commercial uses downtown.
 - Promote the rehabilitation of existing housing units in the downtown area.
- Increase the Vitality of Pendleton's Downtown
 - Strengthen downtown's role as the retail, service, office, tourist and cultural heart of the Pendleton community. Promote new housing opportunities downtown.
 - Promote rehabilitation and restoration of historic and cultural structures in the downtown core.
 - Increase downtown's attraction to Pendleton residents and visitors.

Urban Renewal Projects

The urban renewal projects to be undertaken are described below. The nature and location of the projects will be incorporated into the transportation analysis. Exhibit B to the Plan contains the overall urban design vision of the area that formed the basis for the selection of urban renewal projects.

Public Improvements

Public improvements authorized under the plan include developing, replacing and/or upgrading streets and utilities, sidewalks and streetscape, parks, gathering places and open spaces, and public parking facilities. As shown in the report, urban renewal funds will be combined with existing and other future sources of funding to finance project costs.

Main Street Improvements

Main Street is the historic and traditional major retail street in downtown Pendleton. The most heavily traveled streets in the area are the east-west arterials, Court and Dorion Avenues. Because of this situation Main Street has the capacity for substantial improvements to the pedestrian environment, as well as for improved vehicular access to Main Street businesses.

Improvements to Main Street include pedestrian improvements at intersections and mid-block using special paving materials and other design features to give a greater sense of the importance of pedestrian crossings. This will encourage increased pedestrian shopping activity. Improvements will also include, where appropriate, street furniture, landscaping and entryway feature at the base of the South Hill. This entryway feature on South Hill may be matched with a similar feature on North Hill, developed by the City on city parkland outside the area. The two entryway features would physically define the central part of Pendleton and create a visual presence seen from I-84.

Improvements also include development and modification of existing public spaces adjacent to Main Street, where private or quasi-public landscaped areas are not hospitable to pedestrian use.

Riverfront Improvements

Improvements to the Umatilla Riverfront are intended to improve access to the river and create visual and functional links between the river and the downtown. Such improvements include developing the street rights-of-way north of Court Avenue that dead-end at the river as attractive river access points.

Improvements also include widening portions of the south bank of the river adjacent to the Riverfront Parkway and developing these areas to allow direct access to the river. Such areas will contain materials that will tolerate occasional seasonal flooding and be designed to not impede the flow of floodwaters. The removal of portions of the solid dike and replacement with removable flood control panels to improve river visibility are to be investigated and implemented if feasible. The planning and design of any improvement to the riverbanks that affects the flow of the river in any way will be coordinated with the Confederated Tribes of the Umatilla Indian Reservation.

Improvements will be made to the River Parkway to encourage even greater use of this amenity. These may include additional pedestrian furniture, widening of selected areas and installation of landscaping materials.

New Off-Street Public Parking Facilities

Parking improvements include development of properties to be determined as public parking-facilities. Such facilities will be located to provide easy access to Main Street and other downtown retail and commercial centers, and could be screened and minimized by existing and new buildings. Initially surface

Parking lots will be sufficient to serve the Area. Over time, parking structures would be required to meet parking demands.

Street and Utility Improvements

Unimproved and under improved streets and sidewalks in the Area will be improved and provided with proper storm drainage. Development of new local streets to improve access to and circulation within the extreme eastern and western parts of the Area are also authorized.

Parks, Plazas and Open Spaces

In addition to small public spaces on Main Street, public improvements under the Plan will include developing smaller urban parks and open spaces throughout the Area. Such areas are important amenities for intensified residential and commercial uses.

Assistance to Property Owners/Lessees for Rehabilitation, Redevelopment or Development

The Plan authorizes assistance to property and/or business owners, in making capital improvements to property within the Area which support the goals of the Plan. Specific programs and rules and regulations for their administration will be developed to ensure that urban renewal funds are used properly and for the agreed on purposes. The adoption and amendment of such programs, rules and regulations shall not be considered changes to the Plan.

Programs may include the following: Loans and/or grants for property rehabilitation and development, redevelopment and other improvements. Property to be improved may be residential or commercial. Loans may be at, or below, market rates, and assistance can include direct loans or guarantees of loans made by third parties.

Technical assistance, in the form of site studies, market studies, feasibility analyses, engineering and design and other activities directly related to development of property in the Area. Examples of such technical assistance include structural analysis of downtown building's to promote rehab and use of upper stories and preparation of building prototypes that would be most suitable for development adjacent to the river.

Special Transportation Recommendation in the Urban Renewal Plan

In addition to the bulb-outs, medians, and parking recommendations, the plan recommends additional study be given to the possibilities and ramifications of rerouting the major downtown vehicular access from South Hill and the freeway from Main Street onto SE 3rd and/or SW 4th. This could both alleviate some through-traffic on Main Street, and better circulate vehicles onto other downtown streets, as Main would no longer be the straight and continuous north/south connection between the hills through downtown, but would instead be a portion of a more varied connection with a number of route options. In these scenarios, Main Street potentially could be dead-ended at the base of South Hill or as high up the hill as Isaac Street.

4.4 CONCLUSION

The City of Pendleton is fortunate to have a grid system and moderate urban densities. It is imperative that these system characteristics be maintained and expanded into the edges of the urban growth area. Topographical challenges have led to a more suburban development pattern outside of the city core. In order to guide the development of a land use pattern that is supportive of a multimodal transportation system, numerous code revisions should be adopted. These revisions are outlined in detail in Chapter 8. As shown in the Key Recommendations (see page 12 of the Summary in Chapter 1), the downtown should also be studied in light of the concepts for the urban renewal plan. These concepts should be further refined, analyzed from a transportation perspective, and then implemented. Lastly, the City should investigate the development of an infill ordinance to encourage development of inner city parcels.

5. ALTERNATIVES ANALYSIS

5.1 INTRODUCTION

This chapter provides an analysis of a variety of future transportation system alternatives as one-step in the development of the City of Pendleton TSP update. These alternatives were developed, modeled, and analyzed to determine the most efficient and beneficial combination of policies and projects for the City of Pendleton.

This chapter includes a discussion of potential changes and additions to the existing street and highway transportation system. This information supplements Chapter 4 which provides a review of the estimated 2027 population and employment growth estimates based on land development assumptions consistent with the Pendleton Comprehensive Land Use Plan. Both the land use (e.g., population and employment) assumptions and the future transportation network are built into an area-wide travel demand forecasting model. This model was developed by ODOT's Transportation Planning Analysis Unit (TPAU) using the EMME/2 forecasting software. The model is used to project future traffic volumes at key intersections within the TSP study area, to determine future traffic needs and deficiencies, and to assess the transportation implications of various improvement alternatives.

This chapter also describes the alternatives that have been considered as a part of TSP development. These alternatives include:

- Alternative 1: No-Build – Assumes that no additions would be made to the transportation system beyond those currently programmed and described in Section 2.
- Alternative 2: Street System – Assumes a variety of street improvements to address future system capacity deficiencies.
- Alternative 3: Demand Management – Uses a lower cost approach to address anticipated system needs and deficiencies relying on changes in travel behavior including an increase in bicycling, walking or using transit, and a decrease in the use of single-occupant vehicles (SOVs).
- Alternative 4: Balanced Approach – Assumes a combination of Alternatives 2 and 3.

This chapter also summarizes the analysis of the transportation system alternatives and documents key findings and conclusions, includes a discussion of land use issues closely related to transportation system efficiency, and presents a summary of the analysis process and introduces a list of recommended projects for inclusion in the TSP.

5.2 FUTURE (2027) CONDITIONS

Overview

This section estimates future traffic growth patterns along the state highways and major city streets within the study area, and to identify any potential intersection traffic operational problems associated with that growth. Also included is a discussion of the methodology and assumptions used in developing future traffic forecasts and the results of intersection analysis.

2027 Future Traffic Forecasts

Based on the 2006 traffic volume counts documented in Chapter 2, future traffic volumes were estimated using ODOT's Transportation Planning and Analysis Procedures and Methods (2006) guidelines. The methodology is summarized in Appendix B. (2027) peak traffic volumes at the subject intersections are shown on Figure 5-1 through Figure 5-4.

2027 Future Traffic Operations

The analysis of existing and future traffic operations was conducted using a Synchro traffic simulation model which was developed specifically for Pendleton. These models include the field-verified geometrics and other relevant physical data for each intersection. Analysis procedures follow TPAU guidelines.

Signalized Intersections

Table 5-1 summarizes 2027 traffic operations at signalized intersections for peak hourly volumes. Data in this table includes overall intersection V/C ratios, average intersection delay, and intersection levels of service. Signalized intersection analysis worksheets are included in Appendix A.

As traffic increases in Pendleton, and no improvements are made to the street and highway system, the currently failing intersection of Emigrant Avenue at 20th Street will continue to fail V/C standards. Additionally, the intersections of US 30 with Oregon 11/Court Place and US 395 with 30th Street are anticipated to exceed V/C standards in the future.

Table 5-1. 2027 Peak Hour Traffic Operations at Key Signalized Intersections

Signalized Intersections	2027 (Future No-Build) Operations		
	Maximum V/C Ratio	Average Delay (sec/vehicle)	LOS
Emigrant Avenue & US 395(20th Street)	>1.00	>80	F
Dorion Avenue & SW 10th Street	0.55	13.4	B
Court Avenue & SW 10th Street	0.52	8.2	A
Court Avenue & SW 4th Street	0.37	4.6	A
Byers Avenue & Main Street	0.24	11.4	B
Dorion Avenue & SW 4th Street	0.49	7.1	A
Dorion Avenue & Main Street	0.45	4.5	A
Emigrant Avenue & Main Street	0.38	10.2	B
Frazer Avenue & Main Street	0.29	14.9	B
Hailey Avenue & US 395	0.76	25.4	C
30th Street & US 395	0.84	20.5	B
South Gate Avenue & US 395	0.51	14.6	B
US 30 & Oregon 11/Court Place	0.88	22.5	C
West Gate Avenue & North Gate Avenue	0.6	8.0	A
Court Avenue & Main Street	0.47	12.0	B

Unsignalized Intersections

Table 5-2 summarizes the future (2027) traffic operations for the peak traffic volumes at unsignalized intersections in Pendleton. As with the signalized intersections, data in these tables includes delay, V/C ratios, and levels of service for the critical movement. Intersection analysis worksheets are included in Appendix A.

Review of the information in Table 5-2 indicates that the three intersections that currently will exceed ODOT V/C standards for state highways of this type will remain in failure in 2027. These include the intersections of US 395 with the east and westbound I-84 ramps, and the intersection of Court/Dorion Avenue with West Gate Avenue. No other key unsignalized intersections are expected to exceed the V/C standards. However, it is anticipated that the critical movements at several intersections will experience considerable delay including SW 17th Street at both Emigrant and Court Avenues. This delay also translates into sizeable queues at unsignalized intersections.

Table 5-2. 2006 Peak Hour Traffic Operations at Key Unsignalized Intersections

Unsignalized Intersections and Critical Movement	2027 (Future No-Build) Conditions		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
Court Avenue & SW 17th Street			
<i>Northbound Left</i>	0.13	37.3	E
Emigrant Avenue & SW 17th Street			
<i>Southbound</i>	0.67	42.7	E
<i>Northbound</i>	0.50	53.1	F
Frazer Avenue & SW 17th Street			
<i>Northbound</i>	0.09	16.1	C
Emigrant Avenue & SW 10th Street			
<i>Southbound</i>	0.34	15.9	C
Carden Avenue & SW 10th Street			
<i>All-way</i>		8.7	A
Court Avenue & SW 4th Street			
<i>Northbound</i>	0.11	14.7	B
Emigrant Avenue & SW 4th Street			
<i>Northbound</i>	0.48	28.5	D
Frazer Avenue & SW 4th Street			
<i>Northbound</i>	0.22	16.1	C
<i>Southbound</i>	0.22	17.8	C
I-84 WB Ramps & US 395			
<i>Eastbound Left</i>	>1.00	>80	F
I-84 EB On-Ramp & US 395			
<i>Eastbound</i>	>1.00	>80	F
I-84 WB On-Ramp & Oregon 11			
<i>Westbound</i>	0.18	13.6	B
I-84 EB Off-Ramp & Oregon 11			
<i>Eastbound</i>	0.53	17.4	C

Unsignalized Intersections and Critical Movement	2027 (Future No-Build) Conditions		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
SE 10th Street & SE 9th Street			
<i>Westbound</i>	0.29	12.7	B
<i>Eastbound</i>	0.12	15.2	C
Carden Avenue & North Gate Avenue			
<i>Westbound Left</i>	0.32	16.1	C
<i>Eastbound Left</i>	0.16	14.1	B
US 30 & Airport Road			
<i>Southbound Left</i>	0.49	26.5	D
<i>Northbound</i>	0.27	16.6	C
River Road & I-84 EB Off-Ramp			
<i>Eastbound Left</i>	0.25	13.3	B
Court/Dorion Avenue & West Gate Avenue			
<i>Southbound Thru</i>	>1.00	>80	F

Traffic Queuing

Turn lane storage and queuing was also examined for signalized and unsignalized intersections and at freeway ramps. Table 5-3 summarizes the 95th percentile queue lengths for critical movements for signalized intersections. Estimates of available storage are based of measurements from aerial mapping, consequently effective storage provided may differ from the measurements quoted in this table. Vehicle queue estimates were prepared using traffic analysis software. Estimated queues are rounded to the nearest 25 feet.

Table 5-3. Peak Traffic Queues at Key Signalized Intersections

Intersection	Available Storage (feet) ^a	2027 Queue (feet)
Emigrant Avenue & US 395(20th Street)		
<i>Westbound Thru</i>	200	350
<i>Eastbound Left</i>	200	450
Dorion Avenue & SW 10th Street		
<i>Eastbound Thru</i>	460	250
Court Avenue & SW 10th Street		
<i>Westbound Thru</i>	230	100
Court Ave & SW 4th Street		
<i>Westbound Thru</i>	270	150
Byers Avenue & Main Street		
<i>Westbound Thru</i>	250	100
Dorion Avenue & SW 4th Street		
<i>Eastbound Thru</i>	530	100
Dorion Avenue & Main Street		
<i>Eastbound Thru</i>	270	100

Intersection	Available Storage (feet) ^a	2027 Queue (feet)
Emigrant Avenue & Main Street		
<i>Westbound Thru</i>	270	100
Frazer Avenue & Main Street		
<i>Eastbound Thru</i>	270	125
Hailey Avenue & US 395		
<i>Eastbound Thru</i>	630	275 ^b
<i>Southbound Thru</i>	650	400
30th Street & US 395		
<i>Southbound Thru</i>	2,075	800 ^a
South Gate Ave & US 395		
<i>Southbound Thru</i>	1,350	350
<i>Eastbound Left</i>	1,560	225
US 30 & Oregon 11		
<i>Eastbound Thru</i>	180	250 ^a
<i>Westbound Left</i>	300	250 ^a
West Gate Avenue & North Gate Avenue		
<i>Eastbound Thru</i>	500	300
Court Avenue & Main Street		
<i>Westbound Thru</i>	270	200

Note: Queues are rounded to 25 feet increments.

^a Available storage is the length of the turn lane, where one exists. Where a turn lane does not exist, it is the length of the lane to the nearest intersecting public street.

^b Exceeds queue capacity during computer simulation. However, does not frequently reach full length of roadway segment.

Table 5-4 summarizes the 95th percentile queue lengths for critical movements for unsignalized intersections. As with the estimates of available storage for signalized intersections, estimates for the unsignalized intersections are based of measurements from aerial mapping and would have the same limitations as described above. Vehicle queue estimates were prepared using traffic analysis software. Estimated queues are rounded to the nearest 25 feet.

Table 5-4. Peak Traffic Queues at Key Unsignalized Intersection

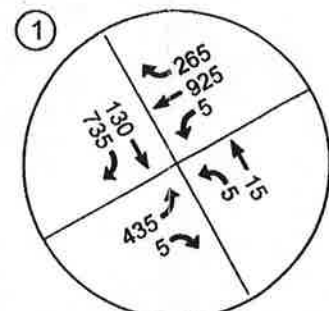
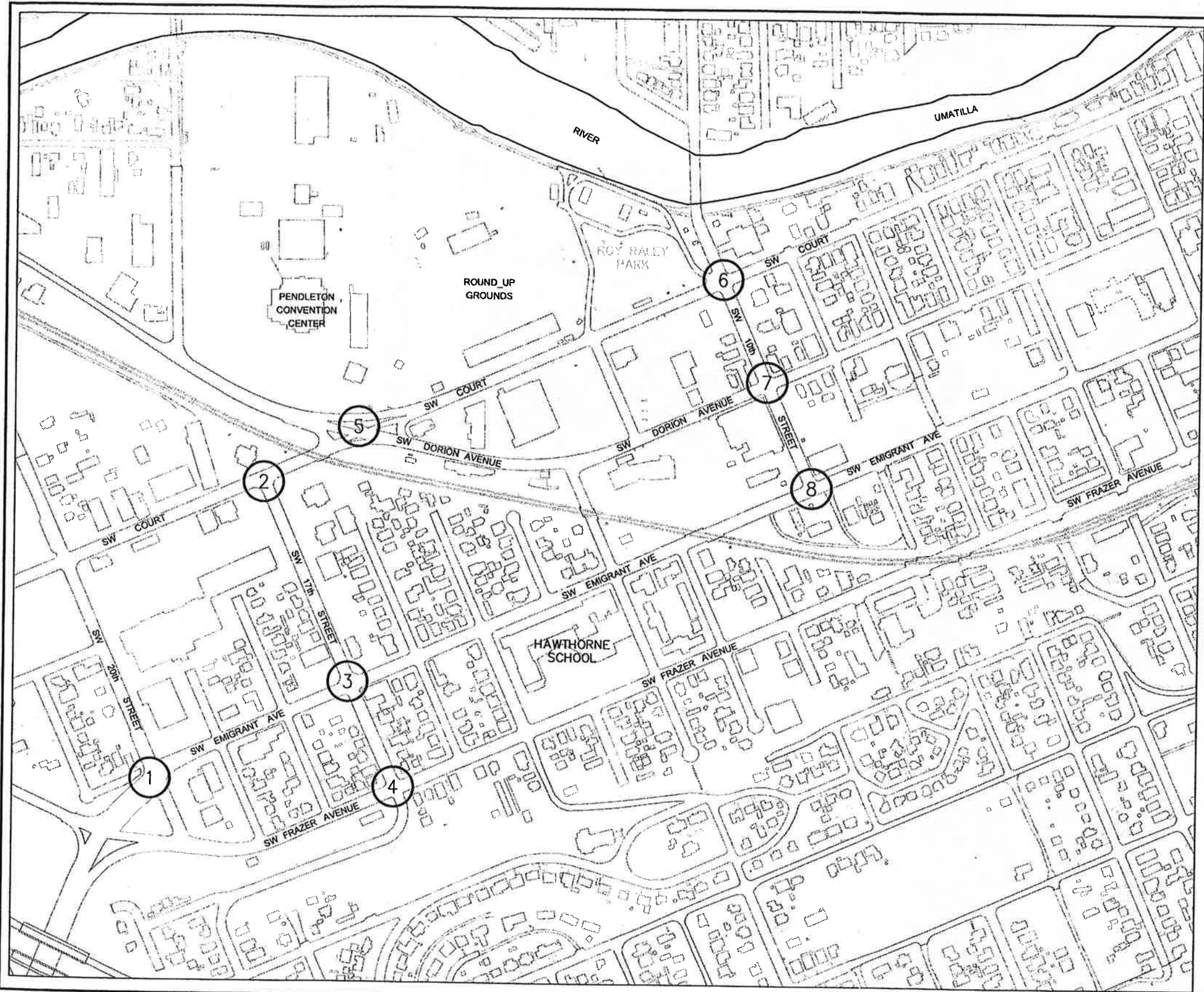
Intersection	Available Storage (feet)	2027 Queue (feet)
Court Avenue & SW 17th Street		
<i>Northbound Left</i>	750	25
Emigrant Avenue & SW 17th Street		
<i>Southbound</i>	750	125
<i>Northbound</i>	350	75
Frazer Avenue & SW 17th Street		
<i>Southbound</i>	350	25
<i>Northbound</i>	350	25
Emigrant Avenue & SW 10th Street		
<i>Southbound</i>	350	50

Intersection	Available Storage (feet)	2027 Queue (feet)
Emigrant Avenue & SW 4th Street		
<i>Northbound</i>	400	75
Frazer Avenue & SW 4th Street		
<i>Northbound</i>	400	25
<i>Southbound</i>	150	25
I-84 WB Ramps & US 395		
<i>Eastbound Left</i>	2,000	*
I-84 EB Off-Ramp & US 395		
<i>Eastbound</i>	900	*
I-84 WB Off-Ramp & Oregon 11		
<i>Westbound</i>	2,000	25
I-84 EB Off-Ramp & Oregon 11		
<i>Eastbound</i>	1,150	*
SE 10th/SE 9th Street & Oregon 11		
<i>Westbound</i>	250	25
<i>Eastbound</i>	130	25
Carden Avenue & North Gate Avenue		
<i>Westbound Left</i>	300	50
<i>Eastbound Left</i>	100	25
US 30 & Airport Road		
<i>Southbound Left</i>	200	75
<i>Northbound</i>	2,175	50
River Road & I-84 EB Off-Ramp		
<i>Eastbound Left</i>	1,450	25
Court/Dorion Avenue & West Gate Ave		
<i>Southbound Thru</i>	200	300

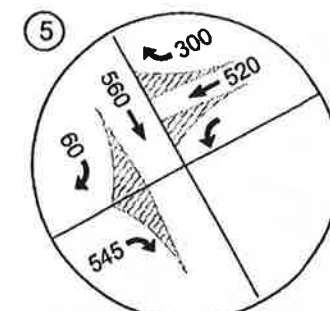
Note: Queues are rounded to 25 feet increments.

* = Exceeds queue capacity

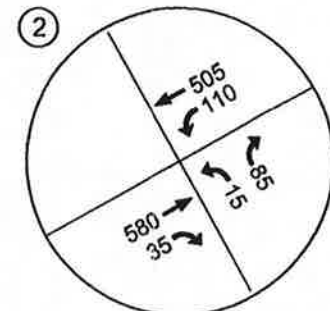
As indicated in the previous tables, traffic queuing problems are currently being experienced throughout the corridor in the existing and future time periods studied. Queuing at some intersections on the downtown couplets actually improve under the 2027 scenario because signals are in effect metering traffic through the system.



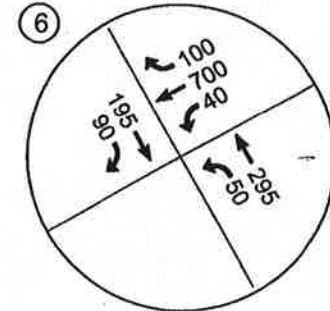
EMIGRANT AND SW 20th ST



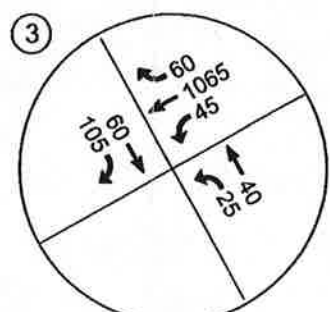
COURT AVE / SW DORION AVE AND WESTGATE



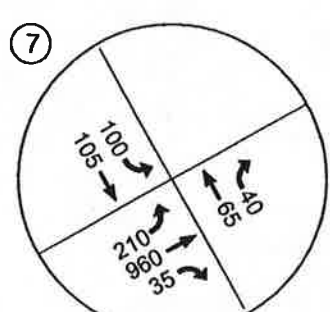
COURT AVE AND SW 17th ST



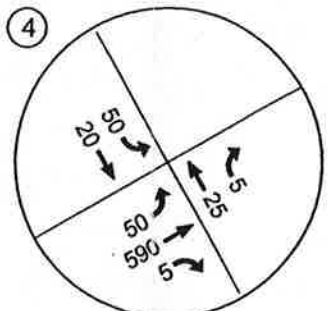
COURT AVE AND SW 10th ST



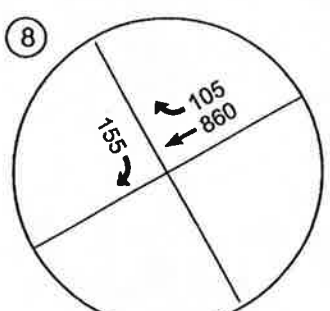
EMIGRANT AVE AND SW 17th ST



DORION AVE AND SW 10th ST



FRAZER AVE AND SW 17th ST

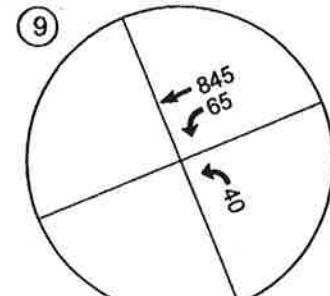
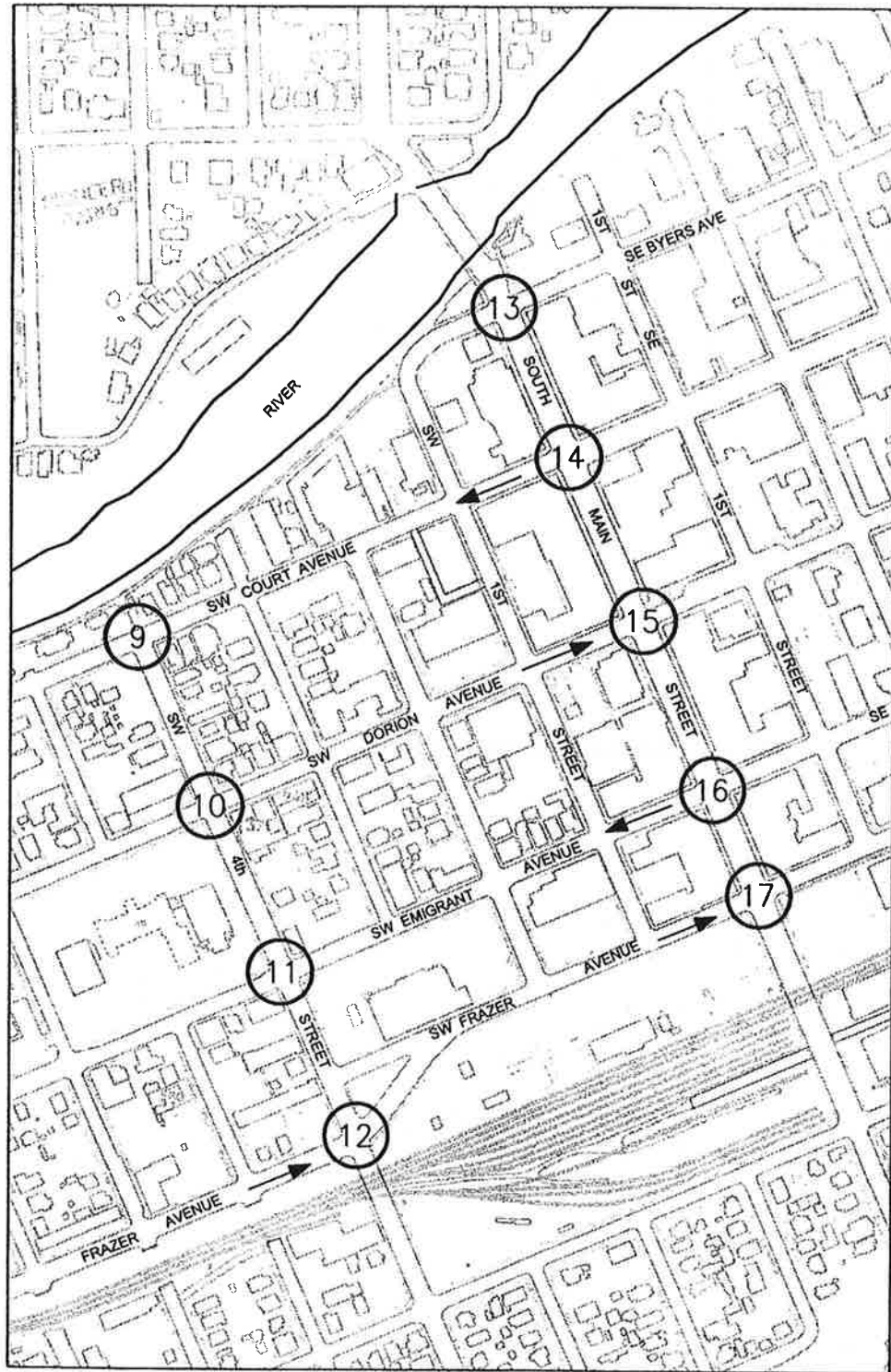


EMIGRANT AVE AND SW 10th ST

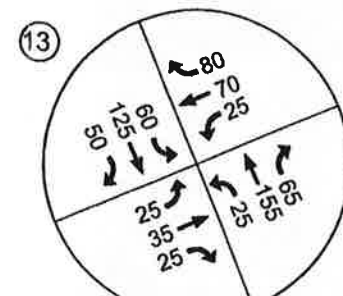


LEGEND
 ←XXX VOLUME BY MOVEMENT

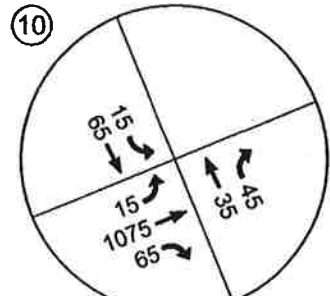
Figure 5-1
2027 PM Peak Hour
Balanced Volumes (1-8)



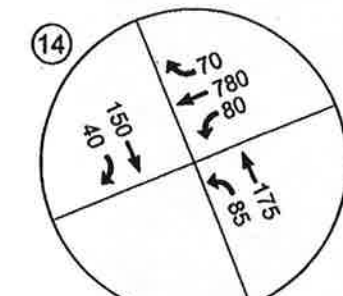
COURT AVE AND SW 4th ST



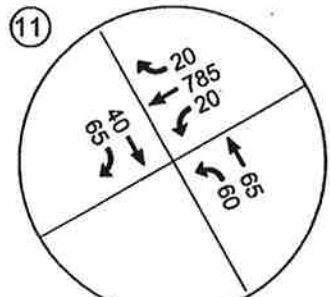
BYERS AVE AND SOUTH MAIN ST



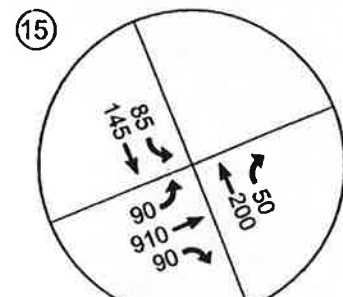
DORION AVE AND SW 4th ST



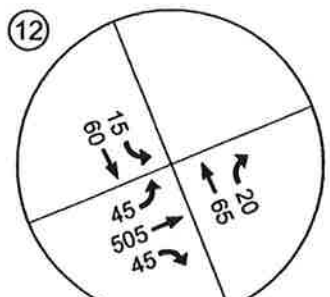
COURT AVE AND SOUTH MAIN ST



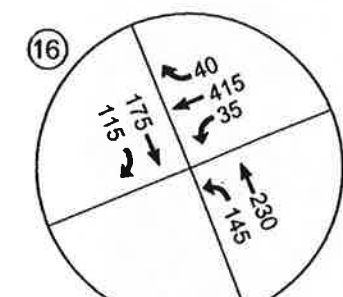
EMIGRANT AVE AND SW 4th ST



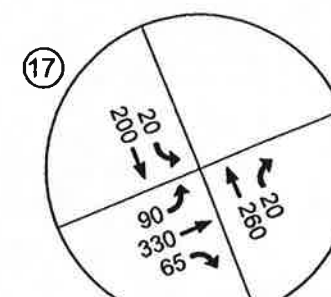
DORION AVE AND SOUTH MAIN ST



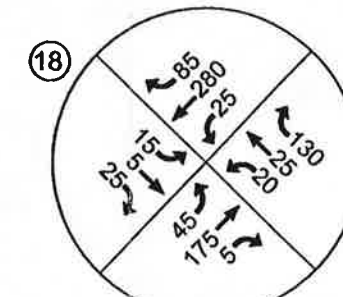
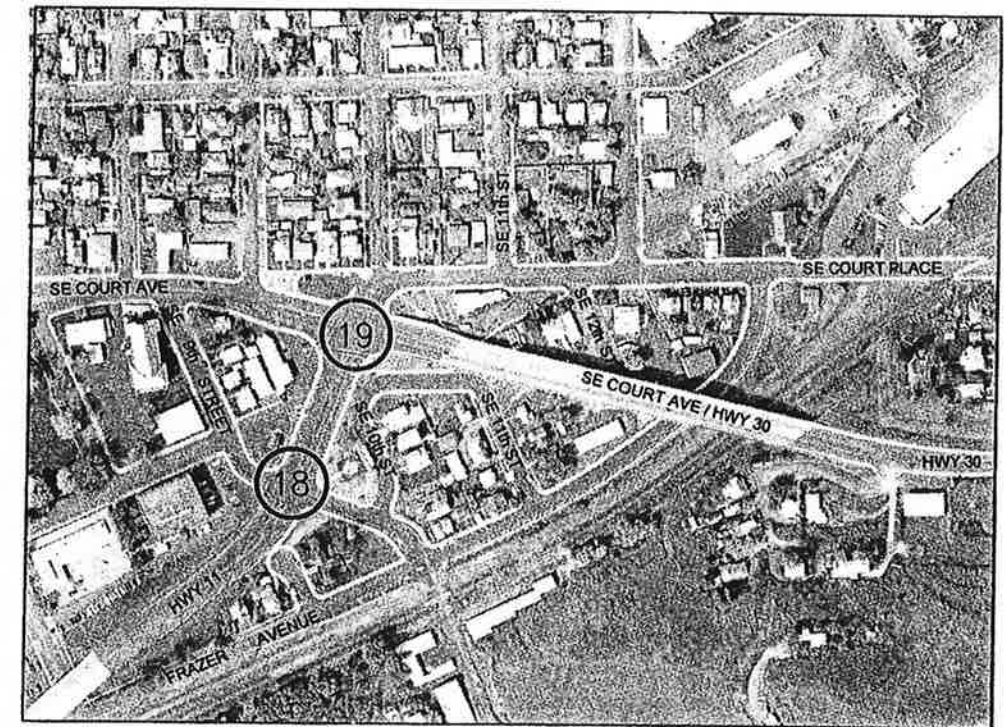
FRAZER AVE AND SW 4th ST



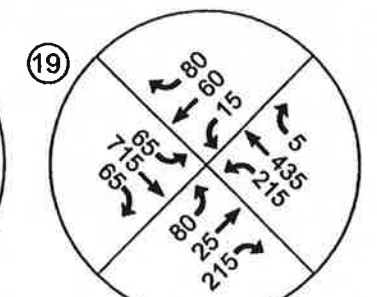
EMIGRANT AVE AND SOUTH MAIN ST



FRAZER AVE AND SOUTH MAIN ST



HWY 11 AND SE 9th ST - SE 10th ST



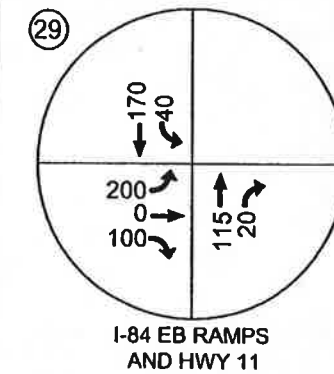
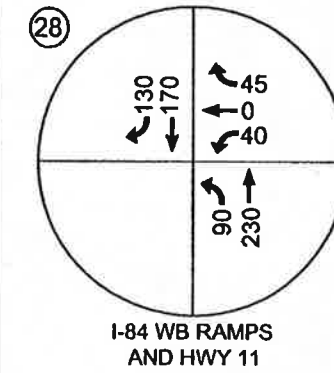
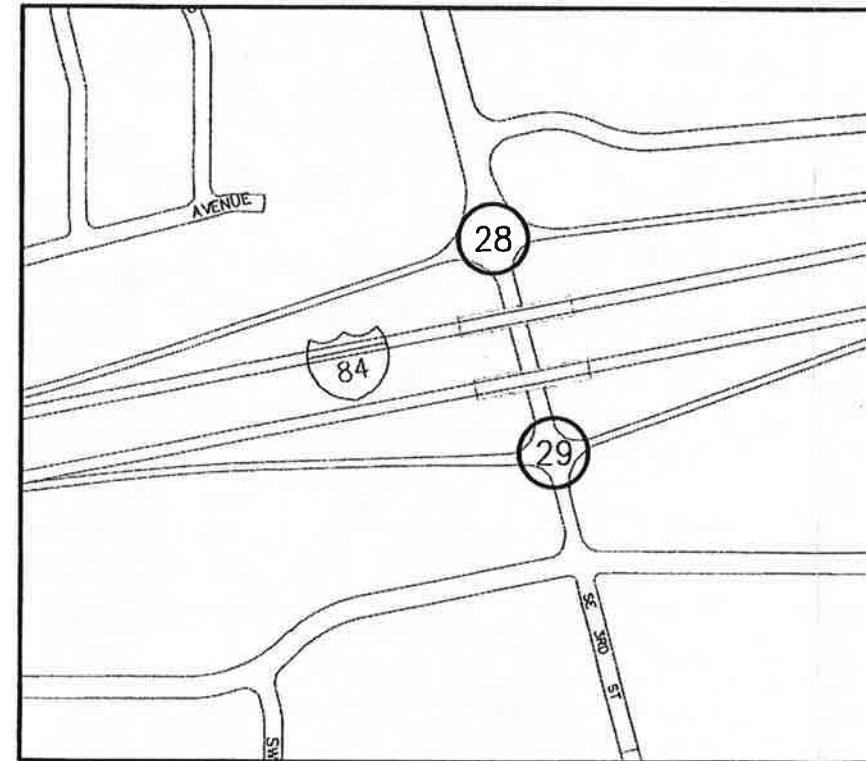
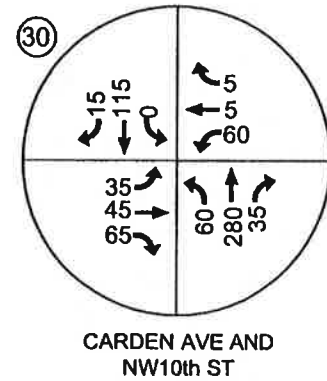
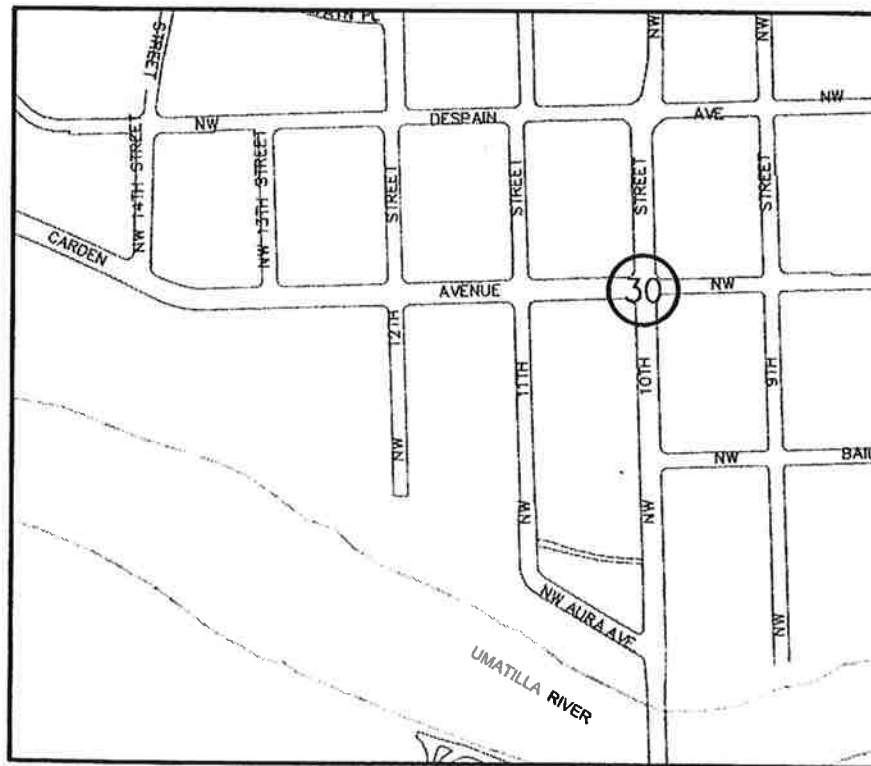
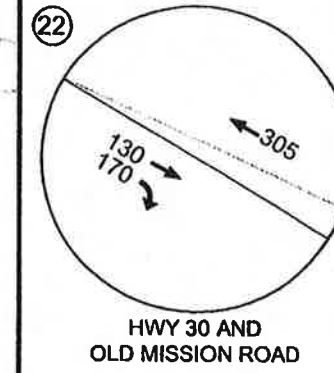
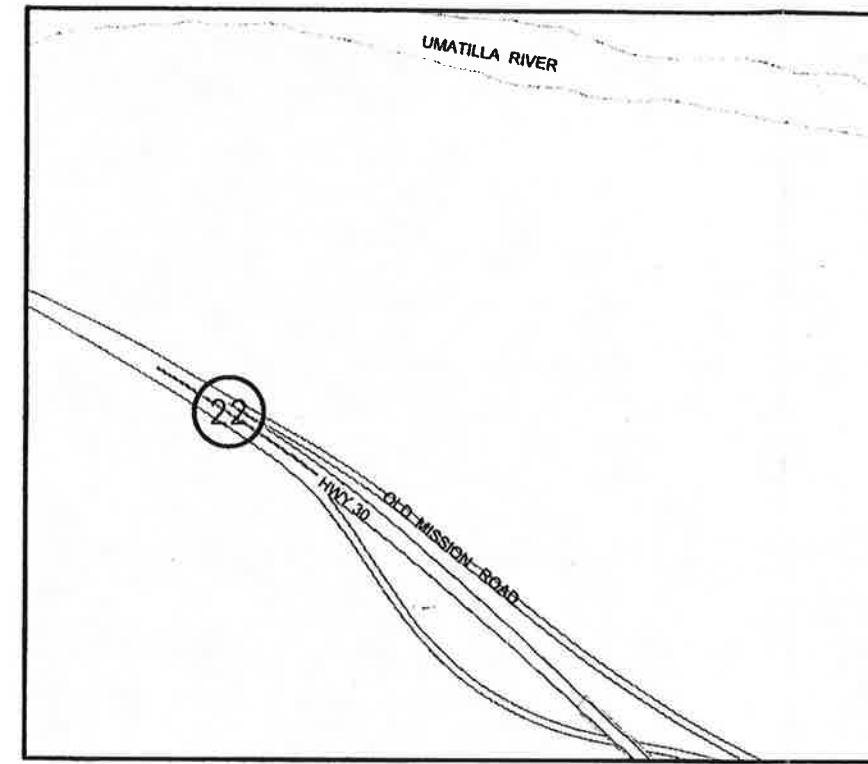
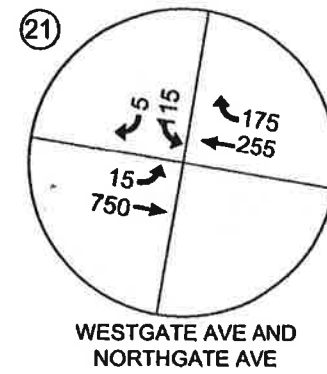
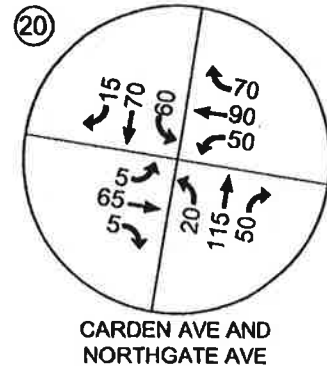
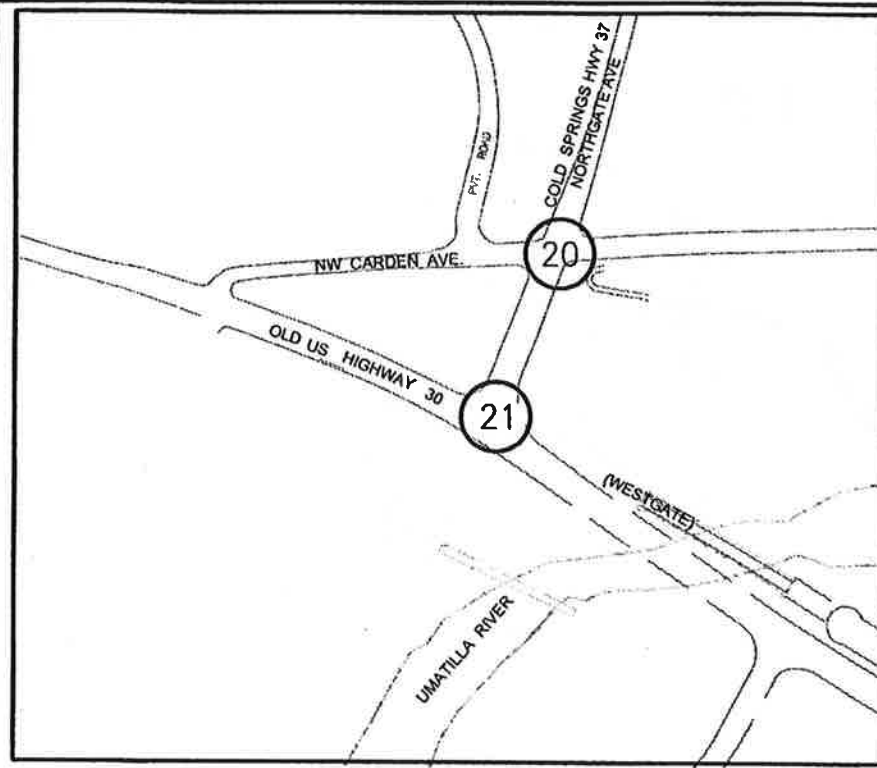
HWY 30 AND HWY 11 - SE COURT PLACE



LEGEND

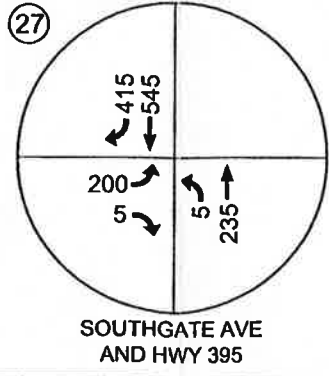
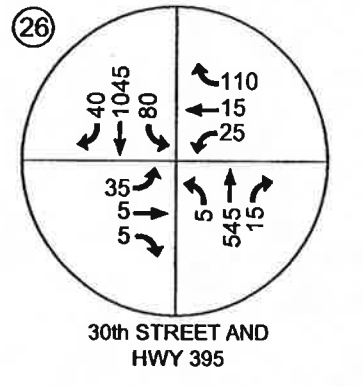
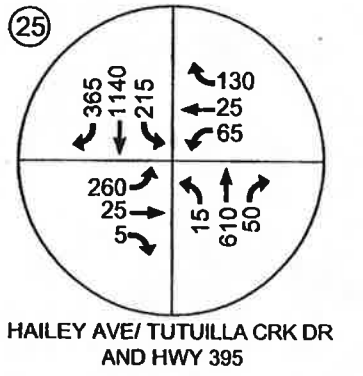
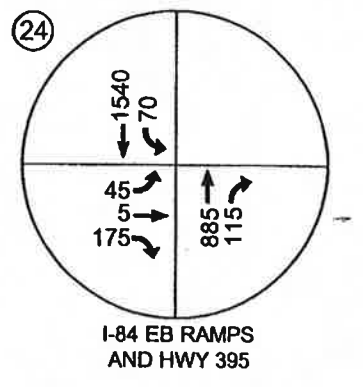
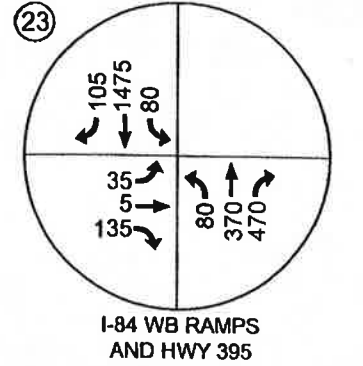
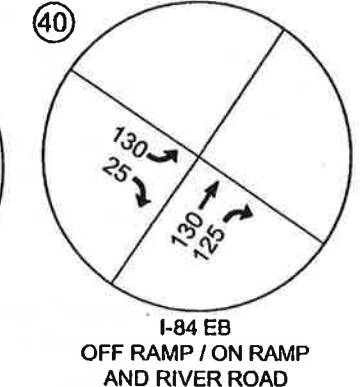
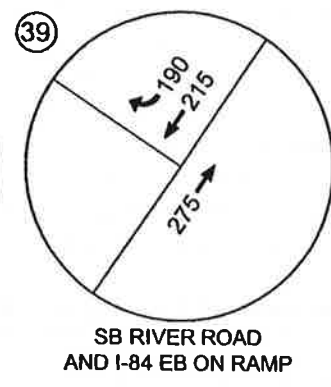
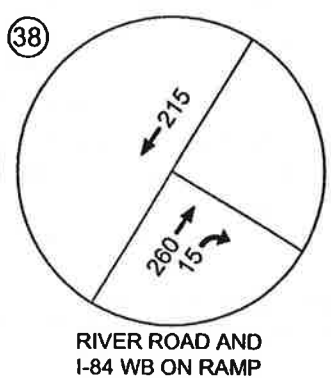
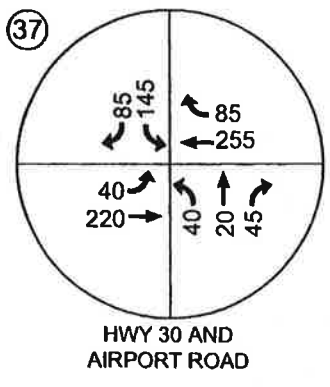
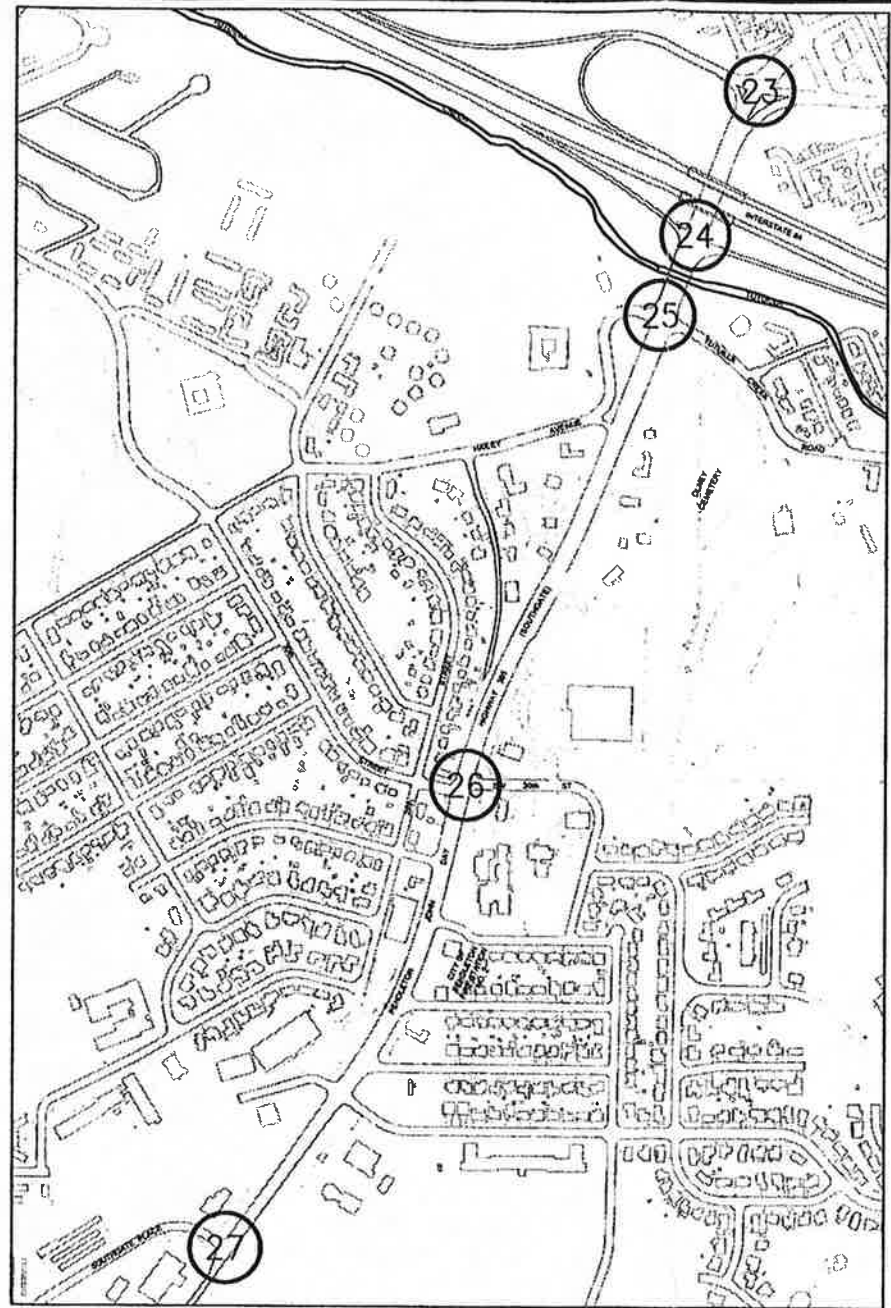
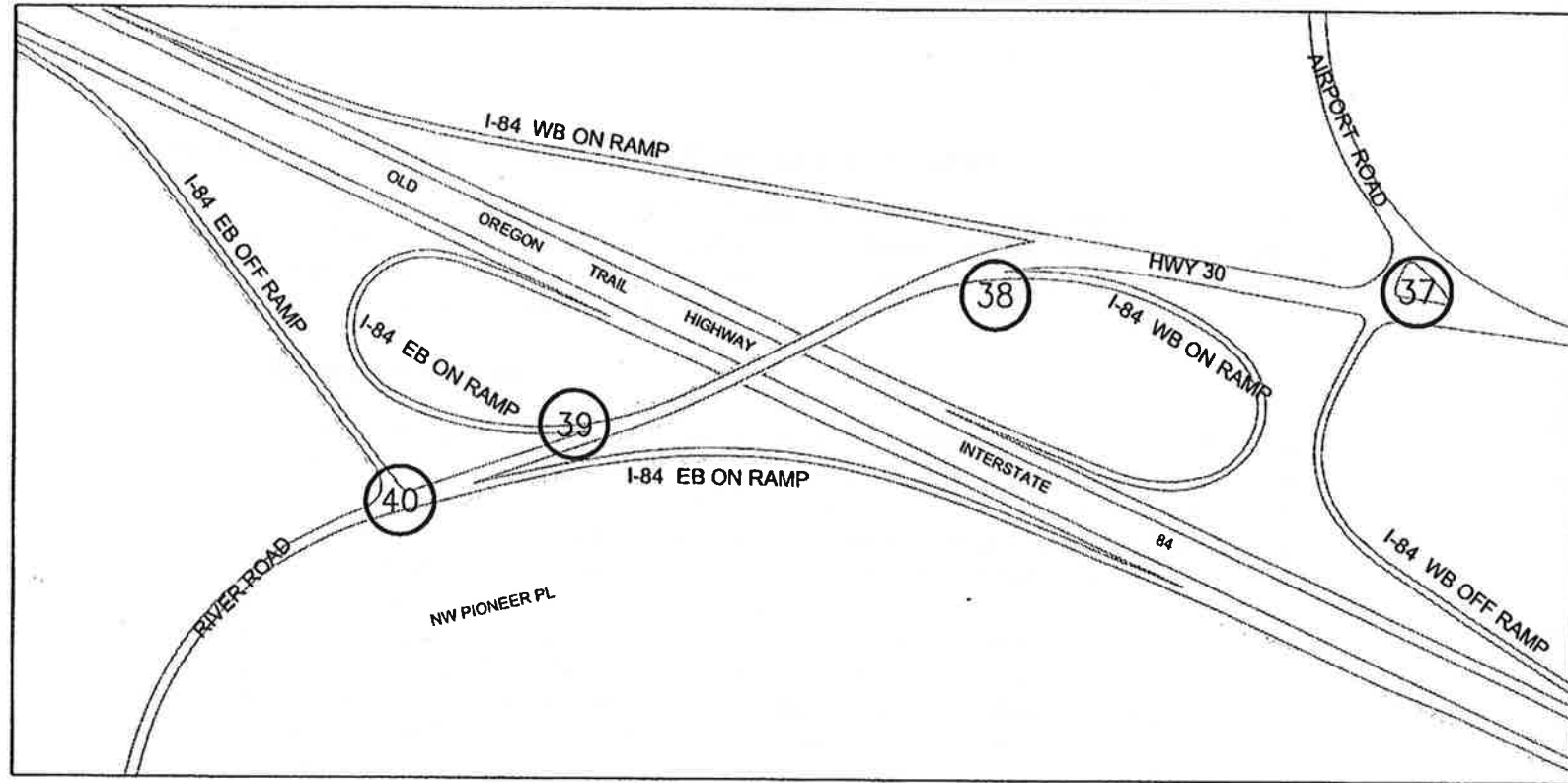
↪XXX VOLUME BY MOVEMENT

Figure 5-2
2027 PM Peak Hour
Balanced Volumes (9-19)



LEGEND
 XXX VOLUME BY MOVEMENT

Figure 5-3
 2027 PM Peak Hour
 Balanced Volumes (20-22; 28-30)



LEGEND
 ◀XXX VOLUME BY MOVEMENT

Figure 5-4
 2027 PM Peak Hour
 Balanced Volumes (23-27; 37-40)



5.3 TRANSPORTATION MODEL NETWORK ASSUMPTIONS

The analysis of future roadway system operational deficiencies was based on projected 2025 travel demand volumes that were loaded on the future roadway network. This network includes existing roads, as well as many programmed roadway improvements that are expected to be constructed before the planning horizon year of 2025.

City Improvements

While the City does not have sufficient revenues for a robust Capital Facilities Program, it does plan, build, and participate in the construction of improvement projects nearly every year. The City dedicates its annual transportation revenues (from the state and from gas taxes) to maintenance and preservation projects. Chip seals extend the useful life of asphalt roadways and shoulders at much lower cost than pavement overlays. The City also provides patches, seals, landscape services, and other maintenance activities. However, current revenue sources can not adequately maintain all of the city's existing facilities and there is little, if any, money from these sources left over for new capital projects. The City has been successful in winning federal earmarks, collecting System Development Charges (SDCs), and partnering with ODOT on key projects as a means of providing for capital infrastructure development.

State Transportation Improvement Program Improvements

The Oregon STIP includes projects in Umatilla County and the City of Pendleton. Listed in the STIP are major maintenance activities, operational and capacity improvements, bridge improvements and various highway amenities. None of the STIP projects in the city are expected to add capacity to or otherwise affect the assignment of future traffic volumes. The improvement projects programmed in the 2006–2009 STIP for the general Pendleton area are shown below in Table 5-5. The two projects in bold type (Barnhart Connector and the improvements to the I-84 ramps at Southgate/US 395) are the only two projects that are projected to have an impact on capacity and trip distribution.

Table 5-5. 2006–2009 Oregon STIP Projects Near Pendleton

Name	Location	Description
Barnhart Road/Airport Road Connector	Located in northwest Pendleton	Construct new local road
US 395/I-84 Pendleton Interchange Ramps	MP 1.58 to 1.68	Reconstruct US 395/I-84 interchange
US 30	At Court and Dorion Avenues	Reconfigure intersection, remove eastbound right turn lane
I-84 at OR 320 VMS	MP 214 at MP 26.5 (Madison), 3 to 4 miles east of Pendleton	Install variable message sign
OR 331 Access Improvements	Umatilla Mission highway	Operational/access improvements under OTIA III Mod program
US 395: McKay Cr – N Fork John Day – Bundle 406	Bridge 08050 is just south of Pendleton	Replace Bridges 08050, 02561, 04728, 04729
WCL Pendleton – Milton Freewater	Various highways	Pavement preservation
Stage Gulch Ditch (Cooper Rd) Bridge		Replace Bridge 59C680 (Non-OTIA)
McKay Creek (SW Quinney) Bridge	Located in southern Pendleton, west of US 395	Replace Bridge 59C001 (non OTIA)

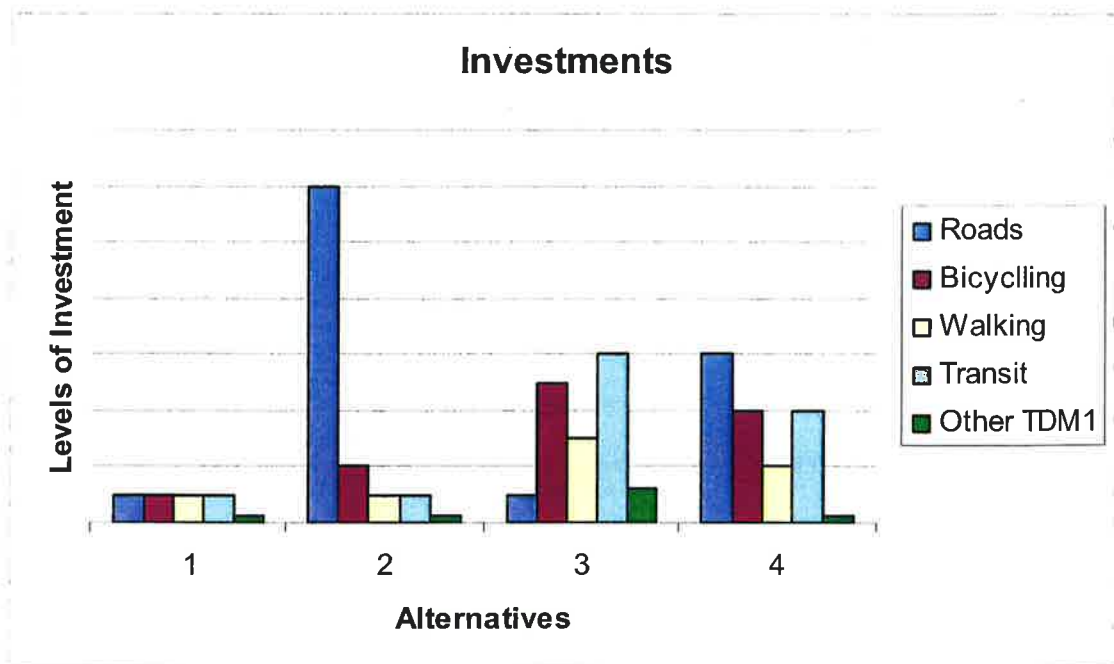
5.4 ALTERNATIVES SUMMARY

ODOT requires TSPs to be developed through a robust alternatives analysis. For the development of the Pendleton TSP, the following alternatives were analyzed:

- Alternative 1: No-Build – Assumes that no additions would be made to the transportation system beyond those currently programmed and described.
- Alternative 2: Street System – Assumes a variety of street improvements to address future system capacity deficiencies.
- Alternative 3: Demand Management – Uses a lower cost approach to address anticipated system needs and deficiencies relying on changes in travel behavior including an increase in bicycling, walking or using transit, and a decrease in the use of single-occupant vehicles (SOVs).
- Alternative 4: Balanced Approach – Assumes a combination of Alternatives 2 and 3.

In summary, the No-Build Alternative considers no new programs or facilities. The Street System, Alternative 2, is focused on building new roads only. Alternative 3, Demand Management, is focused not on building roads, but on improving bicycle, pedestrian, and transit services and systems. Alternative 4, the Balanced Approach, combines roads with transit and bikes. Figure 5-5 below gives a conceptual representation of each of the alternatives in relation to the level of funding emphasis in each specific sector of the transportation system.

Figure 5-5. Conceptual Alternatives in Relation to Funding Emphasis



¹ Other TDM refers to transportation demand management programs that encourage use of alternative transportation modes.

Alternative 1 (No-Build)

Alternative 1 is the do-nothing option, herein referred to as the "future no build" scenario. While this scenario is not likely to be realized due to the pressures of community growth and development, it sets a baseline for comparison and demonstrates the resultant conditions if the City of Pendleton and ODOT were unable to fund any further roadway improvements. This alternative was developed, analyzed, and reported on in the Current and Future No-Build Technical Memorandum (Parametrix 2006). The results of the analysis have been compared with results for the various improvement alternatives presented in this memorandum to provide a better understanding of the implications of each improvement alternative. However, this alternative will not be discussed in detailed within this memorandum, as it does not represent a viable approach for the planning on the Pendleton TSP. In this alternative, the following intersections were projected to be in peak period failure by 2027:

- Emigrant and 20th Street
- US 395 and I-84 WB Ramp
- US 395 and I-84 EB Ramp
- US 395 and 30th Street
- US 30 and Oregon 11
- Court/Dorion/Westgate

Alternative 2 (Street System)

Alternative 2 is the "Street System" solution. This alternative identifies likely funding levels and road improvement dollars that could be available to implement the proposed roadway improvements. While some of these roadways will include bike facilities and sidewalks, only street construction is purposefully emphasized in this analysis. No effort is made to assume that commuters will be able to use transit service in within the planning horizon. The projects assumed to be in place for use in preparing travel forecasts with this alternative are shown below.

- **The Barnhart Connector** – connecting the airport and surrounding industrial areas with the I-84. This project is intended to provide improved access to the industrial areas especially for freight haulers which are not well served with the steep Airport Road. It is not projected that this connection will significantly alter travel patterns city wide. Early analysis of the Interchange Area Management Plan provides supports to presumption that the connector will not significantly alter travel patterns.
- **NW Westgate Drive** – connecting the Industrial Park and Penitentiary area with Court Place (overpass), crossing the Umatilla River. The existing access to these areas crosses the railroad tracks, and is consequently blocked many times each day. This access will allow for an unimpeded access as well as providing a secondary access in the event of emergencies. It is not expected that this project would significantly impact travel patterns in the City.
- **SW Perkins Collector** – this roadway connects the two areas of town south of the Interstate (Tutuilla Road and Southgate). As such, it is expected to impact the trip distribution in the model, and the travel patterns of commuters. It also connects the southwest area of town with the Middle School.
- **SW 7th Place** – this project will connect the two sections of SW Nye Avenue and opens new land to development. This project is not expected to significantly impact travel patterns.

- **US 395 and I-84** – will provide right turn only lane on eastbound ramp. This project is currently in design and will be constructed within the next 2 years.
- **US 395 and SW Hailey Avenue** – this project is also in design and is expected to be constructed within the next two years. It will provide a “Jug Handle” to accommodate the east bound vehicles exiting I-84. These vehicles will be forced to make a right turn (heading south) at Southgate/US 395, and use this juggle hand to circle back to the north.
- **Emigrant/20th Street and US 395/I-84 WB Ramp** – a split intersection alternative. In 2004, planning had begun for a long-term mitigation project for the operational delays at the I-84 ramp termini. A lack of funding prevented the planning project from being finished. However, this alternative was developed to a conceptual level and has been tentatively accepted by the City as the locally preferred alternative.
- **Court/Dorion/Westgate** – the City and State have worked together on a design that will improve the capacity of this intersection. The proximity of the rail line, short storage queues, and other factors make this a difficult intersection.
- **US 395 and 30th Street** – based on the modeling analysis, long delays were anticipated this intersection. To help mitigate these delays, a southbound roadway configuration including a second southbound thru lane with a thru-right lane was identified.
- **US 30 and Oregon 11** – based on the modeling analysis, operational deficiencies were also identified at this intersection. The bridge to the east of the intersection prohibits improvements to accommodate an additional eastbound thru lane. Due to this limitation, no mitigation was identified.
- **Other Road Projects** – this scenario assumes that construction and maintenance of streets is the highest priority for the City, exclusive of most other modes. Revenues are not projected to be sufficient to have a robust capital program. However, it is expected that the project above would be completed, as well as many minor residential street projects that will not significantly impact trip distribution, and have therefore not been modeled. However, these different projects are important as they open new land for development, provide emergency access and egress, and accomplish other circulation objectives. The transportation analysis also included network signal optimization. Detailed lists of the proposed transportation improvement projects are presented in subsequent sections of this TSP update.

Alternative 3 (Demand Management)

Alternative 3 comprises a “Travel Demand Management” approach: constructing new streets attempts to supply new capacity in the system. Managing demand means reducing the number of trips in single occupancy vehicles, particularly during peak travel periods. With this Alternative, the focus is on making improvements to sidewalks and bike facilities, increasing carpools, vanpools, telecommuting, trip-chaining, and buses. The federally funded, Barnhart Road project will still be built, and new developments will make small improvements.

This scenario will assume that years of investments in alternative modes can move:

- **15% of commuters into transit along major corridors and 7% along minor streets.**
- **An additional 6% of trips would be by walking and cycling.**

- **This results in a 21% reduction of trips on major streets and 13% reduction on minor streets.**

This alternative only included the following road projects:

- **The Barnhart Connector,**
- **US 395 and I-84, right turn only lane addition to the eastbound ramp, and**
- **US 395 and Hailey, install Jug Handle.**

It is assumed that local access streets would be constructed to serve new development. These facilities do not impact trip distribution, and were not included in the modeling.

This alternative emphasizes pedestrian and bike improvements as follows:

- **Completion of western and eastern extensions of the River Parkway.**
- **New bike lanes with along Westgate and new streets.**
- **New connections, stairways, "goat-trails," and bridges.**
- **Bike parking facilities.**
- **Bike racks on transit vehicles.**
- **Programs to encourage biking, walking, and transit use at major employers.**

This alternative also encourages transit use which would come about through the implementation of a new fixed route bus service in the city (Figure 5-6 shows a tentative route), and possibly a new intercity service between Hermiston, Walla Walla, the Tri-Cities and elsewhere. The transit system improvements are described below:

- **Transit oriented land use codes including (parking maximums and reduced minimums, building orientation requirements, etc).**
- **Bus shelters at designated stops throughout the city.**
- **The addition of at least two new buses over the 20-year period.**
- **A fixed route service from early morning through the evening at least six days per week. Through ongoing research and testing this route is likely to change from the system illustrated in Figure 5-6. As shown, the route can be driven in a loop in one hour, with the return trip going from Tutuilla back to the Safeway, past the City Hall/Library, and back to the #1 stop.**
- **Bike racks on transit vehicles.**
- **Programs to encourage biking, walking, and transit use at major employers.**

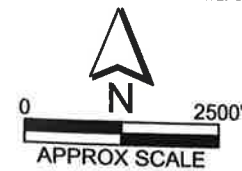
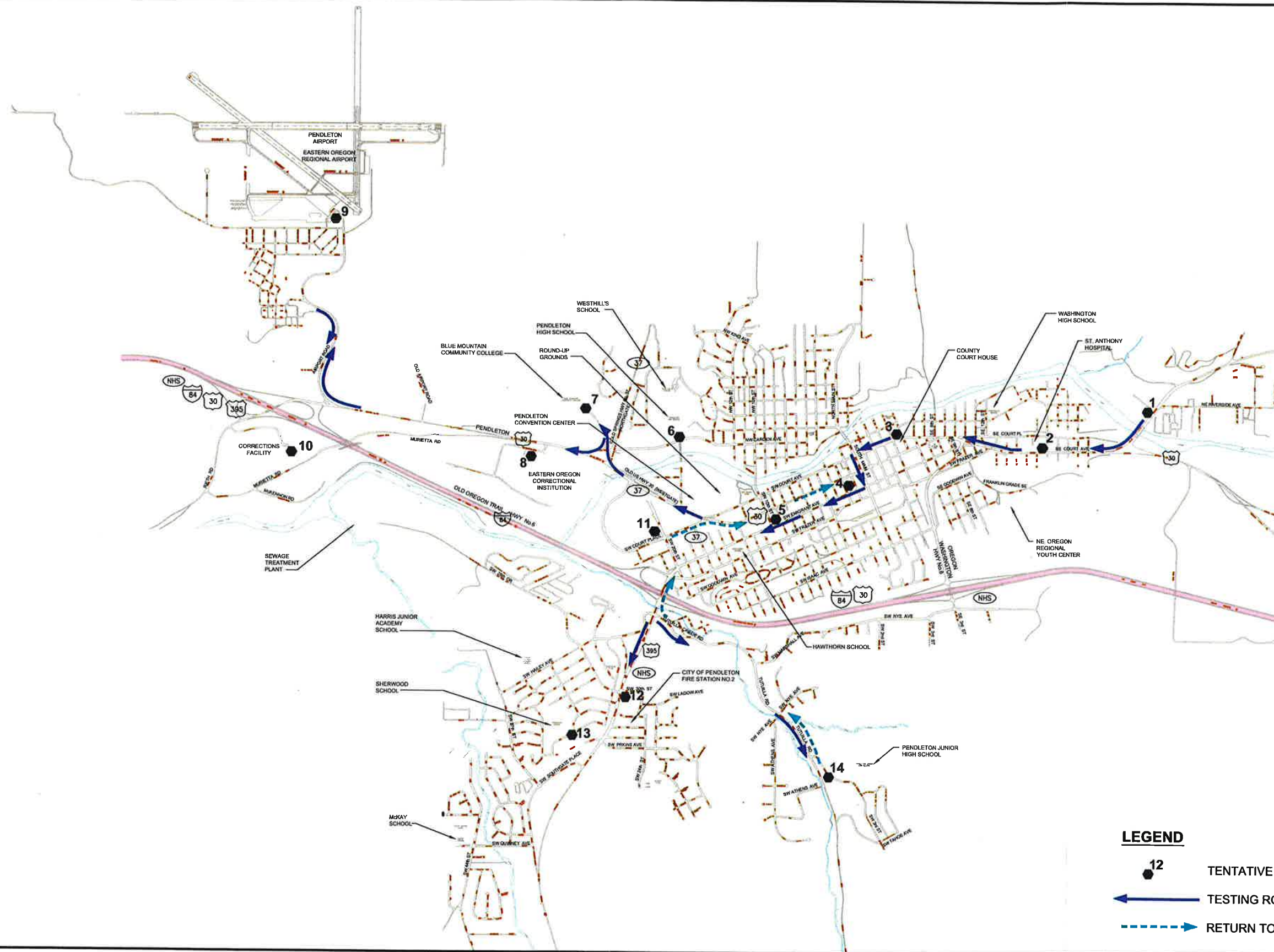


Figure 5-5
Tentative Transit Stops Map

Alternative 4 (Balanced Approach)

Alternative 4 is the balanced approach which includes both street improvements and investments in alternative (non-auto) travel modes. In this alternative, many local street improvements will be made. As with Alternative 3, funding will also be used for extensive improvements to bike facilities, sidewalks, the River Walkway, transit stops, and other demand management strategies.

This scenario will assume that years of investments in alternative modes can move:

- **8% of commuters into transit along major corridors and 4% along minor streets.**
- **An additional 3% of trips would be by walking and cycling.**
- **This results in an 11% reduction of trips on major streets and a 7% reduction on minor streets.**

This system includes the major road projects from Alternative 2. However, funding would not be available for many of the other street projects which would complete connections, access vacant lands, and serve new industrial areas. The modeling also included network signal optimization.

Many of the transit, bike, and pedestrian projects are also included in this scenario, but would not be as well developed as they would under Alternative 3.

5.5 ALTERNATIVES ANALYSIS

This section will describe the evaluation of TSP alternatives including key findings and conclusions. First reviewed are standards and methodology and thereafter, the results of the analysis will be detailed, leading to a preliminary recommendation. Worksheets and Traffic Volume data are available in Appendices A and B and the end of this report.

Intersection Operational Standards

Within Oregon, traffic operations are evaluated based on two sets of criteria or standards. For state highways, the operative standard is expressed in terms of a ratio between traffic volumes and the roadway or intersection's capacity. For many local communities, the quality of traffic performance is assessed in terms of intersection or roadway levels of service (LOS). These two operational standards are described below.

Volume-to-Capacity Standard

For state highways, the operating standard is expressed in terms of a volume-to-capacity (V/C) ratio which is the ratio between traffic volumes and the roadway or intersections' capacity. Various V/C thresholds are applied to roadways based on the functional classification of the facility. Several highways cross the city of Pendleton of both district and statewide highway classification with additional overlay designations for some segments. The segment classification and designations are illustrated in the OHP (see Figure 2-7). The peak hour, maximum V/C, standards for the various designations are also contained in the OHP, the applicable mobility standards are summarized in Table 5-6.

Table 5-6. Maximum Volume-to-Capacity Thresholds for Peak Hour Operating Conditions

Highway Category	Highway Designation	Applicable Highway	Maximum V/C Ratio
Inside UGB and Non-MPO			
Statewide Freight Route	Posted speed <= 35 mph or Designated UBA	US 395	0.80
	STA or Commercial Center		0.90
Statewide Non-Freight Route	Posted speed <= 35 mph or Designated UBA	I-84 US 30	0.90
	Posted speed > 35 mph or Designated UBA	Oregon 11	0.80
District	Posted speed <= 35 mph or Designated UBA	Oregon 37	0.90

Source: Oregon Highway Plan, Policy 1F Mobility Standards, Table 6.

Note: See Figure 2-9 for an explanation of the standards that are applicable to each state highway segment in the Pendleton area.

Levels of Service Standard

Intersection traffic volumes are evaluated to determine the level of operating performance that occurs within peak travel periods. Operating performance is based on an assessment of average control delay per vehicle entering the intersection. This delay is calculated using equations that take into account turning movement volumes, intersection lane geometry and traffic signal features, as well as characteristics of the traffic stream passing through the intersection, including time required to slow, stop, wait, and accelerate to move through the intersection. Various levels of delay are then expressed in terms of LOS for either signalized or unsignalized intersections. The various levels of service range from LOS A (which reflects free-flow conditions) through LOS F (which reflects operational breakdown). Between LOS A and LOS F progressively higher LOS grades reflect increasingly worse intersection performance, with higher levels of control delay and increased congestion and queues. Characteristics of each LOS are briefly described in Table 5-7.

Table 5-7. Level of Service Definitions

Level of Service	Average Delay/Vehicle (sec.)		Description
	Signalized	Unsignalized	
A (Desirable)	<10 seconds	<10 seconds	Very low delay; most vehicles do not stop.
B (Desirable)	>10 and <20 seconds	>10 and <15 seconds	Low delay resulting from good progression, short cycle lengths, or both.
C (Desirable)	>20 and <35 seconds	>15 and <25 seconds	Higher delays with fair progression, longer cycle lengths, or both.
D (Acceptable)	>35 and <55 seconds	>25 and <35 seconds	Noticeable congestion with many vehicles stopping. Individual cycle failures occur.
E (Unsatisfactory)	>55 and <80 seconds	>35 and <50 seconds	High delay with poor progression, long cycle lengths, high V/C ratios, and frequent cycle failures.

Level of Service	Average Delay/Vehicle (sec.)		Description
	Signalized	Unsignalized	
F (Unsatisfactory)	>80 seconds	>50 seconds	Very long delays, considered unacceptable by most drivers. Often results from over-saturated conditions or poor signal timing.

Source: 2000 Highway Capacity Manual, Transportation Research Board.

Traffic Volumes and Operations Methods

Traffic Volumes

Manual turning movement counts were conducted at key city intersections and interchange ramps during the weekday p.m. peak hour in August 2006. The p.m. peak hour traffic counts were examined for reasonableness and were also compared to previous traffic counts conducted in the area as gleaned from previous traffic studies. The new traffic count data collected is provided in Appendix B. These counts were supplemented with counts provided by ODOT resulting in a total of 33 locations examined.

Traffic volumes vary with the seasons and adjustments are required for the counts taken outside of the peak season to ensure that they reflect appropriate conditions for use in assessing design/improvement options. An adjustment is also required to translate counts from previous years to current year volumes. Annual and/or seasonal growth adjustments of the Pendleton count data were required to represent 30th highest hourly traffic volumes for 2006. Additionally, some balancing of traffic volumes between intersections in close proximity was also conducted to best represent a uniform set of data.

Traffic Operations

The analysis of existing traffic operations was conducted using a Synchro traffic simulation model which was developed specifically for Pendleton. These models include the field-verified geometrics and other relevant physical data for each intersection. Analysis procedures follow TPAU guidelines.

Performance of Alternative 2 (Street System)

The Street System Alternative with roadway improvements results in four intersections below the v/c standard. The three signalized intersections include Emigrant Avenue & US 395(20th Street), US 30 & Oregon 11/Court Place, and I-84 WB Ramps & US 395 and the unsignalized intersection of Court/Dorion Avenue & West Gate Avenue. The conceptual improvements do not appear to be sufficient to address the capacity demands at the intersections. Table 5-8 presents a summary of the operations analysis at the signalized intersections in the study area. Table 5-9 presents a summary of the operations analysis at the unsignalized intersections in the study area.

Table 5-8. Alternative 2 – 2027 Peak Hour Traffic Operations at Key Signalized Intersections

Signalized Intersections	Alternative 2 - 2027 Operations		
	V/C Ratio	Average Delay (sec/vehicle)	LOS
Emigrant Avenue & US 395(20th Street)	0.84	36.0	D

Signalized Intersections	Alternative 2 - 2027 Operations		
	V/C Ratio	Average Delay (sec/vehicle)	LOS
Dorion Avenue & SW 10th Street	0.54	12.9	B
Court Avenue & SW 10th Street	0.51	11.0	A
Court Avenue & SW 4th Street	0.36	6.8	A
Byers Avenue & Main Street	0.24	13.7	B
Dorion Avenue & SW 4th Street	0.48	7.9	A
Dorion Avenue & Main Street	0.44	6.0	A
Emigrant Avenue & Main Street	0.42	12.5	B
Frazer Avenue & Main Street	0.30	18.6	B
Hailey Avenue & US 395	0.88	18.6	B
30th Street & US 395	0.55	7.8	A
South Gate Avenue & US 395	0.56	4.8	A
US 30 & Oregon 11/Court Place	0.88	22.5	C
West Gate Avenue & North Gate Avenue	0.59	8.4	A
Court Avenue & Main Street	0.46	12.7	B
I-84 WB Ramps & US 395	1.05	48.5	F

Table 5-9. Alternative 2 – 2027 Peak Hour Traffic Operations at Key Unsignalized Intersections

Unsignalized Intersections and Critical Movement	Alternative 2 - 2027 Operations		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
Court Avenue & SW 17th Street			
<i>Northbound Left</i>	0.11	31.3	D
Emigrant Avenue & SW 17th Street			
<i>Southbound</i>	0.87	58.1	F
<i>Northbound</i>	0.60	72.9	F
Frazer Avenue & SW 17th Street			
<i>Northbound</i>	0.08	15.0	B
Emigrant Avenue & SW 10th Street			
<i>Southbound</i>	0.35	16.4	C
Carden Avenue & SW 10th Street			
<i>All-way</i>		8.7	A
Emigrant Avenue & SW 4th Street			
<i>Northbound</i>	0.50	30.6	D
Frazer Avenue & SW 4th Street			
<i>Northbound</i>	0.22	16.3	C
<i>Southbound</i>	0.22	17.8	C
I-84 EB Off-Ramp & US 395			
<i>Eastbound</i>	0.75	42.6	E

Unsignalized Intersections and Critical Movement	Alternative 2 - 2027 Operations		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
I-84 WB On-Ramp & Oregon 11			
<i>Westbound</i>	0.19	14.0	B
I-84 EB Off-Ramp & Oregon 11			
<i>Eastbound</i>	0.58	19.2	C
SE 10th Street & SE 9th Street			
<i>Westbound</i>	0.29	12.7	B
<i>Eastbound</i>	0.12	15.2	C
Carden Avenue & North Gate Avenue			
<i>Westbound Left</i>	0.32	16.1	C
<i>Eastbound Left</i>	0.16	14.1	B
US 30 & Airport Road			
<i>Southbound Left</i>	0.49	26.5	D
<i>Northbound</i>	0.27	16.6	C
River Road & I-84 EB Off-Ramp			
<i>Eastbound Left</i>	0.25	13.3	B
Court/Dorion Avenue & West Gate Avenue			
<i>Southbound Thru</i>	>1.00	>80	F

Performance of Alternative 3 (Demand Management)

The Demand Management Alternative with roadway improvements results in four intersections below the v/c standard (see Table 5-10). Only one signalized intersection would operate below the relevant threshold, the intersection of Emigrant Avenue and US 395 (20th Street). As shown on Table 5-11, three unsignalized intersections would also operate below the applicable operations threshold including the I-84 eastbound off-ramp at US 395, Court/Dorion Avenue at West Gate Avenue, and the I-84 westbound ramps at US 395/Emigrant Avenue.

Table 5-10. Alternative 3 – 2027 Peak Hour Traffic Operations at Key Signalized Intersections

Signalized Intersections	Alternative 3 - 2027 Operations		
	V/C Ratio	Average Delay (sec/vehicle)	LOS
Emigrant Avenue & US 395 (20th Street)	>1.00	>80	F
Dorion Avenue & SW 10th Street	0.44	11.6	B
Court Avenue & SW 10th Street	0.43	7.7	A
Court Avenue & SW 4th Street	0.29	6.6	A
Byers Avenue & Main Street	0.20	13.7	B
Dorion Avenue & SW 4th Street	0.39	6.2	A
Dorion Avenue & Main Street	0.36	4.7	A
Emigrant Avenue & Main Street	0.29	9.8	A

Signalized Intersections	Alternative 3 - 2027 Operations		
	V/C Ratio	Average Delay (sec/vehicle)	LOS
Frazer Avenue & Main Street	0.23	14.0	B
Hailey Avenue & US 395	0.61	22.4	B
30th Street & US 395	0.67	14.7	A
South Gate Avenue & US 395	0.42	12.4	A
US 30 & Oregon 11/Court Place	0.76	18.8	C
West Gate Avenue & North Gate Avenue	0.56	7.9	A
Court Avenue & Main Street	0.37	11.1	B

Table 5-11. Alternative 3 – 2027 Peak Hour Traffic Operations at Key Unsignalized Intersections

Unsignalized Intersections and Critical Movement	Alternative 3 - 2027 Operations		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
Court Avenue & SW 17th Street			
<i>Northbound Left</i>	0.15	26.5	D
Emigrant Avenue & SW 17th Street			
<i>Southbound</i>	0.42	21.9	C
<i>Northbound</i>	0.26	26.5	D
Frazer Avenue & SW 17th Street			
<i>Northbound</i>	0.06	13.6	B
Emigrant Avenue & SW 10th Street			
<i>Southbound</i>	0.24	13.2	B
Carden Avenue & SW 10th Street			
<i>All-way</i>		8.3	A
Emigrant Avenue & SW 4th Street			
<i>Northbound</i>	0.31	18.8	C
Frazer Avenue & SW 4th Street			
<i>Northbound</i>	0.16	13.8	B
<i>Southbound</i>	0.16	14.6	B
I-84 EB Off-Ramp & US 395			
<i>Eastbound</i>	>1.00	>80	F
I-84 WB On-Ramp & Oregon 11			
<i>Westbound</i>	0.14	12.1	B
I-84 EB Off-Ramp & Oregon 11			
<i>Eastbound</i>	0.42	14.1	B
SE 10th Street & SE 9th Street			
<i>Westbound</i>	0.22	11.2	B
<i>Eastbound</i>	0.09	13.5	B

Unsignalized Intersections and Critical Movement	Alternative 3 - 2027 Operations		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
Carden Avenue & North Gate Avenue			
<i>Westbound Left</i>	0.32	16.3	C
<i>Eastbound Left</i>	0.18	14.6	B
US 30 & Airport Road			
<i>Southbound Left</i>	0.49	26.5	D
<i>Northbound</i>	0.26	14.6	C
River Road & I-84 EB Off-Ramp			
<i>Eastbound Left</i>	0.24	12.8	B
Court/Dorion Avenue & West Gate Avenue			
<i>Southbound Thru</i>	0.92	52.0	F
I-84 WB Ramps & US 395			
<i>Westbound</i>	>1.00	>80	F

Performance of Alternative 4 (Balanced Approach)

The Balanced Alternative with roadway improvements would result in three intersections falling below the applicable v/c standard (see Table 5-12). The two signalized intersections include US 30 at Oregon 11/Court Place and the I-84 westbound ramps at US 395. As shown on Table 5-13, the one unsignalized intersection falling below the applicable operations threshold is the intersection of Court/Dorion Avenue with West Gate Avenue.

Table 5-12. Alternative 4 – 2027 Peak Hour Traffic Operations at Key Signalized Intersections

Signalized Intersections	Alternative 4 - 2027 Operations		
	V/C Ratio	Average Delay (sec/vehicle)	LOS
Emigrant Avenue & US 395(20th Street)	0.75	31.1	C
Dorion Avenue & SW 10th Street	0.48	12.0	B
Court Avenue & SW 10th Street	0.46	10.9	B
Court Avenue & SW 4th Street	0.32	7.3	A
Byers Avenue & Main Street	0.22	14.1	B
Dorion Avenue & SW 4th Street	0.43	7.7	A
Dorion Avenue & Main Street	0.40	6.1	A
Emigrant Avenue & Main Street	0.37	12.2	B
Frazer Avenue & Main Street	0.27	18.9	B
Hailey Avenue & US 395	0.80	16.5	B
30th Street & US 395	0.49	8.1	A
South Gate Avenue & US 395	0.50	4.8	A
US 30 & Oregon 11/Court Place	0.81	22.5	C
West Gate Avenue & North Gate Avenue	0.53	7.8	A
Court Avenue & Main Street	0.40	12.1	B

Signalized Intersections	Alternative 4 - 2027 Operations		
	V/C Ratio	Average Delay (sec/vehicle)	LOS
I-84 WB Ramps & US 395	0.95	33.5	F

Table 5-13. Alternative 4 – 2027 Peak Hour Traffic Operations at Key Unsignalized Intersections

Unsignalized Intersections and Critical Movement	Alternative 4 - 2027 Operations		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
Court Avenue & SW 17th Street			
<i>Northbound Left</i>	0.09	26.6	D
Emigrant Avenue & SW 17th Street			
<i>Southbound</i>	0.70	34.1	D
<i>Northbound</i>	0.42	43.6	E
Frazer Avenue & SW 17th Street			
<i>Northbound</i>	0.08	14.0	B
Emigrant Avenue & SW 10th Street			
<i>Southbound</i>	0.30	14.7	B
Carden Avenue & SW 10th Street			
<i>All-way</i>		8.7	A
Emigrant Avenue & SW 4th Street			
<i>Northbound</i>	0.40	23.9	C
Frazer Avenue & SW 4th Street			
<i>Northbound</i>	0.19	14.8	B
<i>Southbound</i>	0.19	16.0	C
I-84 EB Off-Ramp & US 395			
<i>Eastbound</i>	0.62	29.2	D
I-84 WB On-Ramp & Oregon 11			
<i>Westbound</i>	0.15	13.0	B
I-84 EB Off-Ramp & Oregon 11			
<i>Eastbound</i>	0.50	16.3	C
SE 10th Street & SE 9th Street			
<i>Westbound</i>	0.26	12.2	B
<i>Eastbound</i>	0.11	14.1	B
Carden Avenue & North Gate Avenue			
<i>Westbound Left</i>	0.28	15.0	B
<i>Eastbound Left</i>	0.14	13.5	B
US 30 & Airport Road			
<i>Southbound Left</i>	0.40	21.1	C
<i>Northbound</i>	0.22	14.8	B
River Road & I-84 EB Off-Ramp			

Unsignalized Intersections and Critical Movement	Alternative 4 - 2027 Operations		
	V/C Ratio	Critical Delay (sec/vehicle)	Critical LOS
Eastbound Left Court/Dorion Avenue & West Gate Avenue	0.21	12.4	B
Southbound Thru	1.22	146.3	F

5.6 CONCLUSIONS

This section will address the recommended approach for the TSP. After significant public input and deliberations on everything from broad vision statements to the prioritization of improvement projects; after the modeling of the city's street network in many different scenarios, and after the iterative evolution of a package of recommended code changes, the foundation for the 2006-2026 TSP has solidified.

Recommendations

The City of Pendleton has a clear vision of its future transportation system, as well as the policies and regulations needed to get there. The initial vision statements drafted by the Technical Advisory Committee were reviewed in an open public forum and met with nearly unanimous support. While the alternatives analysis provided necessary technical information, it did not significantly alter the direction of this TSP update.

The alternatives analysis has provided additional information about the functionality of certain partially designed projects. For example, the proposed design for the Court/Dorion/Westgate intersection is insufficient to provide a passing level of service (LOS) in 2027, and the modeling done for this analysis may provide insights on how the design could be improved. There is now a concept for a roundabout identified which would likely improve the intersections functionality for all users. The alternatives analysis has not, however, provided compelling, quantifiable findings which would determine a direction for transportation planning in the future. As is clear from the analysis, the key intersections do not perform very differently under any of the scenarios. This is partly due to the limited financial resources that can be assumed, even for the second, Street System Alternative. For example, consider the Court/Dorion/Westgate intersection. We can see that LOS C could likely be achieved, but not without a grade-separated interchange. Such an interchange would be out of scale with the surroundings, would result in massive property impacts and takings, and would cost nearly \$30 million dollars. These factors make such a proposal infeasible and inconsistent with the goals of the City. There are however, reasons other than congestion relief to complete the projects listed in Chapter 9 of this TSP update. These reasons include facilitation of new development, improved connectivity, improved access to industrial areas, safety, and the completion of bike and pedestrian systems.

Before this analysis was completed, there was a strong and clear direction for the future transportation system. This TSP update focused on:

1. Connectivity
2. Improving access to employment sites
3. Consideration of fixed route transit service
4. Improved bike and pedestrian systems
5. Codification of appropriate land use and transportation regulations.

These, in addition to compliance with state requirements, remain the objectives of the update and are further supported by the alternatives analysis. Only if the alternatives analysis had shown the Street System alternative to radically out-perform the other alternatives would a course correction be needed. Instead, it is clear that the balanced transportation system is the preferred direction for the city because this alternative supports the goals of the project and the Project Management Team, and the operational analyses indicate that it performs the best (if only by a small margin). The five focus points above support the code changes and new Capital Facilities Plan for the city. Below is the implementable list of recommendations which are necessary for the implementation of the plan.

Key Recommendations

While there are many more recommendations in the complete Transportation System Plan (addressing transit services, improvement project financing, development codes, etc.), these Key Recommendations provide succinct direction enabling the realization of the Plan's vision.

1. Further consideration of the Gateway Roundabout at the Court/Dorion/Westgate intersection.

While this is one of many projects that need to be completed, this project provides a special opportunity which can be lost without quick coordination with ODOT. The location is ideal for a gateway feature for both the city and the Round-Up Grounds.

2. Establish new funding sources and increase existing revenues streams.

With existing revenue sources, the City is not able to complete this plan. New revenues must be established to improve the street preservation program and to complete more capital projects.

3. Adopt all recommended code changes.

The nearly two dozen recommended amendments to city policy and ordinances are vital for the realization of the Transportation System Plan's vision as well as that of the Comprehensive Plan.

4. Within the next 2 years, install signage for all new proposed bike routes.

Better signing of the bike routes is inexpensive and will be key in completing the bicycle network and improving safety along these corridors.

5. Complete road, bike, and pedestrian projects.

These projects are necessary for freight mobility, easing congestion, providing better connectivity and emergency access, and completing the bike, walking, and driving system.

6. Continue to develop the Umatilla River Parkway.

The Umatilla River Parkway provides a safe and attractive pathway through the city, and improves livability and economic vitality.

7. Investigate and, as appropriate, implement fixed route transit service.

A regular, reliable medium-sized bus running a loop through town should be planned to serve the general public as well as those with special needs.

8. Develop a downtown, multimodal circulation plan.

The City has completed important planning for the downtown. A final plan should be selected and refined to include analysis and recommendations regarding traffic, street design, planted medians, parking, and pedestrian and vehicular circulation.