Transportation System Plan

Monmouth Transportation System Plan Update

Monmouth, Oregon

Adopted May 15, 2009

Transportation System Plan

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Monmouth, Oregon

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Preface

The progress of this plan was guided by the Project Management Team (PMT) and the Transportation Advisory Committee (TAC). The PMT and TAC members are identified below, along with members of the consultant team. The TAC members devoted a substantial amount of time and effort to the development of the Monmouth Transportation System Plan (TSP) Update, and their participation was instrumental in the development of this document. The Consultant Team and PMT believe that the City of Monmouth's future transportation system will be better because of their commitment.

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Section 1
Introduction

Introduction

OVERVIEW

The City of Monmouth, in conjunction with the Oregon Department of Transportation (ODOT), initiated an update of the City's transportation system in 2008. This transportation system plan (TSP) that resulted from the study will guide the management and development of appropriate transportation facilities within Monmouth, incorporating the community's vision, while remaining consistent with state and other local plans and policies. This plan provides the City of Monmouth with the necessary elements to be adopted as the transportation element of the City's comprehensive plan. In addition, this report provides ODOT and Polk County with recommendations that can be incorporated into their respective planning efforts.

State of Oregon planning rules require that the TSP be based on the current comprehensive plan land use map and must also provide a transportation system that accommodates the expected 20-year growth in population and employment that will result from implementation of the land use plan. The contents of this TSP are guided by Oregon Revised Statute (ORS) 197.712 and the Department of Land Conservation and Development (DLCD) administrative rule known as the Transportation Planning Rule (TPR). These laws and rules require that jurisdictions develop the following:

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

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

TSP PROCESS

The Monmouth TSP was developed through a process that identified transportation needs, developed and analyzed potential alternative approaches for addressing those needs, and developed an improvement plan and financing plan that best address Monmouth's forecasted needs. The following steps were involved in this process:

- Reviewing state, regional, and local transportation plans and policies with which the Monmouth TSP must either comply or be consistent.
- Providing public open houses to provide project information to, and gather feedback from, the public at key points during the TSP development process, establishing project advisory committees, and developing transportation plan goals and objectives.
- Identifying a detailed inventory of existing transportation facilities and services.
- Evaluating current transportation operations and deficiencies.
- Evaluating transportation needs in the year 2030, if growth occurs as expected, but no transportation improvements are made other than those already funded.
- Identifying and evaluating improvement alternatives intended to address Monmouth's future transportation needs.
- Developing a prioritized set of improvements and strategies that meet the plan goals and objectives.
- Estimating the revenue available for transportation projects through the year 2030, assuming reduced, consistent, and increased transportation funding.
- Compiling the results of this work into this TSP document, for review and adoption by the Monmouth Planning Commission and City Council.

PUBLIC INVOLVEMENT

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

The planning process was guided by a Technical Advisory Committee (TAC), which was comprised of key stakeholder agencies and other community representatives. These included the Monmouth Public Works and Community Development Departments, City of Independence, Polk County, the Oregon Department of Transportation, the Oregon Department of Land Conservation and Development, the Polk County School District, Polk County Fire District, and Western Oregon University.

The TAC was responsible for reviewing the technical aspects of the TSP. The TAC reviewed several memoranda and convened at a total of six TAC meetings during the process of developing the TSP. The TAC meetings focused on all aspects of the TSP development, including the special highway designations; existing deficiencies and forecast needs; presentation of alternatives; presentation of TSP and funding plan; and, presentation of recommended ordinance amendments.

In addition to the established advisory committees, two public meetings were held at key junctures in the process to obtain public comments regarding transportation concerns and priorities. All comments were addressed in the alternatives analysis and final plan development. Finally, the draft plans were discussed with the Planning Commission and City Council at work sessions and at public hearings. *Details of the public involvement process are provided in Appendix A.*

PLAN AREA

The City of Monmouth, Oregon is located approximately sixty miles south-southwest of the Portland metropolitan area and about a half hour drive from the state capital, Salem, Oregon. The City lies entirely within Polk County, with its geographic center at the junction of State Highways OR 99W (Regional Highway and designated freight route) and OR 51 (District Highway). Figure 1-1 shows the location of Monmouth in relation to the state highways and Polk County.

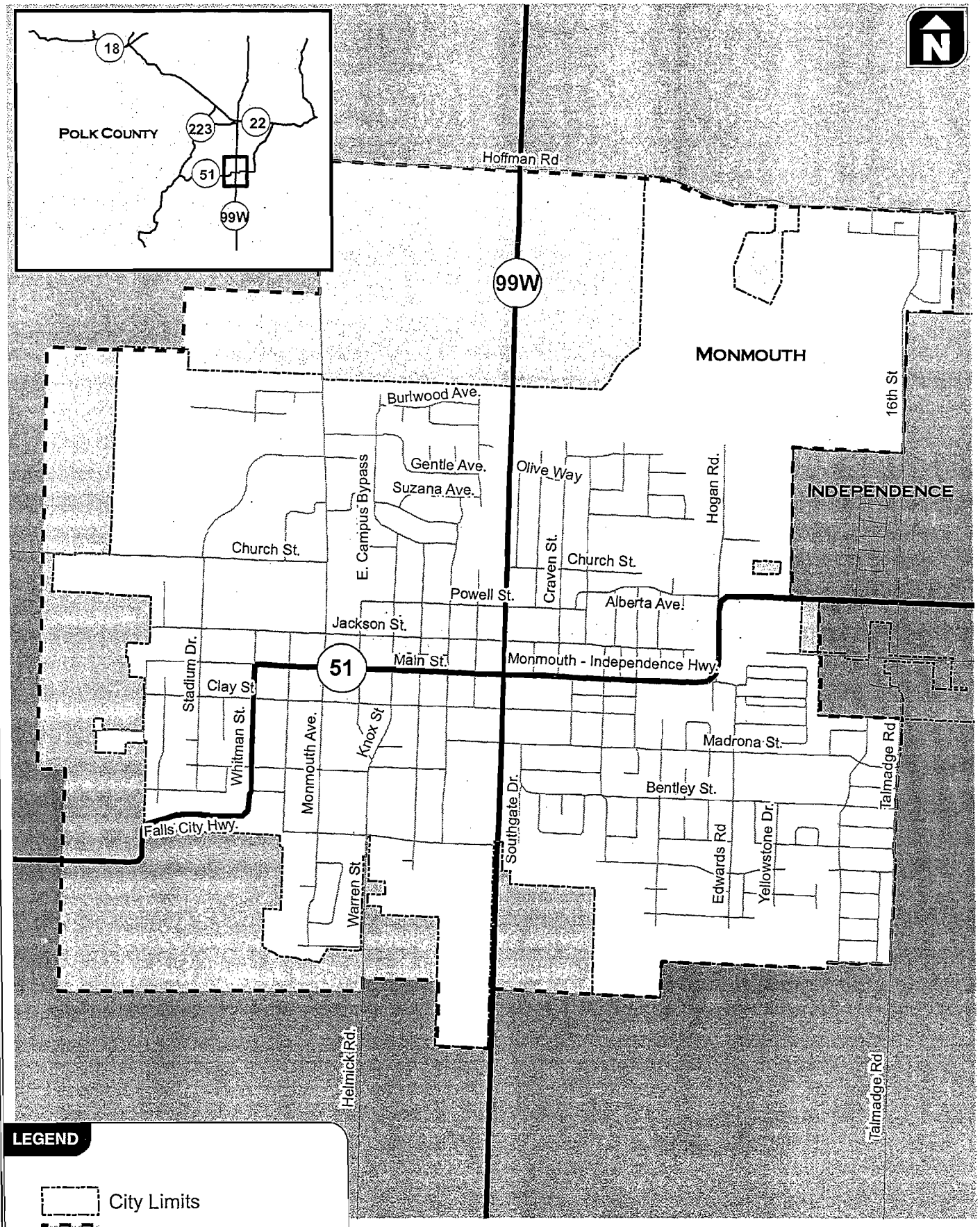
Monmouth was incorporated in 1856 and had a 2000 Census population of approximately 7,740 and an estimated population of 9,335 in 2007, representing a population growth of approximately twenty percent over seven years.

Western Oregon University (WOU), a four-year higher-education institution, is located northeast of the downtown area, and is currently the oldest public university in Oregon and on the West Coast of the United States. Current enrollment at WOU is approximately 5,000.

Monmouth is a bedroom community to neighboring cities, many Monmouth residents commute daily to Salem, Corvallis, Dallas, and Albany. The Pacific Ocean and the Cascade Mountains are within a one-hour drive. Immediately to the east is Monmouth's neighbor city, Independence. The cities have a highly cooperative relationship in long-term planning as well as in local events.

TSP ORGANIZATION AND METHODOLOGY

The development of the City of Monmouth's Transportation System Plan began with a review of the local and statewide plans and policies that guide land use and transportation planning in the City. This plan and policy review is presented in **Section 2,** Policy and Code Review, of this plan. Next, an inventory of the existing transportation system was performed. This inventory documented all major transportation-related facilities and services within the UGB. The inventory process and the documentation of current transportation conditions are presented in **Section 3,** 2008 Transportation System Inventory, of this report.



LEGEND

City Limits

Urban Growth Boundary

STUDY AREA
MONMOUTH, OREGON

FIGURE **1-1**

H:\profile\9105\gis\stspmapslfig1_study area.mxd

The transportation system inventory allowed for an objective assessment of the current system's operational performance, safety, and general function, which is summarized in **Section 4**, Yeah 2008 Transportation Conditions. Development of long-term (year 2030) transportation system forecasts relied heavily on the City's population growth projections. Based on these projections, and with input from City development and public works directors, reasonable assumptions were drawn as to the potential for and location of future development activities. **Section 5**, Future Transportation Conditions, of this report details the development of anticipated long-term future transportation needs within the UGB.

Section 6, Alternatives Analysis, documents the development and prioritization of alternative measures to mitigate identified safety and capacity deficiencies, as well as projects that would enhance the multi-modal aspects of the City's transportation system. The impact of each of the identified alternatives was considered on the basis of its potential costs and benefits, as well as its conformance with and potential conflicts to the City's transportation system and land uses. Ultimately, based on comments received from the City staff, Monmouth residents, and the TAC, a preferred plan was developed that reflected a consensus on which elements should be incorporated into the City's long-term transportation system.

Having identified a preferred set of alternatives, the next phase of the planning process involved presenting and refining the individual elements of the TSP through a series of decisions and recommendations. The recommendations identified in **Section 7**, Transportation System Plan, include a Street Plan and a Pedestrian and Bicycle System Plan, as well as plans for other transportation modes serving Monmouth.

Section 8, Transportation Funding Plan, provides an analysis and summary of the alternative funding sources to finance the identified transportation system improvements. The recommended modifications presented in **Section 9**, Zoning Ordinance Modifications, include specific changes in local zoning policies to implement the TSP and to achieve compliance with the Oregon Transportation Planning Rule (OAR 660 Division 12).

Sections 1 through 9, in combination with Appendices A and B, comprise **Volume 1** of the TSP and provide the main substance of the plan. These are supplemented by Technical Appendices in **Volume 2,** which contains: memoranda documenting the existing conditions and forecast needs analysis; transportation improvement alternatives; systems development charges; ordinance modifications; and, other technical documents used in the development of the TSP.

Section 2
Policy & Code Review

Policy and Code Review

One of the project objectives of the TSP Update is to ensure that the City's TSP reflects and is consistent with local and state transportation policies and standards, and that it is coordinated with the transportation plans of Polk County and the City of Independence. To meet these objectives, a review and evaluation of existing plans, policies, standards, and laws that are relevant to the TSP update was conducted. Detailed information from this review, including a complete list of the documents reviewed, can be found in Volume 2 of the technical appendix.

The summary of federal, state, regional, and local documents, as they relate to transportation planning in the City of Monmouth, provided the policy framework for the TSP planning process. State documents and requirements were summarized as they applied to the Monmouth TSP, as were Polk County policies and regulations that had potential impacts on the Monmouth transportation system. Given the proximity of Independence to the City of Monmouth, the code and policy review also highlighted the importance of coordinating the Monmouth TSP with the policies and the transportation improvement recommendations in the 2007 City of Independence TSP. The City of Independence adopted roadway system improvements, the plans for Ash Creek Trail, and the regional public transportation system (CARTS) are noted as areas that need to be consistent in the transportation plans of both cities.

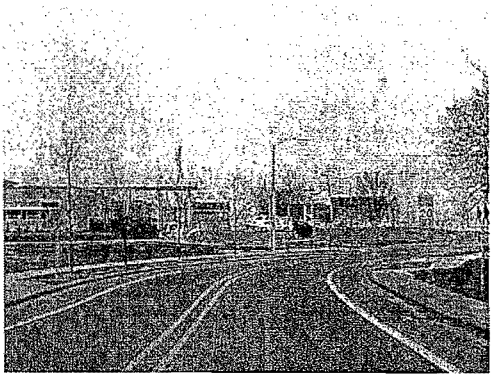
A number of local documents were also reviewed for policies that could impact the local transportation system plan. Reviewed documents include the Western Oregon University Master Plan Update (2006), the Independence-Monmouth Comprehensive Master Bicycle Plan (1991), and the Safe Routes to School Report (2007). Locally adopted policy documents, such as the Monmouth Downtown Development Plan (2000) and the Monmouth Comprehensive Plan (1978, last amended 2008), were also evaluated to ensure consistency between adopted policy and the Transportation System Plan.

The regulatory review includes an assessment of the City of Monmouth's Zoning Ordinance and how well it complies with the requirements of the State's Transportation Planning Rule (TPR, OAR 660, Division 12). The review summarizes the requirements of TPR Section -0045, Implementation of the Transportation System Plan, lists the applicable implementation elements of the TPR, and demonstrates where the adopted City regulations comply, or where amendments to code language are needed to comply, with the TPR. The recommendations were executed by the development of draft code language (see Section 9, Land Use Ordinance Modifications).

Section 3
Transportation System Inventory

2008 Transportation System Inventory

This section summarizes the existing transportation system inventory within the Monmouth urban growth boundary (UGB). An inventory of existing significant roadways (arterials or collectors) and other transport facilities and services, including pedestrian, bicycle, public transportation, rail service, air service, pipelines and water service is presented herein. Details of the transportation system inventory are included in *Technical Memorandum 2: Existing Conditions and Future Deficiencies*, which is provided in Volume 2 of the Appendices.



STREET SYSTEM

Highways and streets are the primary means of mobility for Monmouth's citizens, serving the majority of trips over multiple modes. Pedestrians, bicyclists and motorists all utilize public roads for the vast majority of their trips. These public facilities are controlled by multiple jurisdictions and are classified based on traffic loads, permitted speeds, and accessibility.

Jurisdiction

Public roads within Monmouth are operated by three different jurisdictions: the City of Monmouth, Polk County and the Oregon Department of Transportation (ODOT). Each jurisdiction is responsible for the following:

- Determining the road's functional classification;
- Defining the roadway's major design and multi-modal features;
- Maintenance; and,
- Approving construction and access permits.

Coordination is required among the jurisdictions to ensure that the transportation system is planned, maintained, and expanded to safely and efficiently meet the needs of travelers in the area.

The two major roadways serving Monmouth are ODOT highways.

OR 99W (Pacific Highway West, 1W) is a two-lane Regional Highway and designated Freight Route which runs north-south through Monmouth, connecting Rickreall to the north and providing a major route to Corvallis, to the south. Within Monmouth is it also referred to as Pacific Highway.

Monmouth Highway (Highway #194, west of OR 99W) and Monmouth-Independence Highway (OR 51, east of OR 99W) comprise a two-lane District Highway crossing east/west through Monmouth, connecting Falls City to the west and Independence to the east. Within the UGB, Monmouth Highway is also referred to as: Falls City Highway (west of town); Whitman Street

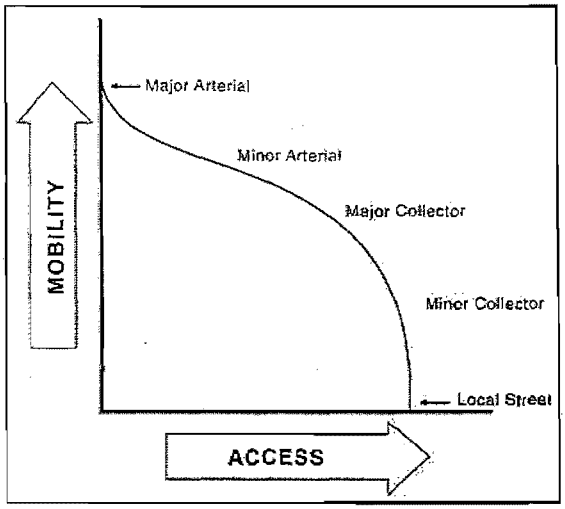
South (the north/south segment connecting to Falls City Highway); and, Main Street (through downtown).

Hoffman Road, Talmadge Road, and Helmick Road (Warren Street South) are under the jurisdiction of Polk County. These roads are maintained jointly by Polk County and the City of Monmouth.

The City of Monmouth has jurisdiction over all other roads within the UGB.

Roadway Functional Classification

A roadway's *functional classification* determines its role in the transportation system, as well as its width, right-of-way dedications, driveway (access) spacing requirements, and types of pedestrian and bicycle facilities provided. The functional classification is established by the City or County based on the following hierarchy:



Arterials are intended to serve high volumes of traffic, particularly through traffic, at relatively high speeds. They also serve truck movements and typically emphasize traffic movement over local land access. The Monmouth 1997 TSP designates both Major and Minor Arterials.

Collectors serve traffic from the local street system and distribute it to the arterial street system. These roadways provide a balance between traffic movement and land access, and should be designed to facilitate efficient traffic circulation throughout the City.

Local streets provide land access and carry locally generated traffic at relatively low speeds to the collector street system. Local streets should provide connectivity through neighborhoods, but should be designed to discourage cut-through vehicular traffic.

ODOT has a separate classification system for its highways, which guide the planning, management, and investment for state highways. ODOT's categories, from highest to lowest, are *Interstate, Statewide, Regional,* and *District* highways. According to the OHP, OR 99W is designated as a *Regional Highway;* the continuous route comprising Monmouth Highway and Monmouth-Independence Highway is designated as a *District Highway* in the UGB.

Roadway Street Section Standards

The TSP also identifies roadway cross-sections elements that should be included for each classification. City staff indicate that these are intended to be implemented with some flexibility with respect to sidewalks and planter strips when connecting to existing development. The cross-section design elements from the 1997 TSP are summarized in Table 3-1.

TABLE 3-1 EXISTING STREET CROSS-SECTION STANDARDS (1997 TSP)

Functional Classification	Sidewalk	Bicycle Lanes	On-Street Parking	Travel Lanes	Right-of-Way (feet)
Major Arterial	6.5 feet	2 Lanes, 6 feet wide	None	4 Lanes, 12 feet wide	84 feet
Minor Arterial	6.5 feet	2 Lanes, 6 feet wide	None	2 Lanes, 12 feet wide	66 feet
Collector Street	5.5 feet	2 Lanes, 6 feet wide	None	2 Lanes, 12 feet wide	66 feet
Local Street	5.5 feet	None	8-foot wide aisles	2 Lanes, 10 feet wide	60 feet

The existing Monmouth street standards do not provide much flexibility for alternative configurations. For example, center-left-turn lanes are not shown as options for arterials or collectors, and no alternatives are shown for on-street parking on local streets. In addition, a landscaping strip is not shown in any of the configurations, though tree-wells may be constructed within the sidewalk strip.

While local streets are not reviewed as part of the development of the TSP, the Oregon TPR requires that local governments develop "skinny street" standards for local streets in order to minimize pavement width and right of way. According to *Neighborhood Street Design Guidelines*, a publication of the Department of Land Conservation and Development (DLCD), a street wider than 28 feet is by definition not a "narrow street." According to the guidelines, benefits of streets with reduced pavement widths include improved livability, improved safety, slower vehicle speeds, and reduced environmental impacts. The streets must meet the operational needs of streets including pedestrian and bicycle circulation and emergency vehicle access. The existing Monmouth street standards do not currently provide an option that would comply with this "skinny street" standard, showing the narrowest cross-section to be 36 feet wide.

Curb and Gutter

With new development, Monmouth has seen roadway improvements along its street network. Some existing roadways have not been improved with curb and gutter, which can limit the functionality of the roadway, particularly for pedestrians and bicycles. These roadways segments are summarized in Table 3-2.

TABLE 3-2 ROADWAYS DEFICIENT IN CURB AND GUTTER

Roadway	Beginning of Segment	End of Segment
Church Street	West City Limit	Stadium Drive
Edwards Road	Madrona Street	Bentley Street
Monmouth-Independence Hwy (OR 51)	Heffley Street[1]	East City Limit
Monmouth Avenue	Hoffman Road	Whitesell Avenue
Pacific Avenue (OR 99W)	Hoffman Road	Church Street
	Madrona Street	South City Limit[2]

[1] Currently under construction between Edwards Road and East City Limit
[2] Only along east side of OR 99W through this section

Roadway Segment Conditions

The roadway segment conditions were reviewed for approximate width and pavement condition. This data were field verified and confirmed with the roadway inventory information provided by the City of Monmouth Public Works Department. Table 3-3 summarizes the major arterial, minor arterial, and collector roadways in Monmouth and identifies the jurisdiction for each roadway, as well as the approximate pavement width and condition.

TABLE 3-3 INVENTORY OF 2008 ARTERIAL/COLLECTOR STREETS

Street	Jurisdiction	Pavement Width (ft) [1]	Pavement Condition[2]
Major Arterials			
Pacific Avenue (OR 99W) (Pacific Highway West)	ODOT	33 – 50	Very Good
Falls City Highway (Monmouth Highway)	ODOT	33	Fair
Whitman Street South (Monmouth Highway)	ODOT	25 – 29	Fair to Very Good
Main Street West (Monmouth Highway)	ODOT	35 – 44	Fair to Very Good
Monmouth Street (OR 51) (Monmouth-Independence Hwy)	ODOT	36	Very Good
Minor Arterials			
Hoffman Road	County	24 – 28	Very Good
Collector Streets			
Church Street	City	22	Good
Stadium Drive	City	36	Good
Monmouth Avenue	City	24 – 51	Fair to Very Good
Gentle Avenue	City	34 – 54	Very Good
Catron Street	City	36	Good to Very good
Craven Street North	City	36 – 44	Good to Very Good
Craven Street South	City	34	Very Good
Edwards Road	City	36	Good to Very Good
Talmadge Road	County	20 – 24	Very Good
Clay Street	City	36	Good
Madrona Street	City	36	Good to Very Good
Gwinn Street	City	40	Good to Very Good
Warren Street	City	36 – 47	Good to Very Good
Knox Street	City	16 – 48	Good to Very Good
Ecols Street	City	36	Fair to Good

Note: Data obtained from the 2004 Monmouth Street Inventory update and public works department
[1] All roadways are two lanes with the exception of a short three lane section of OR 99W
[2] Conditions on county owned roadways were identified by County public works director

As shown in Table 3-3, the pavement condition for all of the collector and arterial roadways in Monmouth are currently rated as *Fair* or better.

Other Roadway Deficiencies

In addition to the existing roadway conditions and deficiencies identified above, the following issues were identified through general review of the roadway network and in consultation with City of Monmouth staff:

- There is a need for western extension of Church Street, connecting OR 99W to Catron Street, in order to reduce the need for out of direction travel.
- There are multiple access points along both state highways throughout most of the UGB, potentially contributing to congestion and increased vehicle conflict points.
- Irregular geometry of OR 51/Hogan Road intersection.
- Irregular geometry of OR 51/Edwards Road intersection.
- Delay for minor street traffic at OR 99W/Clay Street and OR 99W/Madrona Street intersections.
- Westbound queuing at OR 99W/Church Street intersection.
- Substandard roadway segments
    - Gwinn Street between Warren Street and College Street.
    - Warren Street between Gwinn Street and south city limit.
    - Church Street from Monmouth Avenue to west city limit.
- County roadways within City do not meet City standards.

PEDESTRIAN SYSTEM

Pedestrian facilities serve a variety of needs, including:

- Relatively short trips (under a mile) to major pedestrian attractors, such as schools, parks, and public facilities.
- Recreational trips—for example, jogging or hiking—and circulation within parklands.
- Access to transit (generally trips under 1/2-mile to bus stops).
- Commute trips, where mixed-use development is provided and people have chosen to live near where they work.

Pedestrian facilities should be integrated with transit stops and effectively separate pedestrians from vehicular traffic. Furthermore, pedestrian facilities should provide continuous connections among neighborhoods, employment areas, and nearby pedestrian attractors. Pedestrian facilities

usually refer to sidewalks or paths, but also include pedestrian crossings for high volume roadways.

The majority of the arterial and collector roadways in Monmouth provide sidewalks, though there are some significant gaps in the pedestrian network. Along OR 51, sidewalks are not present between Heffley Street and the east city limit; however, sidewalks and curb and gutter improvements are currently under construction and partially built between Atwater Street and through the S-curve. Hoffman Road does not have any kind of roadway improvements between OR 99W and 16th Street. Also, OR 99W north of Church Street does not have sidewalks on either side of the roadway. This segment of roadway does, however, have a parallel off-road path on the west side of the highway that can serve both bicycles and pedestrians.

Pedestrian Crossings

In the state of Oregon, all unsignalized intersections are considered legal crosswalks and motor vehicles are required to yield the right of way to pedestrians to allow them to cross. However, compliance is not consistent and pedestrians may have difficulty crossing high volume roadways. The only protected crossings along OR 99W and OR 51 are at the traffic signals at OR 99W/OR 51 and OR 99W/Hoffman Road.

Safe Routes to School

In a 2007 *Safe Routes to School* survey conducted by School District 13J, parents from Monmouth Elementary School and Talmadge Middle School (located within Independence, to the east of UGB) identified traffic safety issues among the most frequently cited concerns limiting their children's ability to walk and bike to and from school. In addition to noting traffic safety in general, specific concerns about "speeding cars" and "unsafe sidewalks and bikeways" were also noted. The survey report noted the following deficiencies:

- There is a need for pedestrian crossing improvements on OR 51 between Heffley Street and 16th Street; and,
- There is a need for pedestrian crossing treatments on OR 99W south of OR 51, especially at Madrona Street.

BICYCLE SYSTEM

Similar to pedestrian facilities, bicycle facilities (dedicated bicycle lanes in the paved roadway, multi-use paths shared with pedestrians, etc.) serve a variety of trips. These include the following:

- Trips to major attractors, such as schools, parks and open spaces, retail centers, and public facilities.
- Commute trips, where changing and showering facilities are provided at the workplace.
- Recreational trips.

- Access to transit, where bicycle storage facilities are available at the stop, or where space is available on bus-mounted bicycle racks.

As this list suggests, supporting bicycling as a viable alternative to the automobile requires more than simply providing bicycle lanes. Support facilities, such as secure parking and worksite changing facilities, are also needed before many potential users will consider the bicycle trip as a practical alternative.

ODOT categorizes roadway bicycle facilities into the following four major classifications:

- Shared roadway - Bicycles and vehicles share the same roadway area under this classification. The shared roadway facility is best used where there is minimal vehicle traffic to conflict with bicycle traffic.

- Shoulder bikeways - This type of bicycle facility consists of roadways with paved shoulders to accommodate bicycle traffic.

- Bike lanes - Separate lane adjacent to the vehicle travel lane for the exclusive use of bicyclists are considered bike lanes.

- Bike paths - These bicycle facilities are exclusive bicycle ways separated from the roadway.

Dedicated bicycle facilities should be provided along major streets where automobile traffic speeds are significantly higher than bicycle speeds. Bicycle facilities should connect residential neighborhoods to schools, retail centers, and employment areas. However, allowing bicycle traffic to mix with automobile traffic is acceptable where the average daily traffic (ADT) on a roadway is less than 3,000 vehicles per day, according to the *Oregon Bicycle and Pedestrian Plan*. Lower volume roadways should be considered for bike shoulders or lanes if anticipated to be used by children as part of Safe Routes to School as described in the following sections. In areas where no street connection currently exists or where substantial out-of-direction travel would otherwise be required, a multi-use path may be appropriate to provide adequate facilities for bicyclists.

Several roadways have continuous bicycle facilities through and on the eastern perimeter of the city; however, the following significant gaps exist in the bicycle network:

- No bicycle facilities are provided on OR 99W between Clay and Church Streets.

- There are short gaps on each side of Talmadge Road just south of OR 51, though they are only partially within the Monmouth UGB.

- Monmouth Highway has no bicycle facilities west of OR 99W. With approximately 6,900 average daily traffic (ADT), this roadway exceeds the ODOT Bicycle Plan threshold for a shared roadway.

The most recent bicycle plan for Monmouth was completed in December 1991. The *Independence – Monmouth Comprehensive Master Bicycle Plan* identified several facilities that have been completed, including Stadium Drive and Highway 99W south of OR 51. The plan also identifies the Ash Creek

Trail, for which further study was recently completed. Other incomplete projects identified in the master plan include bike lanes on Monmouth Highway through downtown Monmouth (Main Street and Whitman Street) and some of the remaining gaps on OR 99W.

As previously mentioned, the School District 13J conducted a *Safe Routes to School* survey in 2007 which identified traffic safety among issues most frequently cited by parents. The report identified the following deficiencies specific to bicycle travel:

- Major depressions in the bike lanes on OR 51 due to water grates.
- No northbound bike lane on Talmadge Road south of OR 51.
- No bike lanes on roadways serving Monmouth Elementary School.

PUBLIC TRANSPORTATION SYSTEM

Local and commuter fixed schedule transportation is provided in Monmouth by Chemeketa Area Regional Transportation System (CARTS). Route 40 – Polk County provides service between the Safeway in Dallas and the Salem transit center, with a stop at Western Oregon University. The scheduled stops in Monmouth are summarized in Table 3-4.

TABLE 3-4 SCHEDULED TRANSIT STOPS IN MONMOUTH*

WOU** To Salem	WOU to Dallas
6:25am	7:40am
8:45am	9:55am
12:05pm	1:20pm
--	2:20pm
3:30pm	4:35pm
5:30pm	6:35pm

* Schedule as of April 2009. See CARTS website for updates: http://www.cherriots.com/CARTS_Schedules.htm
**WOU = Western Oregon University

As shown in Table 3-4, bus service is provided throughout most of the day but with headways more than two hours in most cases. For typical workdays, it would be possible for a Monmouth resident to commute to Salem or Dallas via bus, but dependence on a bus with such infrequent service can be a significant barrier; missing a bus would result in considerable delay. Further, while the available service may be adequate for certain regional travel needs, no transit service was identified that provides convenient local circulation among Monmouth's residential, commercial, and institutional activities.

In addition to the CARTS service, a regional transportation system demand management program, the Salem Rideshare Program, offers carpooling coordination services to commuters in the Monmouth area. Information about the rideshare program is available at: *http://www.cherriotsrideshare.org/Carpool_Vanpool_Transit.html*.

RAIL SYSTEM

There are no rail facilities within the Monmouth UGB. However, passenger rail service is available in Salem and Albany. The nearest freight rail line is the Willamette & Pacific (W&P) Railroad which runs north-south through western Independence.

Passenger Rail

Passenger rail service is provided by Amtrak, with the nearest stations located in Salem and Albany. Amtrak operates the Cascades (Vancouver, BC, to Eugene) and Coast Starlight (Seattle to Las Angeles) services, though some scheduled trips travel only portions of the entire route. In addition, Amtrak Thruway bus service connects Portland to Newport, with stops at the Salem Greyhound, Albany Amtrak, and Corvallis Greyhound stations. The existing schedules for the Salem and Albany Amtrak stations are shown in Table 3-5. Detailed and updated schedules can be obtained at *www.amtrak.com*.

TABLE 3-5 PASSENGER RAIL AND INTERCITY BUS SCHEDULES, WEEKDAY SERVICE*

Station	Coast Starlight	Cascades				Thruway**	
Southbound							
Salem Amtrak	3:37 PM	12:30 PM	4:30 PM	7:22 PM	10:17 PM	6:45 PM	8:30 PM
Albany Amtrak	4:10 PM	1:10 PM	5:05 PM	7:51 PM	10:46 PM	7:20 PM	9:05 PM
Northbound							
Albany Amtrak	1:30 PM	6:13 AM	9:43 AM	12:35 PM	3:40 PM	2:05 PM	--
Salem Amtrak	2:03 PM	6:42 AM	10:12 AM	1:00 PM	4:15 PM	2:40 PM	--

* Schedule as of April 2009. For schedule updates see Amtrak website: *www.amtrak.com*

** Thruway service stops at Greyhound bus stations

While the rail and intercity bus transportation service requires initial travel to Salem or Albany, there are trips throughout the day for continuing northbound or southbound service.

Freight Rail

The freight railroad nearest to Monmouth is located in Independence. According to the 2007 Independence TSP, the W&P Railroad signed a 20-year lease in 1993 covering 185 miles of Union Pacific (UP) Railroad branch lines. In 1995, a sister company was formed [Portland & Western (P&W) Railroad] to lease additional UP branches. Both railroads have since grown to operate 576 miles of railroad in northwestern Oregon. Prior to 2002, the line through Independence handled approximately 1,000,000 gross ton miles annually. In 2002, P&W leased the parallel Oregon Electric Line and total traffic has declined somewhat.

AIR SERVICE

The Independence State Airport (http://www.airnav.com/airport/7S5) is a *general aviation* facility, meaning that it serves flights other than military and scheduled commercial flights. The airport is located northeast of Monmouth in Polk County. It is operated by the State Aeronautics Division and has a capacity of 103,000 aircraft operations per year. The airport uses a single runway, 16-34, which is asphalt-paved to a length of 2,935 feet. Approximately 30 to 40 general aviation aircraft are based at Independence. No instrument landing system exists; therefore, operations are limited to visual flight rules (VFR) and there is no scheduled service provided by commercial carriers.

McNary Field, also known as Salem Municipal Airport (http://www.flysalem.com), provides general aviation facilities. Limited commercial service was provided by Delta Airlines, but that service was discontinued on October 10, 2008.

Monmouth residents traveling on commercial flights will be able to use either the Portland International Airport (www.flypdx.com/) or the Eugene Airport (www.eugeneairport.com/), both located approximately 90-minutes driving from Monmouth.

PIPELINE SYSTEM

Monmouth does not have any major pipeline transmission lines. However, it does have an underground pipeline network for water, sewer, gas, electric, fiber, and cable. Service providers include:

- Charter Communications: www.charter.com
- MINET: www.minetfiber.com
- NW Natural Gas: www.nwnatural.com
- Monmouth POWER & LIGHT: www.ci.monmouth.or.us
- Monmouth Water & Sewer Service www.ci.monmouth.or.us
- Qwest Communications www.qwest.com

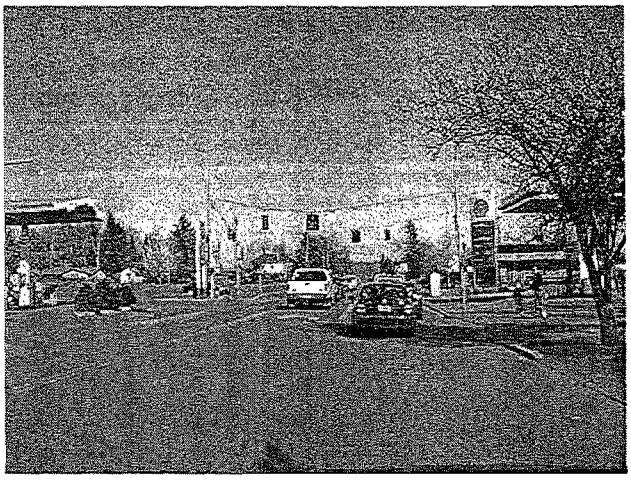
WATER TRANSPORATION SYSTEM

There are no navigable waterways located in Monmouth. The nearest available ports serving Monmouth are in Portland (www.portofportland.com), Newport (www.portofnewport.com), and Tillamook (www.potb.org).

Section 4
Current Transportation Conditions

Year 2008 Transportation Conditions

This section summarizes the analysis and findings related to existing (2008) traffic operations. Details are included in *Technical Memorandum 2: Existing Conditions and Future Deficiencies,* which is provided in Volume 2 of the Technical Appendix.



Intersection operations were analyzed in accordance with the procedures stated in the 2000 *Highway Capacity Manual (HCM).* Traffic operations at intersections are generally described using a measure known as "level of service" (LOS). Level of service represents ranges in the average amount of delay that motorists experience when passing through the intersection. LOS is measured on an "A" (best) to "F" (worst) scale.

- At signalized and all-way stop-controlled intersections, LOS is based on the average delay experienced by all vehicles entering the intersection.
- At two-way stop-controlled intersections, LOS is based on the average delay experienced by the critical movement at the intersection, typically a left-turn from the stop-controlled street.

The City of Monmouth does not have adopted level-of-service standards for signalized and unsignalized intersections. For signalized intersections, LOS "D" or better (representing no more than 55 seconds of average delay) is commonly considered acceptable operations. For unsignalized intersections, LOS "E" or better (representing no more than 50 seconds of average delay) is generally considered to be acceptable operations.

State highways are owned and maintained by ODOT and as such they are subject to the mobility standards defined in the 1999 OHP. The OHP mobility standards are based on volume-to-capacity ratios and are based on the functional classification and posted speed of a highway.

All intersection level-of-service evaluations used the peak 15-minute flow rate during the weekday p.m. peak hour. Using the peak 15-minute flow rate ensures that this analysis is based on a reasonable worst-case scenario. For this reason, the analysis reflects conditions that are only likely to occur for 15 minutes out of each average peak hour. The transportation system will likely operate under conditions better than those described in this report during all other time periods.

TRAFFIC VOLUMES

A total of 24 intersections were identified for analysis in the TSP. ODOT defines the design hour volumes for project and planning level analyses as the future year 30th highest hour volumes. These volumes are developed from existing count volumes, which are seasonally adjusted so that the 30th

highest hour (yearly) of traffic is represented in the analysis. The study intersections listed in Table 4-1, which also summarizes the findings of the intersection analysis and the applicable mobility standards. The 30th Highest Hour Volumes (30 HV) were developed per the ODOT *Analysis Procedures Manual* (APM).

TABLE 4-1 INTERSECTION OPERATIONS ANALYSIS, 2008 WEEKDAY PM PEAK HOUR

Intersection	Mobility Standards		Intersection Operations			Meets Standard?
	ODOT[1]	City	Critical Movement[2]	V/C	LOS	
Signalized Intersections						
OR 99W/Hoffman	v/c = 0.75	LOS D	n/a	0.60	C	Yes
OR 99W/OR 51	v/c = 0.85	LOS D	n/a	0.82	C	Yes
Unsignalized Intersections						
OR 99W/Church	v/c = 0.90	LOS E	WB	0.28	D	Yes
OR 99W/Powell	v/c = 0.90	LOS E	EB	0.45	D	Yes
OR 99W/Jackson	v/c = 0.90	LOS E	EB	0.48	D	Yes
OR 99W/Clay	v/c = 0.90	LOS E	EBLT	0.37	E	Yes
OR 99W/Madrona	v/c = 0.85	LOS E	EB	0.55	F	ODOT Yes; City No
OR 99W/Gwinn	v/c = 0.85	LOS E	EB	0.01	B	Yes
OR 51/Craven N	v/c = 0.90	LOS E	SB	0.19	C	Yes
OR 51/Craven S	v/c = 0.90	LOS E	NB	0.06	B	Yes
OR 51/Edwards	v/c = 0.90	LOS E	NBLT	0.11	D	Yes
OR 51/Hogan	v/c = 0.90	LOS E	SBLT	0.05	C	Yes
Whitman/Ackerman	v/c = 0.90	LOS E	EB	0.01	A	Yes
Main St/Monmouth	v/c = 0.90	LOS E	n/a	0.37	A	Yes
Main St /Knox	v/c = 0.90	LOS E	SB	0.10	B	Yes
Main St /Catron	v/c = 0.90	LOS E	SB	0.06	C	Yes
Stadium/Church	v/c = n/a	LOS E	n/a	0.13	A	Yes
Monmouth/Stadium	v/c = n/a	LOS E	EB	0.22	C	Yes
Monmouth/Church	v/c = n/a	LOS E	NBLT	0.01	A	Yes
Monmouth/Jackson	v/c = n/a	LOS E	n/a	0.25	A	Yes
Monmouth/Clay	v/c = n/a	LOS E	n/a	0.16	A	Yes
Warren/Gwinn	v/c = n/a	LOS E	EB	0.01	A	Yes
Madrona/Edwards	v/c = n/a	LOS E	n/a	0.11	A	Yes
Madrona/Talmadge	v/c = n/a	LOS E	EB	0.07	A	Yes

* NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound; LT: Left turn
[1] ODOT applies two distinct volume-to-capacity (v/c ratio) mobility standards. The lower v/c ratio (less congestion) is applied to state highway approaches that are not stopped. For approaches at which traffic must stop, the v/c ratio for District roads is applied. This table lists the latter, which is virtually always the critical movement of a 2-way stop intersection.
[2] Critical movement does not apply to signalized or all-way-stop intersections

As shown in Table 4-1, the critical eastbound approach at the OR 99W/Madrona Street intersection currently operates at LOS F, though it has adequate capacity as indicated by the v/c ratio of 0.55.

A signal warrant analysis was conducted to determine whether a traffic signal should be considered. The analysis was conducted according to the procedures outlined in the Manual on Uniform Traffic Control Devices (MUTCD). In the analysis, three signal warrants were evaluated: the eight-hour, four-hour, and peak hour. Each of these warrants identify volume thresholds that would trigger the need for a traffic signal based on the eight highest hour of traffic volumes, fourth highest hour, and highest (peak) hour, respectively. The analysis showed that all three warrants are met under existing conditions.

Left-Turn Lane Warrants

An analysis was conducted to determine whether existing intersection traffic volumes warrant installation of designated left-turn lanes on the state highways. Most of the state highways within the Monmouth UGB consist of two-lane cross-sections. Left-turn lanes are provided for all approaches at the signalized OR 99W/Hoffman Road and OR 99W/OR 51 intersections. A continuous center-turn lane is also provided on OR 99W between OR 51 and Gwinn Street. The analysis was conducted according to ODOT's *Analysis Procedures Manual* (APM). The APM states that meeting the left-turn lane warrants does not require installation of turn lanes. When warrants are met, engineering judgment must determine whether installation would be safe and practical. The findings of the left-turn lane warrant analyses are summarized in Table 4-2.

TABLE 4-2 2008 LEFT-TURN LANE WARRANTS

Intersection	Approach	Warrant Met?
OR 99W		
OR 99W/Church Street	SBLT	Yes
OR 99W/Powell Street	SBLT	Yes
	NBLT	Yes
OR 99W/Jackson Street	SBLT	Yes
	NBLT	Yes
OR 51		
OR 51/Craven S	WBLT	Yes
OR 51/Craven N	EBLT	Yes
OR 51/Hogan	EBLT	Yes
Main Street/Catron	EBLT	Yes
Main Street/Knox	EBLT	No
	WBLT	No
Main Street/Ackerman	EBLT	No
	WBLT	No

The following abbreviations are used in this table:
NB: Northbound SB: Southbound EB: Eastbound WB: Westbound LT: Left turn

As Table 4-2 shows, traffic volumes on OR 99W are high enough to warrant designated left-turn lanes at each unsignalized intersection. The center turn lane on OR 99W immediately north of OR 51 has been conditioned by ODOT for extension as a part of planned commercial development in the northeast corner of the intersection. This improvement will result in southbound and northbound left-turn lanes at OR 99W/Jackson Street, as well as increasing total storage for the OR 99W/OR 51 intersection.

On OR 51 east of OR 99W left-turn lanes are warranted at the Craven South, Craven North, and Hogan Street intersections. On the west side of OR 99W, left-turn lanes are warranted at the eastbound approach to Catron Street.

Right-Turn Lane Warrants

Right-turn movements can typically occur with minimal impact to traffic operations. However, frequent right-turn movements on relatively high speed roadways can interrupt traffic flow. Right-turn lanes are sometimes installed to reduce impacts to through traffic. The need for right-turn lanes was analyzed for intersections with relatively high right-turn movements. The analysis was conducted according to the APM. Like the left-turn lane warrants, the findings of the right-turn lane warrant analysis does not in itself require installation of a right-turn lane. If warrants are met, additional evaluation is needed to determine whether right-turn lanes are consistent with access management and other goals for the roadway. The findings of the right-turn lane warrant analyses are summarized in Table 4-3.

TABLE 4-3 2008 RIGHT-TURN LANE WARRANTS

Intersection	Approach	Warrant Met?
OR 99W/Church Street	NBRT	Yes
OR 99W/Clay Street	SBRT	Yes
OR 99W/Madrona Street	NBRT	Yes

As Table 4-3 shows, designated right-turn lanes are warranted at Church, Clay, and Madrona streets under existing conditions.

Queuing Analysis

For those intersections along state highways where designated left-turn queue storage is provided, a queuing analysis was conducted to identify potential left-turn storage deficiencies.

Queuing at Unsignalized Intersections

Unsignalized intersections were analyzed according to guidelines set forth in ODOT's APM. Left-turn movements from state facilities onto local roadways at unsignalized intersections were

analyzed using the Two-Minute Rule[1] methodology for 95th percentile queues. Each vehicle was assumed to occupy 25 feet, given the low proportion of heavy vehicles making these movements. Table 4-4 summarizes the queuing analysis for the major street movements (OR 99W and OR 51) at the unsignalized study intersections. The section of OR 99W between OR 51 and Gwinn Street has a continuous two-way left-turn lane that provides storage for left-turning vehicles onto local roads from the state highway. Table 4-4 shows the available storage for these movements as the length of the striped two-way left-turn lane from the subject intersection to the nearest cross-street or major driveway.

TABLE 4-4 SUMMARY OF 2008 QUEUES AT UNSIGNALIZED INTERSECTIONS

Cross Street	95% Queue (feet)		Existing Storage (feet)	
	NB Left	SB Left	NB Left	SB Left
OR 99W				
OR 99W/Clay Street	75	25	350[1]	350[1]
OR 99W/Madrona Street	25	200	325[2]	350[1]
OR 99W/Gwinn Street	25	25	125	
OR 51				
Cross Street	**EB Left**	**WB Left**	**EB Left**	**WB Left**
OR 51/Edwards Road		100		125
Main Street/Catron Street		25		250[2]

* The following abbreviations are used in this table:
NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound
[1] Available storage shown as distance of two-way left-turn lane to nearest cross-street
[2] Available storage shown as distance of two-way left-turn lane to nearest commercial driveway

As shown in the table, there is adequate storage to accommodate the 95th percentile queue for each of the movements. Note that because the center lane is shared between northbound left- and southbound left-turning queues at adjacent intersections, it is possible that the combination of the two queues could require the entire length or more of storage available (e.g., northbound left-turns onto Clay could conflict with southbound queues onto Madrona). However, as the table shows, there is adequate queue storage for adjacent opposite turning queues.

Along OR 51, the westbound left-turn lane at the Edwards Street intersection has adequate storage for the existing 95th percentile queues at this intersection. The westbound approach at the Main

[1] The Two-Minute Rule is a planning level methodology that estimates queue lengths for major street left turns and minor street movements by using the queue that would result from a two-minute stoppage of the turning demand volume. This method does not consider the magnitudes and impacts of the conflicting flows on the size of the queue.

Street/Catron Street intersection shares a two-way left-turn lane with the eastbound left-turn lane at the OR 51/OR 99W intersection.

Queuing at Signalized Intersections

The two signalized intersections within the UGB are OR 99W/Hoffman Road and OR 99W/OR 51. The signals are not coordinated and they are separated by more than a mile with numerous access points in between. As such, the queuing analysis assumed that vehicles will arrive in random fashion according to a Poisson distribution (random arrivals distributed around a given mean value); green-time information from the intersection operations output was used to determine the "service capacity" for the intersections. The queuing analysis for the signalized study intersections is summarized in Table 4-5. All queue lengths have been rounded up to the nearest 25 feet and available storage has been identified as either the striped turn lane or the distance from the intersection to the nearest cross-street.

TABLE 4-5 SUMMARY OF 2008 QUEUES AT SIGNALIZED INTERSECTIONS

Location	Approach/Movement	95th-Percentile Queue	Striped Storage Available	Adequate Storage?
OR 99W / Hoffman Road	NB LT	50 feet	200 feet	Yes
	NB TH	250 feet	Continuous	Yes
	NB RT	75 feet	125 feet	Yes
	SB LT	150 feet	300 feet	Yes
	SB TH	200 feet	Continuous	Yes
	SB RT	75 feet	300 feet	Yes
	EB LT	75 feet	250 feet	Yes
	EB TH/RT	100 feet	Continuous	Yes
	WB LT	100 feet	275 feet	Yes
	WB TH/RT	150 feet	Continuous	Yes
OR 99W / OR 51	NB LT	75 feet	200 feet	Yes
	NB TH/RT	400 feet	340[1] feet	No
	SB LT	125 feet	175 feet	Yes
	SB TH/RT	375 feet	340[1] feet	No
	EB LT	125 feet	250 feet	Yes
	EB TH/RT	350 feet	270[1] feet	No
	WB LT	150 feet	150 feet	Yes
	WB TH/RT	375 feet	300[1] feet	No

*The following abbreviations are used in this table:
NB: Northbound SB: Southbound EB: Eastbound WB: Westbound
LT: Left Turn RT: Right Turn TH: Through
[1] Available storage noted as distance from intersection to nearest cross-street

As shown in Table 4-5, there are some queuing issues associated with the shared through-right movements at the OR 99W/OR 51 intersection. As shown, the queue lengths exceed the length of available storage, which has been identified as the distance from the intersection to the nearest cross-street. In these instances, the queues would extend past the nearest adjacent intersection.

The 95th percentile queues at the OR 99W/Hoffman Road intersection are accommodated within existing available storage.

CRASH ANALYSIS

This section provides a comprehensive analysis of historic roadway safety information in Monmouth. As a starting point, both state highways in Monmouth were reviewed for identification in the ODOT Safety Priority Index System. This was followed by an analysis of crash data provided by ODOT. The crash data include all reported crashes that occurred at study intersections for the five-year period from January 1, 2003 to December 31, 2007.

Statewide Priority Index System

The Statewide Priority Index System (SPIS) is a method developed by ODOT for identifying hazardous locations on state highways with consideration of crash frequency, crash rate, and crash severity. As described in ODOT's SPIS description, a roadway segment becomes a SPIS site if a location has three or more crashes or one or more fatal crashes over the three-year period. Under this method, all state highways are analyzed in 0.10 mile segments to determine SPIS sites. Statewide, there are approximately 6,000 SPIS sites. SPIS sites are typically intersections, but can also be roadway segments.

Within Monmouth, there are two roadway segments in the top ten percent of ODOT's SPIS ranking program. The two SPIS locations are overlapping segments on OR 51 between Broad Street and Catron Street. Between January 2005 and December 2007, there was one severe injury crash at each of these locations. A severe injury is weighed as heavily as a fatal crash in SPIS consideration, which is the reason for identifying these segments as a priority. The two crashes both occurred in 2006:

- Turning related crash at mile point (MP) 7.38 (Broad Street)
- Pedestrian crash at MP 7.44 (Ecols Street)

To improve vehicle and pedestrian safety and operations, the City should consider improvements such as installation of bulb-outs and continental marked crosswalks for both Broad Street and Ecols Street, similar to what has been implemented at the intersections of Main Street with Monmouth Avenue, Warren Street, and Knox Street.

Crash Data Analysis

ODOT provided detailed crash data covering all crashes that occurred in the City of Monmouth for the five-year period from January 1, 2003 to December 31, 2007. These data were analyzed to determine crash rates for all study intersections and roadway segments.

Segment Crash Data Analysis

Segment crash data were obtained and reviewed for segments along OR 99W and OR 51. The crash data for OR 51 were divided into the east and west sides of OR 99W due to the different traffic and land use characteristics on these segments. For each segment, the five-year crash rate, expressed in crashes per million-vehicle-miles-traveled (crashes per MVMT) was identified and compared to statewide average crash rates for highway of the similar classifications. The segment crash rate analysis is summarized in Table 4-6.

TABLE 4-6 SEGMENT CRASH HISTORY (JANUARY 1, 2003-DECEMBER 31, 2007)

Highway	Segment	Total Crashes	Crash Rate	ODOT Classification	Statewide Average[1]
OR 99W (Highway No. 91)	62.32 to 63.85	73	2.32	Urban Principal Arterial	1.19
OR 51 to Independence (Hwy No. 43)	0.00 to 0.76	20	1.17	Urban Principal Other	1.19
Main Street (OR 194 Monmouth Hwy)	6.74 to 7.56	51	3.62	Urban Principal Arterial	1.19

[1] For Rural Cities, Other Principal Arterials, 2007 Rate

As Table 4-6 shows, the segment crash rates for the state highways in Monmouth range from 1.17 to 3.62 crashes per MVMT, compared to the statewide average for similar facilities, which was 1.19 crashes per MVMT in 2007.

Close inspection of the crash data revealed that all of the crashes occurred at intersections, which is to be expected given the frequent and relatively closely spaced access points and street intersections along the roadways. As such, it was determined that intersection crash analysis is more appropriate for these roadways.

Intersection Crash Data Analysis

Intersection crash data were obtained and reviewed for each of the study intersections. The critical rate method is used in the analysis. Under this method, a critical crash rate is developed for each intersection based on comparison with similar intersections. The intersections were divided into three groups: signalized intersections, all-way stop-controlled intersections, and two-way stop-controlled intersections. If the crash rate at a specific intersection is higher than the critical crash rate for the intersection type, further safety analysis is warranted.

Crash rates for intersections were calculated in crashes per million-entering-vehicles (MEV). The crash data are summarized in Table 4-7, including types and severity of crashes as well as crash rate and critical crash rate for each intersection.

TABLE 4-7 INTERSECTION CRASH HISTORY (JANUARY 1, 2003-DECEMBER 31, 2007)

Intersection	Collision Type				Severity			Total	Crash Rate	
	Rear End	Turn	Angle	Other	PDO	Injury	Fatal		Obs.[1]	Critical
Signalized Intersections										
OR 99W / OR 51	8	7	4	0	13	6	0	19	0.58	0.78
OR 99W / Hoffman	6	5	2	1	5	9	0	14	0.54	0.80
Four-Way Stop-Controlled Intersections										
Church / Stadium	0	1	0	0	1	0	0	1	0.29	0.58
Monmouth / Jackson	0	0	0	0	0	0	0	0	0.00	0.45
Main St/Monmouth	**0**	**1**	**3**	**1**	**4**	**1**	**0**	**5**	**0.47**	**0.41**
Monmouth / Clay	0	0	0	0	0	0	0	0	0.00	0.51
Two-Way Stop-Controlled Intersections										
OR 99W / Church	2	1	1	0	3	1	0	4	0.21	0.33
OR 99W / Powell	1	1	0	0	2	0	0	2	0.10	0.33
OR 99W / Jackson	1	1	2	0	3	1	0	4	0.19	0.33
OR 99W / Clay	2	1	4	0	3	4	0	7	0.31	0.32
OR 99W / Madrona	0	3	2	0	3	2	0	5	0.24	0.32
OR 99W/ Gwinn	0	0	1	0	1	0	0	1	0.07	0.35
Monmouth / Stadium	2	0	0	0	1	1	0	2	0.25	0.42
Monmouth / Church	0	0	0	0	0	0	0	0	0.00	0.49
Whitman / Ackerman	0	0	0	0	0	0	0	0	0.00	0.58
Warren / Gwinn	0	1	0	0	1	0	0	1	0.72	0.76
Main St/ Knox	**0**	**3**	**1**	**0**	**2**	**2**	**0**	**4**	**0.43**	**0.40**
Main St/Catron	1	1	0	0	0	2	0	2	0.15	0.36
OR 51/ Craven (North)	1	1	0	0	0	2	0	2	0.11	0.33
OR 51/ Craven (South)	1	0	0	0	0	1	0	1	0.06	0.34
OR 51/ Edwards	0	0	0	0	0	0	0	0	0.00	0.33
OR 51/ Hogan	0	0	0	1	0	1	0	1	0.06	0.35
Madrona /Edwards	0	0	0	0	0	0	0	0	0.00	0.53
Madrona / Talmadge	0	1	0	0	1	0	0	1	0.24	0.51

[1] Obs. = Observed

As shown in Table 4-7, only two study intersections revealed observed crash rates that were higher than the critical crash rate: Main Street/Monmouth Avenue and Main Street/Knox Street.

The OR 51/Monmouth intersection is one of four all-way stop intersections included in the analysis. There were five crashes at this intersection during the study period while two other all-way stop

intersections (both on Monmouth Avenue) did not have any crashes reported, causing it to stand out among this intersection type. The crashes occurred in 2004 (two crashes) and 2005 (three crashes). None were reported in 2006 or 2007.

Conversely, of the four crashes at the Main Street/Knox Street intersection, three occurred in 2007, suggesting a possible negative trend. Two of the incidents involved bicycles: one was traveling in the wrong lane and the other was straddling the two travel lanes. The other two crashes were typical intersection angle crashes.

SUMMARY OF CURRENT TRANSPORTATION CONDITIONS

The review of existing transportation conditions resulted in the key findings summarized below.

Existing Intersection Operations

The study intersections were evaluated to determine the average delay experienced by drivers and the intersection or movement capacity used during weekday p.m. peak hour conditions.

- The critical eastbound approach at the OR 99W/Madrona Street intersection currently operates at LOS F, though it has adequate capacity as indicated by the v/c ratio of 0.55. The eight-hour, four-hour, and peak hour signal warrants identified in the MUTCD are all met at this intersection under existing conditions.
- All other study intersections currently meet the applicable mobility standard during the weekday p.m. peak hour.

Turn Lane Warrants

Warrant analyses for left- and right-turn lanes were conducted. Where warrants are met, additional evaluation may be needed to determine whether installation would be safe and practical.

- Left-turn lanes are warranted along OR 99W at the Church, Powell, and Jackson Street intersections.
- Left-turn lanes are warranted along OR 51 at Craven Street South, Craven Street North, and Hogan Road.
- An eastbound left-turn lane is warranted at the Main Street/Catron Street intersection.
- Right-turn lane warrants are met on OR 99W in the northbound direction at Church Street and Madrona Street, and in the southbound direction at Clay Street.

Queuing Analysis

At unsignalized intersections, the available queue storage is adequate to accommodate the 95th percentile queues.

At the OR 99W/OR 51 intersection, the queues for all four shared through-right lanes exceed the available storage, which has been identified as the distance from the intersection to the nearest cross-street. In these instances, the queues would extend past the nearest adjacent intersection.

Safety Analysis

The review of ODOT's safety analysis procedures, in addition to the analysis of crash records at all study intersections, showed the most significant safety deficiencies along Main Street through downtown.

ODOT SPIS Analysis

- ODOT has identified two overlapping roadway segments for inclusion in the Safety Priority Index System. The two SPIS locations are overlapping segments on Main Street between Broad Street and Catron Street. ODOT's senior traffic investigator suggests that the City consider improvements such as installation of bulb-outs and continental marked crosswalks for both Broad Street and Ecols Street, similar to what has been implemented at the intersections of Main Street with Monmouth Avenue, Warren Street, and Knox Street.

Intersection Critical Crash Rate Analysis

- There were five crashes at the Main Street/Monmouth Street intersection during the five year study period. The crashes occurred in 2004 (two crashes) and 2005 (three crashes). None were reported in 2006 or 2007.

- Of the four crashes at the Main Street/Knox Street intersection, three occurred in 2007, suggesting a possible negative trend. Two of the incidents involved bicycles: one was traveling in the wrong lane and the other was straddling the two travel lanes. The other two crashes were typical intersection angle crashes.

Section 5
Year 2030 Future
Transportation Conditions

Year 2030 Future Transportation Conditions

This section describes planned changes in the transportation system and the anticipated future growth in travel demand and how the system is anticipated to operate with the additional traffic.

PLANNED TRANSPORTATION IMPROVEMENTS

Several sources were reviewed to identify future transportation improvements. These include the 1997 Monmouth TSP, relevant capital improvement plans, the 2007 Independence TSP, ODOT Statewide Transportation Improvement Program, and approved private development plans.

1997 Monmouth TSP

The 1997 TSP identified the need to realign the OR 51 "S" curves at Edwards and Hogan Roads. Upon more detailed engineering analysis of the proposed straightening of the S-curve on OR 51, ODOT determined that there are significant benefits of maintaining it in its current form, in part because of a traffic calming impact from the existing curve. As such, the recommendation for this project was removed.

The TSP also identified potential traffic signals on OR 99W at Madrona, Gwinn, and Church Streets. Under 2008 conditions, these intersections all meet ODOT operating standards. However, the critical eastbound movement at the Madrona Street intersection operates at LOS F with a v/c ratio of 0.55. Signal warrant analysis determined that a traffic signal was not warranted at the time of the 1997 TSP.

The 1997 TSP also identifies several potential roadway extensions and new connections to provide better connectivity and route alternatives for local trips. Some of these improvements have not yet been constructed. For the most part, they are likely to occur with new development.

Street extensions and potential traffic signals from the 1997 TSP will be carried forward into the updated TSP, with renewed evaluation to be sure that changing conditions still support their inclusion in the plan.

Capital Improvement Plans

The Monmouth Capital Improvements Plan (CIP) sets aside funds for future transportation improvements; however, no specific projects are included at this time. Similarly, the Polk County CIP and the ODOT State Transportation Improvement Program (STIP) do not identify planned transportation improvement projects within the UGB.

Approved Development Plans

Extension of the center-turn lane on OR 99W between Jackson Street and OR 51 is planned as a condition of development of the commercial parcel in the northeast quadrant of the OR 99W/OR 51

intersection. The planned improvement will create southbound left-turn lane at the OR 99W/Jackson Street intersection and a continuous center-turn lane on OR 99W between Jackson Street and OR 51. This project will be incorporated in the analysis of future traffic operations.

Along OR 51, improvements through the S-curves are planned to be constructed in a public/private partnership. The City recently finalized design plans, in coordination with ODOT and a commercial developer, which include construction of a raised pedestrian crosswalk bisecting the S-curve. The location of this crossing is tied to a planned right-in/right-out access that will serve the future commercial development on the south and east side of OR 51 along the S-curve. This location has sufficient sight distance for pedestrians and will provide improved pedestrian crossing on OR 51 between residential neighborhoods and the planned commercial development southwest of the S-curves.

2030 TRAFFIC VOLUME FORECAST

The year 2030 forecast traffic volumes were developed according to the Cumulative Methodology, as described in the ODOT APM. The methodology combines a background growth factor for highway traffic volumes and an analysis of forecast growth within the UGB.

Background Growth

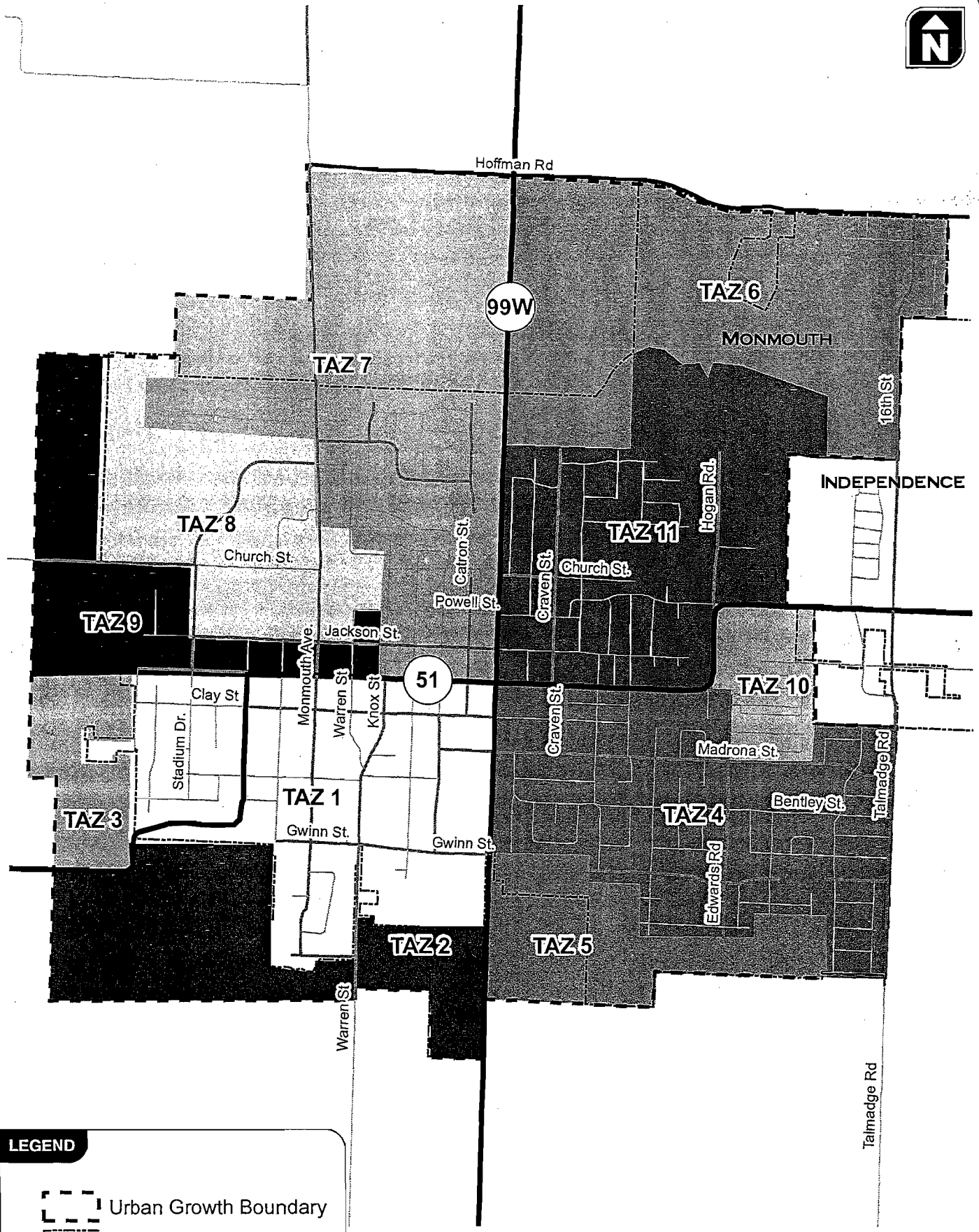
A background growth rate was developed based on ODOT's Future Volume Tables for the Monmouth area. On this basis, a 2.74-percent annual growth rate was identified for background traffic volumes in Monmouth, which corresponds to a 60-percent growth factor for 2030 forecast conditions.

Population & Employment Growth

The traffic volume forecast reflects estimated employment and household growth in Monmouth. Growth estimates were developed based on population projections by Polk County. The inventory of vacant land was reviewed, including zoning and allowable density. On this basis, the forecast was refined for household and employment growth for the 2030 plan year. The employment and housing growth was assigned to the traffic network according to Traffic Analysis Zones (TAZs) established for this purpose. The TAZ boundaries are intended to aggregate areas that have common access to major transportation facilities. Figure 5-1 illustrates the TAZs used in the Monmouth forecast. The employment and household growth forecasts for each TAZ are summarized in Table 5-1.

Trip Generation

Trip generation estimates for the anticipated growth were based on data published in the standard reference manual, *Trip Generation,* 7th Edition, published by the Institute of Transportation Engineers (ITE). The growth sectors listed in Table 5-1 were evaluated according to equivalent land uses published in *Trip Generation,* which were identified by considering characteristics of ITE categories and those of the growth sectors. Table 5-2 summarizes the estimated trip generation associated with the anticipated population and employment growth in the City.



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TRANSPORTATION ANALYSIS ZONE (TAZ) BOUNDARIES
MONMOUTH, OREGON

FIGURE 5-1

TABLE 5-1 2030 POPULATION AND EMPLOYMENT GROWTH BY TAZ

Growth Sector		TAZ											Total
		1	2	3	4	5	6	7	8	9	10	11	
Housing	Single Family	30	400	150	80	0	0	116	0	300	0	5	**1,081**
	Multifamily	120	0	0	20	400	0	284	0	0	0	5	**829**
Total Housing		**150**	**400**	**150**	**100**	**400**	**0**	**400**	**0**	**300**	**0**	**10**	**1,910**
Employment	Agriculture	0	0	0	0	0	0	0	0	0	0	0	**0**
	Construction	10	0	0	0	0	0	0	0	0	0	0	**10**
	Manufacturing	20	50	0	0	0	50	0	0	0	0	0	**120**
	Trade/Transportation	0	25	0	0	0	25	0	0	0	0	0	**50**
	Retail Trade	25	0	0	15	0	0	15	0	0	50	0	**105**
	Finance/Insurance	20	0	0	5	0	0	0	0	0	10	5	**40**
	Services & Real Estate	0	0	0	20	0	0	20	0	0	20	5	**65**
	Public Sector	0	0	0	0	0	0	0	200	0	0	10	**210**
Total Employment		**75**	**75**	**0**	**40**	**0**	**75**	**35**	**200**	**0**	**80**	**20**	**600**

TABLE 5-2 2030 GROWTH TRIP GENERATION ESTIMATE, WEEKDAY PM PEAK HOUR

TAZ	Housing			Employment			Total		
	In	Out	Total	In	Out	Total	In	Out	Total
1	67	37	104	47	54	101	114	91	205
2	263	141	404	21	31	52	284	172	456
3	99	53	152	0	0	0	99	53	152
4	60	32	92	23	30	53	83	62	145
5	156	92	248	0	0	0	156	92	248
6	0	0	0	21	31	52	21	31	52
7	187	105	292	22	28	50	209	133	342
8	0	0	0	53	123	176	53	123	176
9	197	106	303	0	0	0	197	106	303
10	0	0	0	71	80	151	71	80	151
11	6	3	9	18	23	41	24	26	50
Area-wide	**1,035**	**569**	**1,604**	**276**	**400**	**676**	**1,311**	**969**	**2,280**

The future added traffic was distributed to the network according to the trip production and attractions probabilities identified through the Cumulative Analysis procedures in the APM. The trips identified in Table 5-2 were added to the growth in through traffic for the forecast conditions analysis.

Weekday p.m. peak hour intersection operations under the projected 2030 traffic volumes are summarized in Table 5-3.

TABLE 5-3 INTERSECTION ANALYSIS, 2030 NO BUILD, WEEKDAY PM PEAK HOUR

Intersection	Mobility Standards		Intersection Operations			Meets Standard?
	ODOT[1]	City	Critical Movement[2]	V/C	LOS	
Signalized Intersections						
OR 99W/Hoffman	v/c = 0.75	LOS D	n/a	0.80	C	City Yes ODOT No
OR 99W/OR 51	v/c = 0.85	LOS D	n/a	≥1.0	F	No
Unsignalized Intersections						
OR 99W/Church	v/c = 0.90	LOS E	WB	0.83	F	ODOT Yes City No
OR 99W/Powell	v/c = 0.90	LOS E	EB	≥1.0	F	No
OR 99W/Jackson	v/c = 0.90	LOS E	EB	≥1.0	F	No
OR 99W/Clay	v/c = 0.90	LOS E	EBTL	≥1.0	F	No
OR 99W/Madrona	v/c = 0.85	LOS E	EB	≥1.0	F	No
OR 99W/Gwinn	v/c = 0.85	LOS E	EB	0.08	E	Yes
OR 51/Craven N	v/c = 0.90	LOS E	SB	0.49	F	ODOT Yes City No
OR 51/Craven S	v/c = 0.90	LOS E	NB	0.14	D	Yes
OR 51/Edwards	v/c = 0.90	LOS E	NBLT	0.93	F	No
OR 51/Hogan	v/c = 0.90	LOS E	SB	0.16	E	Yes
Whitman/Ackerman	v/c = 0.90	LOS E	WB	0.03	B	Yes
Main St/Monmouth	v/c = 0.90	LOS E	n/a	≥1.0	F	No
Main St /Knox	v/c = 0.90	LOS E	SB	0.33	E	Yes
Main St /Catron	v/c = 0.90	LOS E	SB	0.20	F	ODOT Yes City No
Stadium/Church	v/c = n/a	LOS E	n/a	0.20	A	Yes
Monmouth/Stadium	v/c = n/a	LOS E	EB	0.38	C	Yes
Monmouth/Church	v/c = n/a	LOS E	NBLT	0.01	A	Yes
Monmouth/Jackson	v/c = n/a	LOS E	n/a	0.35	A	Yes
Monmouth/Clay	v/c = n/a	LOS E	n/a	0.18	A	Yes
Warren/Gwinn	v/c = n/a	LOS E	EB	0.01	A	Yes
Madrona/Edwards	v/c = n/a	LOS E	n/a	0.14	A	Yes
Madrona/Talmadge	v/c = n/a	LOS E	EB	0.09	B	Yes

*The following abbreviations are used in this table:
NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound; LT: Left turn
[1]ODOT applies two distinct volume-to-capacity (v/c ratio) mobility standards. The lower v/c ratio (less congestion) is applied to state highway approaches that are not stopped. For approaches at which traffic must stop, the v/c ratio for District roads is applied. This table lists the latter, which is virtually always the critical movement of a 2-way stop intersection.
[2] Critical movement does not apply to signalized or all-way-stop intersections

As Table 5-3 shows, seven of the study intersections will fail to meet the mobility standards for both the City and ODOT operating standards under 2030 no-build conditions. Several others will meet either City or ODOT standards, but not both.

Traffic Signal Warrants

Because of the close spacing of several of the failing intersections, it would typically not be necessary or desirable to install traffic signals at all intersections that meet the MUTCD warrants. In fact, for ODOT facilities traffic signals should generally be located at one-half mile intervals or greater, though exceptions are sometimes made. For informational purposes, signal warrants were analyzed for intersections with either LOS F or v/c ratio exceeding 1.0. The findings of the warrant analyses are summarized in Table 5-4.

TABLE 5-4 SIGNAL WARRANT ANALYSES 2030 FORECAST CONDITIONS

Intersection	Warrant #1 8th Highest Hour	Warrant #2 4th Highest Hour	Warrant #3 Peak Hour
OR 99W/Church Street	No	No	No
OR 99W/Powell Street	Yes	Yes	Yes
OR 99W/Jackson Street	No	Yes	Yes
OR 99W/Clay Street	Yes	Yes	Yes
OR 51/Monmouth Avenue	Yes	Yes	Yes
OR 51/Knox Street	No	No	No
OR 51/Catron Street	No	No	No
OR 51/Craven North	No	No	No
OR 51/Edwards Road	No	No	No

As Table 5-4 shows, signal warrants will be met at the OR 99W intersections with Powell Street, Jackson Street, and Clay Street. The OR 51/Monmouth Avenue intersection is also forecast to meet all three warrants evaluated. Although the warrants will be met, further evaluation will be required related to the appropriate spacing of traffic signals along a corridor, as well as the impacts on the side streets. On state highways, construction of traffic signals must be approved by the state traffic engineer.

2030 Left-Turn Lane Warrants

A warrant analysis was conducted according to the methods outlined in the APM in order to determine whether left-turn lanes on OR 51 would be warranted under 2030 conditions at the Knox Street and Ackerman Street intersections. Table 5-5 summarizes the findings of the analysis. As Table 5-5 shows, left-turn lanes will be warranted for both the eastbound and westbound approaches at the OR 51/Knox Street intersection under 2030 forecast conditions.

TABLE 5-5 2030 LEFT-TURN LANE WARRANTS

Intersection	Approach	Warrant Met?	
		2008 Existing	2030 Forecast
Main St/Knox	EBLT	No	Yes
	WBLT	No	Yes
OR 51/Ackerman	EBLT	No	No
	WBLT	No	No

* EB: Eastbound; WB: Westbound; LT: Left turn

Note that Table 4-2 summarized the analysis that determined that northbound and southbound left-turn lanes are warranted on OR 99W between OR 51 and Church Street under 2008 conditions.

2030 Queuing Analysis

A queuing analysis was conducted to determine whether estimated weekday p.m. peak hour queues will be accommodated by available spacing, based on current conditions.

Queuing at Unsignalized Intersections

As under existing conditions, unsignalized intersections were analyzed according to guidelines set forth in ODOT's APM. Left-turn movements from state facilities onto local roadways at unsignalized intersections were analyzed using the Two-Minute Rule methodology for 95th percentile queues. The estimated queues are summarized in Table 5-6.

TABLE 5-6 SUMMARY OF 2030 QUEUES AT UNSIGNALIZED INTERSECTIONS

Location	95% Queue (feet)		Existing Storage (feet)		Adequate Storage?
	NB Left	SB Left	NB Left	SB Left	
OR 99W					
OR 99W/Clay Street	100	50	350[1]	350[1]	Yes
OR 99W/Madrona Street	25	325	325[2]	350[1]	Yes
OR 99W/Gwinn Street	75	25	125		
OR 51					
Location	**EB Left**	**WB Left**	**EB Left**	**WB Left**	**Adequate?**
OR 51/Edwards Road		100		125	Yes
Main St/Catron Street		25		250[2]	Yes

The following abbreviations are used in this table:
NB: Northbound; SB: Southbound; EB: Eastbound; WB: Westbound
[1] Available storage shown as distance of two-way left-turn lane to nearest cross-street
[2] Available storage shown as distance of two-way left-turn lane to nearest commercial driveway

Queuing at Signalized Intersections

The queuing analysis for the signalized study intersections is summarized in Table 5-7. All queue lengths have been rounded up to the nearest 25 feet and available storage has been identified as either the striped turn lane or the distance from the intersection to the nearest cross-street.

TABLE 5-7 SUMMARY OF 2030 QUEUES AT SIGNALIZED INTERSECTIONS

Location	Approach/Movement	95th-Percentile Queue	Striped Storage Available	Adequate Storage?
OR 99W / Hoffman Road	NB LT	50 feet	200 feet	Yes
	NB TH	325 feet	Continuous	Yes
	NB RT	75 feet	125 feet	Yes
	SB LT	175 feet	300 feet	Yes
	SB TH	300 feet	Continuous	Yes
	SB RT	75 feet	300 feet	Yes
	EB LT	125 feet	250 feet	Yes
	EB TH/RT	100 feet	Continuous	Yes
	WB LT	125 feet	275 feet	Yes
	WB TH/RT	175 feet	Continuous	Yes
OR 99W / OR 51	NB LT	175 feet	200 feet	Yes
	NB TH/RT	575 feet	340[1] feet	No
	SB LT	175 feet	175 feet	Yes
	SB TH/RT	625 feet	340[1] feet	No
	EB LT	200 feet	250 feet	Yes
	EB TH/RT	550 feet	270[1] feet	No
	WB LT	225 feet	150 feet	No
	WB TH/RT	600 feet	300[1] feet	No

*The following abbreviations are used in this table:
NB: Northbound SB: Southbound EB: Eastbound WB: Westbound
LT: Left Turn RT: Right Turn TH: Through
[1] Available storage noted as distance from intersection to nearest cross-street

As shown in Table 5-7, the forecast queues at the OR 99W/OR 51 intersection will exceed available storage by considerable lengths. In particular, all of the shared through-right lanes and the westbound left-turn lane will exceed available storage.

SUMMARY OF YEAR 2030 NO BUILD CONDITIONS

Traffic Operations

- Under Year 2030 Future no-build conditions, seven of the study intersections will fail to meet the mobility standards for both the City and ODOT operating standards. Four intersections will fail to meet the mobility standards for either ODOT, the City, or both.
- Traffic signal warrants will be met at the OR 99W intersections with Powell Street, Jackson Street, and Clay Street. The OR 51/Monmouth Avenue intersection is also forecast to meet traffic signal warrants.
- Left-turn lanes will be warranted for both the eastbound and westbound approaches at the OR 51/Knox Street intersection under 2030 forecast conditions.
- Analysis of queuing at unsignalized intersections determined that there will be adequate storage to accommodate the 95th percentile left-turn queues on OR 99W and OR 51 at intersections where designated left-turn lanes already exist.
- The estimated queues at the OR 99W/OR 51 intersection will exceed available storage by considerable lengths. In particular, all of the shared through-right lanes and the westbound left-turn lane will exceed available storage.

Section 6
Transportation
Alternatives Analysis

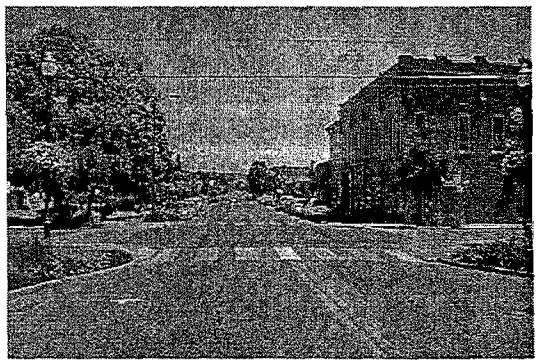
Transportation Alternatives Analysis

This section provides evaluation and recommendations of transportation improvements for the previously identified system deficiencies within the UGB. Approximately 125 individual improvement alternatives were evaluated in the alternatives analysis. This section is organized as follows:

- Identification of environmental barriers for future transportation projects;
- Improvement alternatives on the existing transportation system;
- Proposed new roadways and roadway segments;
- Pedestrian and bicycle system improvement alternatives; and,
- Transit system alternatives.

This section provides a summary of the alternatives analysis and recommendations. Because of the large number and range of alternatives included in the evaluation, this section begins with a focused discussion of issues along the major roadway corridors or other significant projects. Details of the evaluations are provided in *Technical Memorandum 3: Transportation System Alternatives Analysis* in Volume 2 of the Technical Appendix. For reference, the planned projects are illustrated on maps 7-8 through 7-10b and are summarized by time frame in Tables 7-7 through 7-10, which are provided in Section 7 of this document.

TIMELINE FOR RECOMMENDED PROJECTS



For each modal system, the evaluation of transportation improvements resulted in a set of preferred transportation improvement projects. The timeline for implementation of the projects is described according to the following terms:

- Near-term: These improvements are warranted under existing conditions or are expected to be warranted with a relatively short (i.e., approximately five-year) time frame. These improvements should be constructed as opportunities and resources allow.
- Mid-term: These improvements are planned for implementation in the six-to-ten-year time frame.
- Long-term: These projects will be needed to accommodate anticipated growth. They should be planned for likely implementation within the 20-year planning horizon.
- Future vision: Some preferred projects may not be feasible within the 20-year planning horizon, for reasons of both need and resources. However, they represent a vision for an efficient transportation system in the future. The City of Monmouth and ODOT should take the appropriate steps to prevent actions and/or development that would preclude these projects in the future.

ROADWAY NETWORK ALTERNATIVES

All major arterials serving the City of Monmouth are state highways. It should be noted that all improvements on state highways are subject to the standards and polices of the Oregon Highway Plan and require ODOT approval.

As described previously, there are several existing issues on both OR 99W and OR 51, including intersection operations, limited circulation and connectivity, and irregular intersection geometry. As traffic volumes increase due to local and regional growth, continued dependence on these two roadways will exacerbate existing issues and the OR 99W/OR 51 intersection will be a major bottleneck within the city for all directions of travel.

In the near-term, most of the operational issues can be addressed with specific improvements at individual intersections, such as the addition of turn lanes or traffic signals. However, in order to accommodate long-range growth in a manner consistent with the scale of the community, the alternatives evaluation was aimed at improving connectivity and circulation with new roadways or new connections to existing roadways.

The alternatives evaluation in this chapter begins with improvements to existing roadway deficiencies, followed by a long-term roadway connectivity evaluation. Finally, a future roadway long-term vision plan is identified, in which projects are identified that may not be feasible within the 20-year plan, but may become feasible beyond a 20-year horizon.

Traffic Signals on OR 99W and OR 51

The 1997 TSP identifies planned traffic signals on OR 99W at Church Street (*Project I-01*), Madrona Street (*Project I-08*), and Gwinn Street (*Project I-09*); and, on OR 51 at Monmouth Avenue (*Project I-03*) and Edwards Road (*Project I-11*).

Traffic signals on state highways are subject to ODOT spacing standards of one-half mile between traffic signals. It is possible to seek a modification to these standards within an urban setting. Nonetheless, traffic signals on state highway should be located with consideration to optimal spacing to promote traffic progression and should be located at intersections with collectors or higher roadways to maximize benefits to east-west traffic. The remainder of this section summarizes the evaluation and recommendations regarding the currently planned traffic signal locations.

1. *Construct traffic signal at OR 99W/Church Street (Project I-01).*

   This intersection is located approximately 1,250 feet north of the existing traffic signal at OR 51, which does not meet ODOT's traffic signal spacing standards. Although signal warrants are not met under existing or forecast 2030 conditions, there are several factors that support the installation of a traffic signal at Church Street:

- Church Street is the northernmost east-west crossing of OR 99W between Hoffman Road and OR 51, making it a better location than other existing intersections in terms of traffic signal spacing.
- This intersection has considerable pedestrian traffic due to the location of Monmouth Elementary School. A traffic signal at this intersection would provide protected crossing.
- Church Street would provide a convenient connection to OR 99W from northwest Monmouth if a future Church Street connection between OR 99W and Catron Street is constructed (see *Project RE-06*), which would increase traffic from Powell and Jackson Streets, potentially meeting warrants.

This alternative is RECOMMENDED upon completion of the Church Street connection to Catron Street.

2. *Construct traffic signal at OR 99W/Madrona Street (Project I-08).*

Signal warrants are met at this intersection under existing conditions. This is a necessary, but not sufficient cause for installation of a traffic signal. This intersection is located approximately 750 feet south of the existing traffic signal at OR 51, which does not meet ODOT's traffic signal spacing standards. It is possible to seek a modification to the spacing standard; however, it would likely preclude future construction of any additional signals south of OR 51.

The downgrade of the functional classification of this street from Collector to Minor Collector has been recommended to maintain lower traffic volumes through neighborhood streets. The construction of the future OR 99W/Gwinn Street intersection and signalization would focus the desired east-west traffic flow along Gwinn Street and remove demand from the existing OR 99W/Madrona Street intersection.

This alternative is NOT RECOMMENDED.

3. *Construct traffic signal at OR 99W/Gwinn Street (Project I-09).*

Gwinn Street is the preferred location for a traffic signal on OR 99W south of OR 51. Although signal warrants are not met at this intersection under existing conditions, Gwinn Street is proposed as an east-west major collector that will provide a continuous connection between Whitman Street on the west and Talmadge Road on the east after relatively short roadway extensions are completed. A traffic signal at this location will also provide protected pedestrian crossing connecting residential neighborhoods to the existing retail establishments west of OR 99W.

This alternative is RECOMMENDED.

4. *Construct traffic signal at Main Street/Monmouth Avenue (Project I-03).*

   Signal warrants are not met at this intersection under existing conditions. Under existing conditions, this intersection operates at LOS A with adequate capacity. As such, a traffic signal is not recommended at this location in the near term.

   Signal warrants will be met under 2030 forecast conditions. In its current form as an all-way stop controlled intersection, the traffic volumes will exceed capacity at the intersection, resulting in diverted traffic onto the surrounding streets. Further, the intersection serves considerable pedestrian traffic between WOU and Main Street.

   A traffic signal in this location has the potential to attract additional traffic onto Monmouth Avenue and through the WOU campus. Negative impacts associated with increased traffic could be mitigated through traffic calming measures on Monmouth Avenue. More importantly, construction of the proposed Western North-South Minor Arterial will provide an alternative route for north-south traffic.

   This alternative is RECOMMENDED for the long term.

5. *Construct traffic signal at OR 51/Edwards Road (Project I-11)*

   Signal warrants are not met at this intersection under existing conditions. Under existing conditions, it operates at LOS A with adequate capacity. As such, a traffic signal is not recommended at this location.

   This alternative is NOT RECOMMENDED.

6. *Construct traffic signals on OR 99W at Clay, Jackson and Powell Streets (Projects I-07a, I-07b, and I-07c).*

   Although signal warrants will be met under forecast conditions, construction of traffic signals must take into consideration many factors in addition to signal warrants. Clay and Jackson Streets are located approximately 350 feet from the existing traffic signal at OR 99W/OR 51, which will not meet ODOT spacing standards. Further, these locations would attract increased side street traffic to local or minor collector roadways.

   These alternatives are NOT RECOMMENDED.

The locations for future traffic signal recommendations are based on access spacing, future street connections, and signal progression characteristics. Although not all recommended future signal locations meet volume warrants under existing conditions, buildout of the transportation network is expected to modify existing travel patterns. Ultimate construction of signals will be based on meeting signal warrants and ODOT spacing standards, or design exceptions where required.

Turn Lanes on OR 99W and OR 51

Under existing conditions, ODOT's left-turn lane warrants are met at several intersections on OR 99W and OR 51. These roadways are major arterials; the design standards for major arterials include an optional center left-turn lane (see Section 7). As such, the left-turn lanes would be consistent with the design standards, but not required.

1. *On OR 99W, install southbound left-turn lane at Church Street (Project R-08); and north and southbound left-turn lanes at Jackson Street (Project R-10) and Powell Street (Project R-09).*

   Left-turn lanes at these intersections (effectively, a continuous two-way left-turn lane) would improve operations by reducing the impacts on through trips caused by left-turning vehicles. A continuous center-turn lane is an optional element of the recommended designs standards for this roadway (described in a later section).

   In particular, the southbound left-turn lane at Church Street could be constructed in conjunction with a recommended pedestrian refuge island on the opposite (northbound) approach (*see Project P-04*).

   (Note: Northbound and southbound left-turn lanes are planned at the OR 99W/Jackson Street intersection as part of approved commercial development at the northeast quadrant of the OR 99W/OR 51 intersection.)

   These alternatives are RECOMMENDED.

2. *Construct an eastbound left-turn lane at Main Street/Catron Street intersection (Project R-11).*

   An eastbound left-turn lane would reduce delay for eastbound through traffic caused by vehicles turning left onto Catron Street. A more detailed evaluation will be needed to determine whether the relatively short block length allows for sufficient storage and taper of the turn pocket.

   This alternative is RECOMMENDED.

3. *On OR 51, install eastbound left-turn lane at Craven Street North (Project R-26) and westbound left-turn lane at Craven Street South (Project R-25).*

   Left-turn lanes are warranted under existing conditions, though the City of Monmouth Public Works Department does not identify this as a critical problem. These left-turn lanes should be constructed as redevelopment of adjacent properties provides the opportunity.

   These alternatives are RECOMMENDED in conjunction with redevelopment of adjacent properties.

One-Way Couplet: OR 51 and Jackson Street

Convert Jackson Street and OR 51 into a one-way couplet between OR 99W and Ackerman Street (Project R-06).

This project would modify traffic circulation through downtown by converting OR 51 and Jackson Street to one-way traffic flow. This change would negatively impact adjacent properties in the neighborhoods and the commercial downtown area. Residents along Jackson Street would see increases in traffic flow, and the roadway would function similar to an arterial. Commercial properties along Main Street would also experience changes in traffic circulation, which could negatively impact the commercial land value and the retail environment.

This alternative is NOT RECOMMENDED.

Intersection Geometry on OR 51

1. *Realign the irregular intersection geometry at OR 51/Hogan Road and provide an eastbound left-turn lane at Hogan Road (Project R-27).*

   As part of a planned commercial development southeast of the "S" curve, the City of Monmouth, ODOT, and a private developer have recently agreed upon plans for roadway improvements that will include a realignment of the OR 51/Hogan Road intersection. The realigned intersection will have a perpendicular approach and there will be an eastbound left-turn lane for vehicles turning from OR 51 onto Hogan Road.

   These alternatives are RECOMMENDED, as planned.

Streetscape Improvements on Main Street

1. *Streetscape improvements along Main Street to promote multi-modal circulation and reinforce low posted speed limits (Project R-33).*

   As mitigation to the safety deficiencies identified through the SPIS analysis, curb extensions and marked cross walks should be implemented. Future streetscape improvements should also include bicycle lanes and pedestrian crossing improvements at intersections. The design would be consistent with the recommended street design standards for the Special Transportation Area (STA) designation on OR 51 (see Section 7).

   This alternative is RECOMMENDED.

Roadway Upgrades

1. *Upgrade Hogan Road to Major Collector design standards (Project R-34).*

   Hogan Road is shown as a Collector in the 1997 TSP and functions primarily as an access road to City public works and water treatment facilities. The Hogan Road alignment provides a continuous north-south alternative to OR 99W and Talmadge Road-16th Street for northern Monmouth. In combination with Edwards Road, this alignment provides a connection to the southern portion of the City. As such, this roadway should be upgraded to Major Collector standards in connection to new connections with Alberta Avenue East, Margaret Street, and Church Street extensions (*see Projects RE-25, RE-15, and RE-22*).

   This alternative is RECOMMENDED in the long-term.

New Roadway Connections

In addition to mitigating traffic congestion and safety issues with capacity improvements at specific locations, proposed projects include new roadway segments that will improve connectivity and circulation, providing local alternative routes to the state highways. The proposed new roadways include several relatively short segments that, in combination, could provide significant circulation and connectivity benefits for some neighborhoods. The following roadway segments are recommended for near-term and mid-term implementation.

1. *Church Street West between OR 99W and Catron Street (Project RE-06).*

   This connection would create a four-way intersection at OR 99W/Church Street and would reduce out of direction travel for travelers accessing OR 99W from the residential neighborhood northwest of OR 99W/Church Street. In addition, this connection could provide a signalized portal (*see Project I-01*) to the north-south Catron Street corridor, providing an alternate north-south route parallel to OR 99W.

2. *Catron Street between (proposed) Church Street and Suzanna Street (Project RE-03c)*

   This new roadway connection is a first step in the overall Catron Street extension. This segment would improve Catron Street as a continuous north-south alternative to OR 99W, which is ultimately planned to connect Hoffman Road to Main Street.

3. *Olive Way East between OR 99W and Myrtle Drive (Project RE-20)*

   This connection provides an additional local street access from OR 99W into the residential neighborhood north of Church Street, reducing the need for out-of-direction travel. In the event that the future east-west Major Collector "B" (*Project RE-13)* is constructed in the long term, the Olive Way connection may be closed in order to increase the spacing and reduce the number of access points on OR 99W.

4. *Gwinn Street West between Ecols and Warren Streets (Project RE-08b) and between Whitman and College Streets (RE-08a)*

   Gwinn Street is a nearly continuous east-west collector, with short gaps on the east and west sides of OR 51. These two segments would create a continuous link between OR 51 (Whitman Street) and OR 99W, providing an alternative route to OR 51 through downtown.

5. *Gwinn Street East between OR 99W and Heffley Street (Project RE-08c) and between Yellowstone Drive and Talmadge Road (Project RE-08d)*

   Gwinn Street East does not currently have a connection to OR 99W. Project *RE-08c* will result in a four-legged intersection of OR 99W/Gwinn Street, forming the southernmost access to southeast Monmouth and ultimately connecting to Talmadge Road. The planned alignment of the future Gwinn Street East will be offset by several hundred feet from a planned collector in the 2007 Independence TSP, which appears to align with Teton Drive. The Independence TSP may provide some flexibility to align with Gwinn Street East; one potential benefit of this offset, however, is that the natural geometric effect would limit

traffic flow, ensuring that this roadway does not have a minor arterial character through a residential neighborhood.

6. *Extend Margaret Street approximately 250 feet east to Hogan Road (Project RE-15).*

   The east end of Margaret Street currently stubs into a small wetland approximately 250 feet west of Hogan Road. Provided wetland mitigations are not extensive, this street would help to form an eastside grid system and reduce the need for out-of-direction travel between this residential area and OR 51 east.

   These project alternatives are RECOMMENDED in the near term. All new roadway connections to the state highways are subject to ODOT access management policies and standards.

Roadway Extensions

The following roadway extension projects were considered for long-term implementation:

1. *Extend Catron Street between Burlwood Avenue and Hoffman Road (Project RE-03).*

   When completed, Catron Street would provide a north-south alternative to OR 99W and Monmouth Avenue. Because of environmental issues associated with the Ash Creek wetlands, this project will require extensive environment and engineering analysis, including a National Environmental Policy Act (NEPA) process if federal funds are associated with the project. In the near-term, right of way should be acquired and preserved for this future roadway.

2. *Connect Suzana Street to OR 99W (west side) (Project RE-23).*

   Future sale or redevelopment of the property on OR 99W may provide an opportunity for a new connection into the northwest residential neighborhood via a Suzana Street Extension, which would reduce out of direction travel for southbound vehicles accessing northwest Monmouth via OR 99W. The proposed connection to OR 99W would be subject to ODOT's access management policies and spacing standards.

3. *Extend Warren Street between Powell Street and East Campus Bypass (Project RE-26).*

   A future connection between Powell Street and East Campus Bypass would provide an alternative north-south route parallel to Monmouth Avenue. This connection would also facilitate access to the future Performing Arts Building (identified in the WOU Campus Master Plan) and nearby parking facilities.

   Roadway extension alternatives 1, 2, and 3 are RECOMMENDED in the long-term.

4. *Extend Church Street along the Monmouth Elementary School property edge to Hogan Road (Project RE-22).*

A future Church Street connection to Hogan Road would provide a continuous east-west connection from west of OR 99W to Hogan Road. This connection would result in significant impacts on the existing facilities at the Monmouth Elementary School. Further, the roadway would introduce a significant increase in cut-through traffic. As such, this project is not recommended.

This alternative is NOT RECOMMENDED.

New Roadways

Several future roadways have been identified to serve the long-term circulation and mobility needs in the City of Monmouth. These roadways will not only provide access to new locations; they are intended to provide alternatives to OR 99W and OR 51 for through and local traffic. This function is vital to the long-term efficiency and safety of the state highways. Further, all new connections to OR 99W are subject to ODOT access management policies.

One significant change that may provide for new roadway alignments is a future update of the City's water treatment facilities. Currently, the City maintains three detention ponds in the north eastern part of the city. When a modernized water treatment facility is constructed, it will open up the possibility for several efficient roadway connections.

Other potential roadway projects will require crossing over wetlands, streams, or other environmental barriers. In some cases, these may require extensive environmental and engineering studies.

The following new roadways were considered for long-range implementation.

1. *Construct a north-south Minor Arterial ("A") west of OR 99W (Project RE-05).*

   As an alternative to modifying the use of Monmouth Avenue, a new north-south connection (Minor Arterial "A") would serve non-university traffic, reducing the need to travel through campus. A proposed alignment would run generally parallel to the western UGB and would connect Hoffman Road to OR 51 to Monmouth Avenue, and further connect Monmouth Avenue to the future Ash Creek Drive at the southern edge of town.

   While such a roadway would be beneficial to address an existing issue, the scale of the project precludes near-term implementation. However, the benefits of this alternative north-south connection will increase with growing traffic volumes.

   This alternative is RECOMMENDED in the long-term.

2. *Construct an east-west Major Collector, Ash Creek Drive (Project RE-11).*

   This proposed roadway will provide an east-west route through Monmouth and is aligned with a planned minor arterial in the City of Independence TSP. As such, this roadway will provide an important alternative to OR 51 for regional travel and could serve as a future alignment for OR 51, removing regional through traffic from Main Street. While it is proposed as a major collector within the planning horizon, sufficient right of way should be preserved for a future upgrade to major arterial in the event that it becomes a realignment of OR 51.

   This alternative (Major Collector) is RECOMMENDED in the long-term, with acquisition of right of way for a future Major Arterial.

3. *Construct east-west Major Collectors "A", "B", and "C".*

   Three future potential east-west collectors were identified and evaluated in order to reduce the dependence on OR 51.

   Alternative "A" (*Project RE-04*) provides an east-west Major Collector connection located approximately 1,100 feet south of Hoffman Road. The roadway would connect Monmouth Avenue and a future Hogan Road Extension.

   Alternative "B" (*Project RE-13*) provides an east-west Major Collector connection between OR 99W and 16th Street. This connection is approximately 1,500 feet north of Church Street, and would align through existing wetlands and natural barriers.

   Alternative "C" (*Project RE-24*) provides an east-west Major Collector connection between the planned north-south Minor Arterial "A" (*Project RE-05*) and Monmouth Avenue. The connection would lie completely within the UGB, approximately 1,000 feet north of Stadium Drive.

   These three proposed Major Collectors will promote an east-west grid system for improved circulation within Monmouth, providing alternatives for travel and removing traffic pressure from the OR 99W/OR 51 intersection.

   Alternatives "A" and "C" are RECOMMENDED in the long-term and Alternative "B" is RECOMMENDED for inclusion in a long-range Vision.

   The recommended roadway alignments are shown in Figure 7-10B in the next section of the TSP.

Planning for a Long-Range Vision

The projects identified in this section include those that may not be feasible within a 20-year planning horizon or may not be necessary if the pace of future development is slower than forecast. The City of Monmouth and ODOT should work together to prevent actions and/or development that would preclude the following projects in the long-range vision for Monmouth's roadway network. These projects, or elements of the projects, should be required if adjacent properties develop in the 20-year horizon. The specific future vision projects are described below.

Realignment of OR 51 along Ash Creek Drive.

As the City of Monmouth has matured, Monmouth Highway has developed into a classic Main Street that can compromise the mobility role of the highway. At the same time, the high traffic volumes on Main Street present challenges to maintaining a safe, pedestrian friendly environment downtown. With the proposed construction of Ash Creek Drive (RE-11), ODOT and the City should consider a future jurisdictional transfer from Monmouth Highway and Monmouth-Independence Highway to Ash Creek Drive in order to remove regional traffic, including freight, from Main Street.

Hogan Extension

The northeast quadrant of Monmouth would benefit from a north-south connection between OR 51 and Hoffman Road. Opportunities to extend Hogan Road to the north should be evaluated in conjunction with any modernization plans for the City's water treatment facilities.

Warren Road Extension

The southern section of this extension (*Project RE-02b*) traverses existing wetlands and natural barriers. This project would provide additional connectivity in parallel with Monmouth Avenue.

East-West Major Collector "B"

Major Collector "B" (*Project RE-13*) provides an east-west connection between OR 99W and 16th Street. This connection is located approximately 1,500 feet north of Church Street. Although the street alignment traverses through existing wetlands and natural barriers, this east-west connector provides connectivity and additional access into the northwest neighborhoods, and is recommended as a long-term vision project.

PEDESTRIAN NETWORK

Pedestrian improvement alternatives identified for this analysis include new sidewalks and infill of gaps, pedestrian crossing improvements, and an off-street shared path. Some of the identified pedestrian deficiencies in Monmouth include roadways without sidewalks or sidewalks in poor condition. Additionally, specific locations pose challenging and potentially unsafe street crossing conditions for pedestrians. Pedestrian improvements have been prioritized based on safe routes to school and on system connectivity needs. This section summarizes the deficiencies of the existing

pedestrian network and evaluates alternatives for improvement. Specific issues include the following:

- Along OR 51, sidewalks are not present between Heffley Street and the East City Limit, though the section through the S-curves is expected to be constructed with private commercial development in the near future;
- Hoffman Road does not have any sidewalks between OR 99W and 16th Street;
- OR 99W north of Church Street does not have sidewalks on either side of the roadway, though this segment of roadway has a parallel off-road path on the west side of the highway that can serve both bicycles and pedestrians;
- In the vicinity of the Monmouth Elementary School, sidewalks are absent along Alberta Avenue, Candlewood Way, Atwater Street, and Cottonwood Way;
- Sidewalks are interrupted on Talmadge Road between Madrona Street and the UGB; and,
- Signalized intersections with pedestrian phases are located on OR 99W at Hoffman Road and at OR 51. There are no other signalized pedestrian crossings and no raised pedestrian refuges along the state highways in Monmouth. Pedestrian crossing deficiencies were specifically noted on OR 99W at Church Street and Madrona Street, and along OR 51 between Atwater Street and the S-curves.

Sidewalk Improvements

All public streets are intended to include sidewalks, as identified in the current design standards (1997 TSP) and design standards (shown in Figures 7-3 through 7-6 in Section 7). As such, all streets without sidewalks are considered deficient and future construction of sidewalks is recommended as the opportunities and resources permit. Priority locations for improvement of sidewalks include major arterials, minor arterials, and major collectors, as well as locations serving schools. The following locations are priority locations for sidewalk improvements:

- West side of Talmadge Road between Madrona Street and the UGB;
- East side of OR 99W between Clay Street and Madrona Street (*Project P-11b*);
- Along 16th Street south of Hoffman Road within Monmouth city limits (*Project P-02*);
- Along Hoffman Road, between OR 99W and 16th Street (*Project P-01b*); and,
- Along OR 51, between Heffley Street and the S curve (*Project P-06*).

These projects are RECOMMENDED.

In addition to sidewalks on existing roadways, sidewalks will be constructed with new roadways, consistent with the design standards (see Section 7). As these roadways are built, they will continue to expand and improve the pedestrian network.

Pedestrian Crossing Needs

The following locations were identified for potential pedestrian crossing treatments based on input from the community:

- OR 51: section at Atwater Street
- OR 51 near the S curves
- OR 99W: intersection of Church Street with 99W
- OR 99W: intersection of Madrona Street with 99W.

The following types of pedestrian crossing treatments were considered for potential improvements.

Unmarked Crosswalks – This is the "do nothing" alternative. This option would not require any construction or striping. Oregon law requires vehicles to stop for pedestrians at any unsignalized intersection. Compliance with this law, however, is not consistent and high volume roadways can pose challenging or unsafe pedestrian crossing conditions. **As such, this is not a preferred alternative for the identified locations.**

Raised Pedestrian Refuge – This option would provide a pedestrian refuge in the roadway median, allowing a two-stage crossing to occur if needed. The ODOT *Traffic Manual* states that for state highways a raised median, in combination with a marked crosswalk is desired when average daily traffic (ADT) volumes are greater than 10,000. All of the proposed crossing improvement locations meet this traffic volume threshold. For this reason, **this is the preferred treatment for all locations, where a traffic signal is not warranted by traffic volumes.**

Marked Crosswalks Alone – This option would include pavement markings and signage for vehicles and pedestrians. Because both OR 99W and OR 51 have existing traffic volumes greater than 10,000 ADT, **this treatment is not a preferred treatment.**

Flashing Beacon – This option is typically used in conjunction with a marked crosswalk and is intended to increase visibility on major streets where high volumes of traffic are present. A similar crossing exists along OR 51 between 16th Street and Gun Club Road, serving the Central High School in Independence. This treatment is typically applied when existing pedestrian markings and crosswalks are not sufficient. However, because both OR 99W and OR 51 have existing traffic volumes greater than 10,000 ADT, **this treatment is not a preferred treatment.**

Pedestrian Hybrid Signal – The pedestrian hybrid signal is a pedestrian-actuated hybrid signal that would interrupt traffic on the mainline to provide a protected crossing for pedestrians. No adopted standards for pedestrian-actuated signals were identified.

The forthcoming update to the *Manual of Uniform Traffic Control Devices* (MUTCD, http://mutcd.fhwa.dot.gov/resources/proposed_amend/npa_text.pdf) will include guidelines. The draft of the guidelines identifies peak hour pedestrian and traffic volumes for a given crossing distance and travel speed. For OR 99W and OR 51 in the UGB, peak hour traffic volumes of approximately 1,100 to 1,200 vehicles would require pedestrian volumes greater than 20 during the same period. These conditions do not exist at either of the study locations; therefore, **this alternative was not further evaluated.**

Signalized Intersection – This option would require review of signal warrants according to the MUTCD, which requires pedestrian crossing volumes of 190 pedestrians during one peak hour, or 100 or more during each of four hours. These conditions do not exist at either of the study locations; therefore, the **pedestrian warrants were not further evaluated.** However, traffic signals may also be installed based on traffic volume thresholds in the MUTCD.

Based on the evaluation summarized above, the raised median/pedestrian refuge combined with a marked crosswalk is the preferred treatment for all three of the locations identified for pedestrian crossing improvements. A pedestrian actuated signal will not be warranted, based on the draft guidelines in the forthcoming updated MUTCD. Pedestrian warrants for a full traffic signal will not be met, but other conditions could indicate construction of a traffic signal that would benefit pedestrian crossing conditions.

Consistent with the summary evaluation described above, pedestrian crossing improvements at the specified locations are described below. All pedestrian crossing projects are intended for near-term implementation.

Crossing Improvement on OR 51 at the S Curves (*Project P-07*)

The City recently finalized design plans, in coordination with ODOT and a commercial developer, which include construction of a raised pedestrian crosswalk bisecting the S-curve. This location is tied to a planned right-in/right-out access that will serve the future commercial development on the south and east side of OR 51 along the S-curve. This location has sufficient sight distance for pedestrians and will provide improved pedestrian crossing on OR 51 between residential neighborhoods and the planned commercial development southwest of the S-curves.

The planned improvement will address the identified deficiency and meet the objectives of *Project P-07*. It should be noted that the benefits of the planned pedestrian crossing will be limited by the absence of sidewalks along this section of OR 51 (*see Project P-06*).

This alternative is RECOMMENDED, as identified in the recently approved OR 51 improvement plans.

Crossing Improvement on OR 99W at Church Street (*Project P-04*)

Installation of a traffic signal was recommended at this intersection (*Project I-01*). This will provide effective protected pedestrian crossing at this location. However, pedestrian volumes alone do not meet MUTCD warrants for a traffic signal. The raised pedestrian refuge was evaluated as a potential interim improvement. Specifically, a raised pedestrian refuge could be constructed in the

center of the southern approach opposite a new southbound left-turn lane (*Project R-08*). Due to the potential for sight-obstructions from off-set left-turn lanes, it is not advised that northbound left-turn movements be allowed from a shared through-left lane at this location. Given the very low observed left-turn movements throughout the day, north-bound left-turn movements could be prohibited until the Church Street extension is constructed (*Project RE-06*) and a signal is constructed (*Project I-01*).

This alternative is RECOMMENDED as an interim pedestrian crossing treatment, until construction of a traffic signal at this intersection.

Crossing Improvement on OR 99W at Madrona Street (*Project P-12*)

Similar to the OR 99W/Church Street intersection, it would be physically possible to provide a raised median in the existing center-turn lane at this intersection. However, Madrona Street is an existing four-way intersection with very low northbound left-turn movements. Based on counts conducted in October 2007, pedestrian crossing volumes are very low throughout the day. Between 6 a.m. and 10 p.m. on a typical weekday, no more than ten pedestrians crossed OR 99W at this intersection over the course of an hour. During most hours, there were five or fewer pedestrians crossing the highway.

RECOMMENDATION: A more detailed evaluation of pedestrian crossing improvements should be conducted for this location.

Crossing Improvement on OR 51 at Atwater Street (*Project P-16*)

Atwater Street provides a primary pedestrian route for students at a nearby Montessori School. The Monmouth-Independence Highway does not have a center turn lane. However, it may be possible to modify the travel lanes to provide a center refuge island for pedestrians at this location, depending on the existing curb locations and right of way. A more detailed evaluation is recommended to determine an appropriate treatment for improving pedestrian crossing conditions at this location.

RECOMMENDATION: A more detailed evaluation of pedestrian crossing improvements should be conducted for this location.

Multi-Modal Trail

Ash Creek Trail (*Project P-03*)

The Cities of Monmouth and Independence recently completed a plan for a multi-use path following the alignment of the Ash Creek. The trail would form a path from Riverview Park in Independence to the Western Oregon University (WOU) campus in Monmouth. The recently adopted Monmouth Parks System Master Plan identifies a continuation of the trail to the west and south, following the Monmouth UGB, and continuing back into Independence. The trail would be accessible to pedestrians and bicycles and should be considered a high priority.

The Ash Creek Trail Master Plan identifies a proposed at-grade crossing of OR 99W in the northern leg of the Church Street intersection. This is generally consistent with the recommended pedestrian crossing improvement at this intersection (Project P-04). The main difference is that P-04 would place the crossing in the southern leg of the intersection in order to allow for a southbound left-turn lane at the intersection. As such, the Church Street location identified in the Master Plan is consistent with the recommended crossing improvement identified in this analysis.

This project alternative is RECOMMENDED.

BICYCLE NETWORK

This section describes project alternatives and evaluations for the bicycle transportation system. Based on the analysis provided in previous sections, specific bicycle deficiencies and issues include the following:

- A one-quarter mile gap in bike lanes on OR 99W between Clay and Church Streets;
- Minimal bicycle facilities along Talmadge Road south of OR 51. These gaps in bicycle facilities are only partially within the Monmouth UGB;
- Inadequate bicycle facilities along Hoffman Road;
- Inadequate bicycle facilities along Monmouth Highway through downtown. Although low posted speed limits (20 mph) are conducive to bicycling, the existing traffic volumes (approximately 6,900 ADT) support the provision of designated bicycle lanes.
- Inadequate facilities on roadways serving Monmouth Elementary School;
- Potential safety issues in the OR 51 bike lanes associated with depressions at the drainage grates; and,
- The desire for a bicycle routes along the perimeter of the city.

Bicycle Project Alternatives

Approximately 20 individual bicycle project alternatives were evaluated. Most of the recommended improvements to the bicycle system are in the form of new bicycle lanes on existing roadways and the development of the multi-modal Ash Creek Trail. Bicycle lane maintenance is also included in the review of alternatives. The removal of travel lane hazards and repair of existing drainage grate depressions should be considered a high priority within the existing system.

The major improvement options and evaluation criteria are briefly described below.

Maintenance of Existing Bicycle Lanes

Existing sections of bicycle lanes on OR 51 east of OR 99W contain drainage grates that have become depressed lower than the height of the surrounding pavement due to numerous pavement

resurfacing projects. The pavement has increased in height around the drainage grate, creating unsafe dips in line with the bicycle lanes. Many of these grates align in-parallel with the direction of bicycle travel, creating an additional hazard.

Priority should be given to conducting an inventory and identifying potential solutions at each of the locations of the drainage grate depressions. Near-term solutions could include welding steel cross-members onto the existing grates to match the level with the existing pavement height and create a perpendicular alignment with the bicycle path of travel. Long-term solutions should require re-installation of the drainage grates when resurfacing or roadway construction projects occur.

Bicycle Facilities on Roadways

Proposed locations for new bicycle facilities were identified in previous analysis, as well as from public comment. Bicycle facilities on roadways include either dedicated bicycle lanes or shared travel lanes. The need for bicycle lanes on existing roadways was evaluated according to the design standards for each roadway classification.

Dedicated bicycle lanes are indicated in the recommended roadway design standards for major collectors or higher classified roadways, including the STA. The guidelines described in the *Oregon Bicycle and Pedestrian Plan* further indicate that bicycle facilities should be provided along roadways with posted speeds exceeding 25 mph and average daily traffic (ADT) greater than 3,000 vehicles.

In addition to bicycle lanes on existing roadways, bicycle lanes should be constructed as part of any new roadway per the street design standards (see Section 7). These projects should occur with development of the new streets to provide a safe and efficient alternate mode of transportation within Monmouth.

Local streets and minor collectors are not provided with designated bicycle lanes based on the low expected roadway volumes and the street design standards. Typically these roads have traffic volumes below 3,000 ADT and low travel speeds and as such, shared travel lanes are appropriate.

Off-Street Trail (Ash Creek Trail)

As described in the pedestrian recommendations, the Cities of Monmouth and Independence recently completed the Ash Creek Trail plan for a continuous loop multi-use trail following the alignment of the Ash Creek. This trail would serve pedestrians and bicycles. This project was included as a high priority project in the 2007 Independence TSP.

This project is RECOMMENDED.

PUBLIC TRANSIT SYSTEM

The population of the City of Monmouth does not meet the 25,000 person threshold at which a transit element is required for the TSP. However, certain deficiencies and opportunities for improvements are worth noting for on-going consideration by City staff. Issues include deficiencies

identified in previous sections, as well as those mentioned in public comment and in conversation with the local transit provider.

The two types of potential improvements include:

- An additional designated bus stop location on OR 51 between OR 99W and the east City limits would serve passenger demand for regional CARTS transit service.
- Increased frequency and schedule adjustments would improve commuter service to and from Salem and Dallas.

Additional Bus Stop Evaluation

CARTS operates daily service in Monmouth with bus stops in downtown and on the WOU campus. Drivers can also pick up passengers who "flag" them for service, and drivers can also deviate up to one-half mile with advance notice.

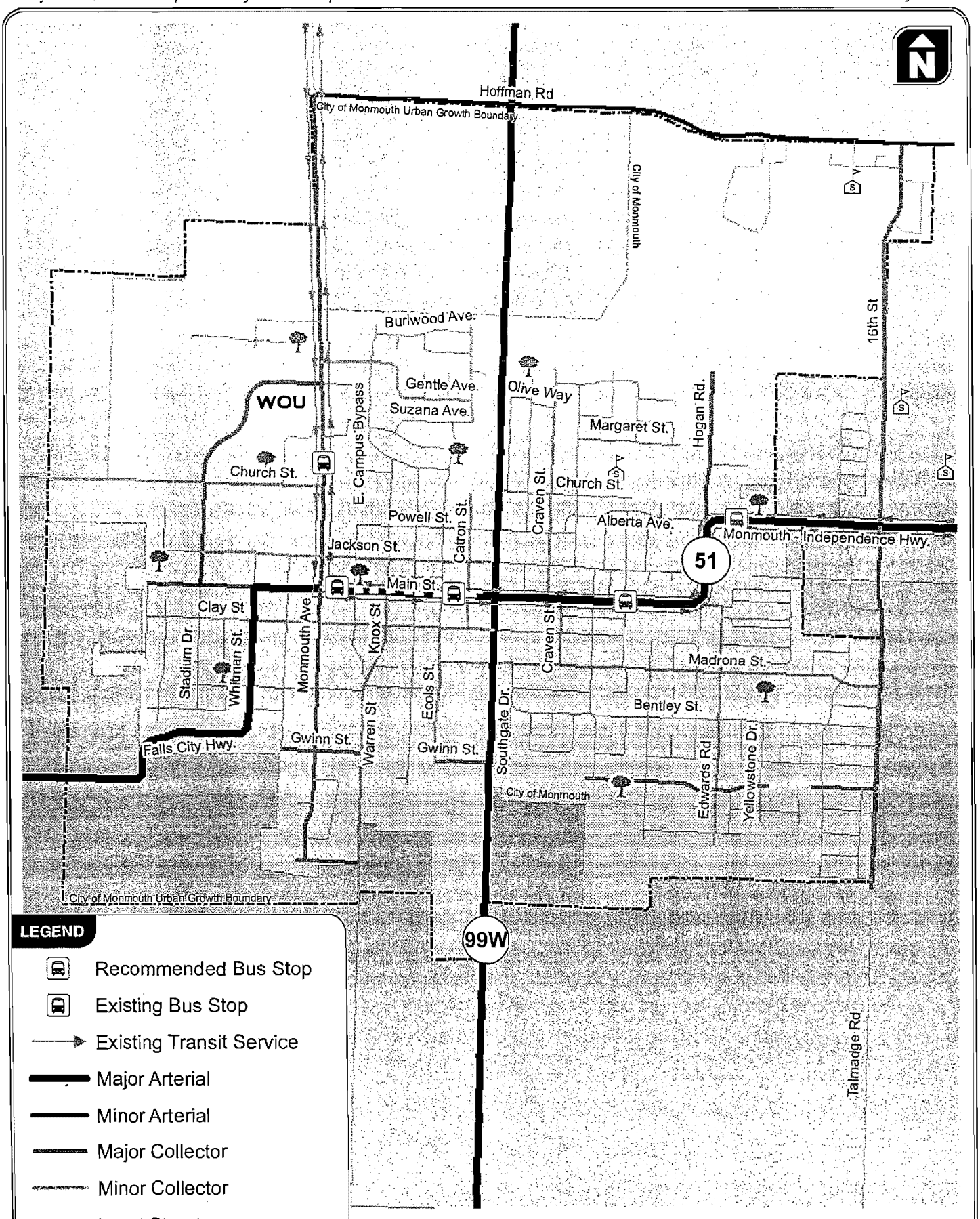
According to local CARTS staff, the current route has sufficient flexibility to incorporate an additional bus stop if there is a location that can accommodate a bus pull-out. Figure 6-1 shows the existing Route #40 through Monmouth and the existing bus stops. The figure also shows locations for potential added bus stops: one between Heffley Street and the S-curve, and a second location between the S-curve and the east city limit. Specifically, a planned commercial center southeast of the OR 51/Hogan Road intersection may provide an opportunity for a bus stop within the center, which could accommodate bus waiting and maneuvering without impacting roadway traffic.

Based on drivers' experience with "flagged" ridership demand, a stop located between Heffley Street and the S-curves would best meet existing demand, primarily in the vicinity of Atwater Street. When the city upgrades OR 51 along this section (*Project R-28*), consideration should be given to providing a bus pull-out or wide shoulder to accommodate a bus stop.

Increased Service Frequency and Schedule Adjustments

The existing CARTS service provides five round trips connecting Salem and Monmouth. Residents of Monmouth can take a bus at 6:25 a.m. or at 8:45 a.m. for a 35-minute trip to Salem. In the evening, Monmouth residents can depart Salem at 4:05 p.m. or 6:05, for a 30 minute trip back to Monmouth. While this schedule does provide a commuter service connection between Monmouth and Salem, an additional pick up time for morning (approximately 7:30 a.m.) and evening (approximately 5:15 p.m.) routes would result in hourly service options, and would provide commuters with greater flexibility during a typical 8:00 a.m. to 5:00 p.m. work day.

Unlike the additional bus stop location evaluated above, increasing frequency would likely require an expansion of capacity in the form of an additional bus and bus driver. Nevertheless, as Monmouth grows in its role as a bedroom community, this type of increased transit service has the potential to make transit an attractive alternative to driving.



RECOMMENDED TRANSIT NETWORK AND STOP LOCATIONS
MONMOUTH, OREGON

FIGURE **6-1**

AIR SERVICE

The nearest public airport serving the City of Monmouth is the Independence State Airport (http://www.airnav.com/airport/7S5), located northeast of Monmouth in Polk County. It is a *general aviation* facility, meaning that it serves flights other than military and scheduled commercial flights. Commercial air service was recently discontinued at the nearest airport in Salem (McNary Airport), leaving the nearest commercial flight service for Monmouth residents in Portland or Eugene, approximately 75 miles and 70 miles, respectively. Commercial air service is beyond the scale of project that Monmouth can pursue independently. However, the city should remain aware of other changes or opportunities to bring other air travel options to the community and should support those efforts, as they are able.

RAIL, PIPELINE, AND WATER SERVICE

No existing deficiencies have been identified within Monmouth's rail, pipeline, and water services networks.

Section 7
Transportation System Plan

Transportation System Plan

This section presents the individual elements of the City of Monmouth Transportation System Plan. The TSP addresses those components necessary for the development of the future transportation network including:

- Roadway System Plan
  - Functional Classification Plan
  - Street Design Standards
  - Access Management Plan
- Pedestrian Plan
- Bicycle Plan
- Transit Plan
- Marine/Air/Water/Pipeline System Plan
- Implementation Plan

The transportation components presented in this section were developed in accordance with the requirements of Oregon's Transportation Planning Rule (TPR). These elements have been developed in accordance with the findings presented in the existing and future forecast conditions analysis, the alternatives analysis, and the interests of the citizens, business owners, and governmental agencies within the City of Monmouth, as expressed by the Technical Advisory Committee (TAC), Planning Commission, City Council, and citizen input during plan's development.

GOALS AND OBJECTIVES

Established at the outset of the TSP planning process, the following transportation goal and objectives provide guidance and direction for the development of the City of Monmouth's transportation system for the next twenty years.

GOAL

To provide for and encourage a safe, convenient and economical transportation system, which includes adequate accessibility to all planned land uses, alternatives to the automobile, and good infrastructure maintenance.

OBJECTIVES

1. Monmouth will develop and maintain a Transportation System Plan that encourages alternatives to, and reduces reliance upon the automobile.

2. Monmouth will develop land use regulations and subdivision ordinances that allow needed transportation facilities and improvements and encourage development patterns that

enhance opportunities for pedestrian travel, bicycle travel, and forms of public transportation.

3. Monmouth shall strive to coordinate planning actions, provide transportation services and implement the ODOT State Transportation Improvement Program (STIP) with affected jurisdictions in order to best serve the city's residents.

4. Monmouth shall utilize the Transportation System Plan for guidance in all land use planning and project development activities.

5. Monmouth shall protect transportation facilities, corridors, and sites for the functions identified in this plan.

6. Monmouth will plan its transportation system recognizing the fiscal constraints in constructing and maintaining transportation facilities; some transportation issues may be most economically addressed through actions other than those that add capacity to the roadway system.

ROADWAY SYSTEM PLAN

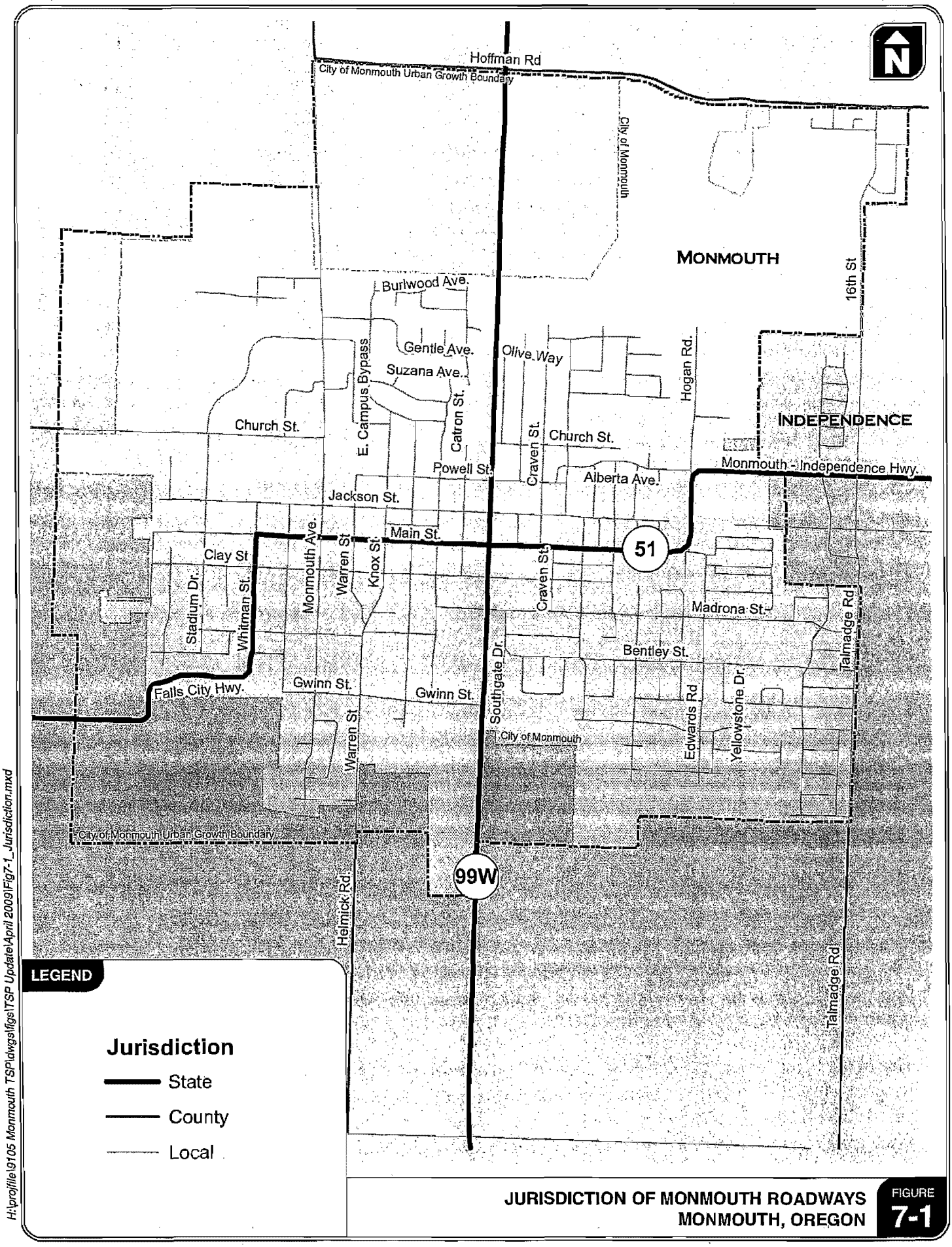
The City of Monmouth's roadway system plan provides guidance on how to best facilitate roadway travel over the next 20 years, as well as identifying key elements of a future vision of transportation facilities serving the city. This plan is based on the identified existing and anticipated future operational and circulation needs. The plan area is shown in Figure 7-1. The figure shows the city limits and the UGB. The figure also identifies the jurisdictions of the existing roadway system.

State Highways

The major roadways serving Monmouth are ODOT highways: Pacific Highway (OR 99W); Monmouth Highway (Highway 194), and Monmouth-Independence Highway (OR 51). OR 99W is a two-lane Regional Highway and designated Freight Route which runs north-south through Monmouth, connecting Rickreall to the north and providing a major route to Corvallis, to the south. The continuous route comprising Monmouth Highway and OR 51 is a two-lane District Highway crossing east/west through Monmouth, connecting Falls City to the west and Independence to the east.

The TSP identifies several projects on the state highways, such as traffic signals or new access points. All projects on state highways are subject to ODOT procedures and standards and will require approval and permitting by ODOT.

The current cross-section of OR 99W is two or three lanes within the Monmouth UGB. The TSP has been developed with the intention of maintaining a maximum three-lane cross-section through the city. This will be accomplished by developing a more efficient network of roadways that will divert local traffic away from the highway. If future traffic growth outpaces the development of the planned new roadways, it may be necessary to increase capacity on OR 99W.



JURISDICTION OF MONMOUTH ROADWAYS
MONMOUTH, OREGON

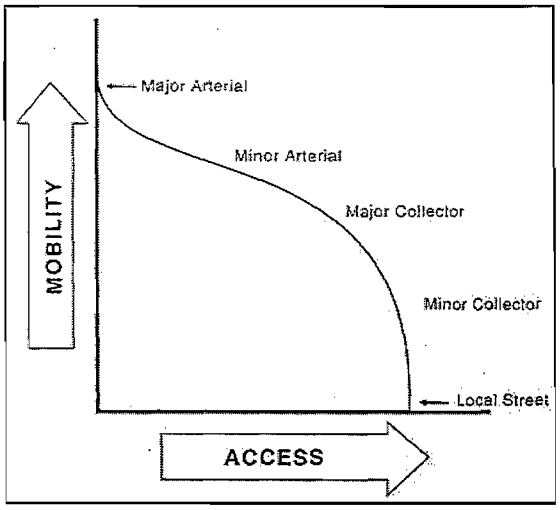
FIGURE 7-1

H:\projfile\g9105 Monmouth TSP\dwgs\figs\TSP Update\April 2009\Fig7-1_Jurisdiction.mxd

At the time of this writing, ODOT is beginning a more detailed study of OR 99W between Rickreall and Monmouth which will emphasize the mobility needs for the facility as a dedicated freight route. The facility plan will further evaluate the required cross-section for OR 99W through Monmouth. ODOT will work with the City in developing the plan and the City will be asked to adopt the plan and amend the TSP, if necessary.

Functional Classification Plan

The purpose of classifying roadways is to create a mechanism through which a balanced transportation system can be developed that facilitates mobility for all modes of transportation as well as access to adjacent land uses. A roadway's functional classification determines its intended purpose, the amount and character of traffic it is expected to carry, the degree to which non-auto travel is emphasized, and the roadway's design standards and overall management approach. It is imperative that a roadway's classification considers the adjacent land uses and the transportation modes that should be accommodated. The public right-of-way must also provide sufficient space for utilities to serve adjacent land uses.



The functional classifications for Monmouth's existing arterial and collector streets are shown in Table 7-1. The table also shows the jurisdiction of each roadway and the functional classification designations by ODOT and Polk County. The alignments for future streets should be considered conceptual: the end points of the streets are generally fixed where they make essential connections to other roadways; the alignments between intersections may vary depending on design requirements at the time the street is constructed.

The functional classification plan for the City of Monmouth is shown in Figure 7-2. The functional classification plan incorporates three functional categories: arterials (major and minor), collectors (major and minor), and local streets. Within these broad classifications are specific treatments for the long range vision for Ash Creek Drive and for a Special Transportation Area (STA) designation on Monmouth Highway - Main Street.

Arterials

Arterials are roadways that are primarily intended to serve traffic entering and leaving the urban area. While arterials may provide access to adjacent land, that function is subordinate to the mobility service provided to major traffic movements.

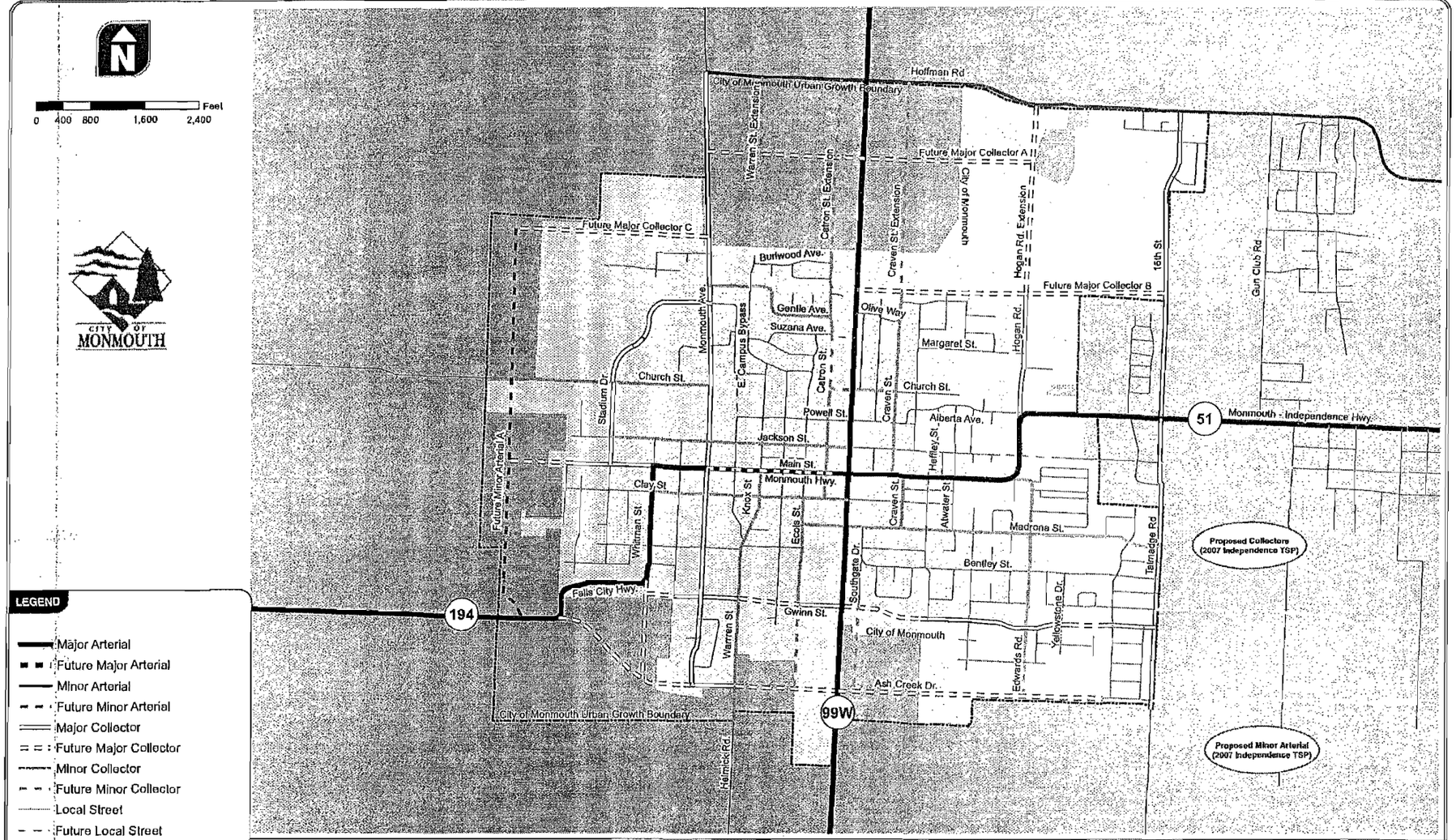
Major arterials are the longest-distance, highest-volume roadways within the urban growth boundary. Although the streets focus on serving longer distance trips, they also serve local pedestrian and/or bicycle activities, which should be accommodated in the arterial streetscape.

TABLE 7-1 CITY OF MONMOUTH FUNCTIONAL CLASSIFICATION SUMMARY

Roadway	Roadway Jurisdiction	Functional Classification		
		City of Monmouth	OHP	Polk County TSP
OR 99W	ODOT	Major Arterial	Regional Highway	Principal Arterial
OR 51[1] Non-STA Area (See Figure 7-1)	ODOT	STA	District Highway	Minor Arterial
OR 51[1] STA Area (See Figure 7-1)	ODOT	STA	STA	Minor Arterial
Hoffman Road	Polk County	Minor Arterial	--	Minor Arterial
16th Street	Monmouth	Major Collector	--	--
Ash Creek Drive	Monmouth	Major Collector	--	--
Gwinn Street	Monmouth	Major Collector	--	--
Hogan Road	Monmouth	Major Collector	--	--
Main Street, west of Whitman	Monmouth	Major Collector	--	--
Monmouth Avenue	Monmouth	Major Collector	--	Major Collector
Stadium Drive	Monmouth	Major Collector	--	--
Talmadge Road	Polk County	Major Collector	--	Minor Collector
Catron Street	Monmouth	Minor Collector	--	--
Church Street, west of Craven	Monmouth	Minor Collector	--	--
Church Street, west UGB to Monmouth	Monmouth	Minor Collector	--	--
Clay Street, Whitman to OR 99W	Monmouth	Minor Collector	--	--
Craven Street	Monmouth	Minor Collector	--	--
Ecols Street, Clay to south UGB	Monmouth	Minor Collector	--	--
Edwards Road	Monmouth	Minor Collector	--	--
Gentle Avenue	Monmouth	Minor Collector	--	--
Jackson Street, Stadium to OR 99W	Monmouth	Minor Collector	--	--

It should be noted that the major arterials in Monmouth are state highways (OR 99W, OR 51, and Monmouth Highway). As such, they are subject to ODOT plans, policies, and standards, and improvements are to be undertaken according to ODOT approval and permitting processes.

The downtown section of OR 51 is an exception within the arterial designation. The OHP provides for the designation of Special Transportation Areas (STAs) to accommodate central business districts and other activity centers oriented to non-auto travel. In such areas, growth management considerations justify flexibility in mobility, access spacing and design policies. *(See the Volume 2 Technical Appendix for a detailed evaluation of the special highway designations).*



FUNCTIONAL CLASSIFICATION PLAN
MONMOUTH, OREGON

FIGURE 7-2

Minor arterials provide a higher degree of access than major arterials. The primary function of minor arterials is to serve local and through traffic between neighborhoods and to community and regional facilities. Hoffman Road is the only designated minor arterial in the Monmouth UGB. Bicycle lanes are required on minor arterials

Collectors

Collector streets facilitate the movement of city traffic within the urban growth boundary of the city. Collectors provide some degree of access to adjacent properties, while maintaining circulation and mobility for all users. Major collectors are distinguished by their connectivity and higher traffic volumes, although they are designed to carry lower traffic volumes at slower speeds than arterials. Major collector streets are characterized by two -lane facilities with bicycle lanes.

Minor collectors carry lower volumes than major collectors and have two-lane cross-sections with on-street parking. They serve as the primary routes into residential neighborhoods. Although they carry higher volumes than local streets, they are intended to provide direct access to adjacent land rather than serving through traffic. Due to lower traffic volumes and slow travel speeds, bicycles can share the travel lanes with motor vehicles.

Local Streets

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

Street Design Standards

Street design standards support the functional and operational needs of streets such as travel volume, capacity, operating speed, and safety. The standards also are established to accommodate pedestrian and bicycle travel modes. They are necessary to ensure that the system of streets, as it develops, will be capable of safely and efficiently serving the traveling public while also accommodating the orderly development of adjacent lands.

Typical roadway sections are summarized in Table 7-2. The typical roadway cross-sections comprise the following elements: right-of-way, streetscape width, number of travel lanes, bicycle lanes, sidewalks, on-street parking, and tree wells or landscape strips. The street design standards are shown in Figures 7-3 through 7-6.

TABLE 7-2 MONMOUTH STREET CROSS-SECTION STANDARDS

Classification	Right-of Way	Streetscape	Travel Lanes	Bike Lanes	On-Street Parking	Sidewalks	Land-scaping
Major Arterial[1]	80 feet	73 feet	2 travel + center turn lane or median	6 feet	No	6.5 feet	5 feet
Minor Arterial	70 feet	64 feet	2 travel + center turn lane or median	6 feet	No[2]	7 feet	No
Ash Creek Drive	80 feet	64 feet	2	Yes[3]	No[2]	6 feet[3]	6 feet[3]
Downtown STA[1]	70 feet	68 feet	2	5 feet	8 feet	10 feet	Tree well
Major Collector	60 feet	48 feet	2	6 feet	No[2]	6 feet	No
Minor Collector	60 feet	52 feet[4]	2	No	8 feet	6 feet	No
Local Streets	60 feet	40-48 feet[5]	2, unstriped	No	8 feet[5]	6 feet	No
Local Street PUD	60 feet	40-58 feet[5]	2, unstriped	No	8 feet [5]	6 feet	5 feet

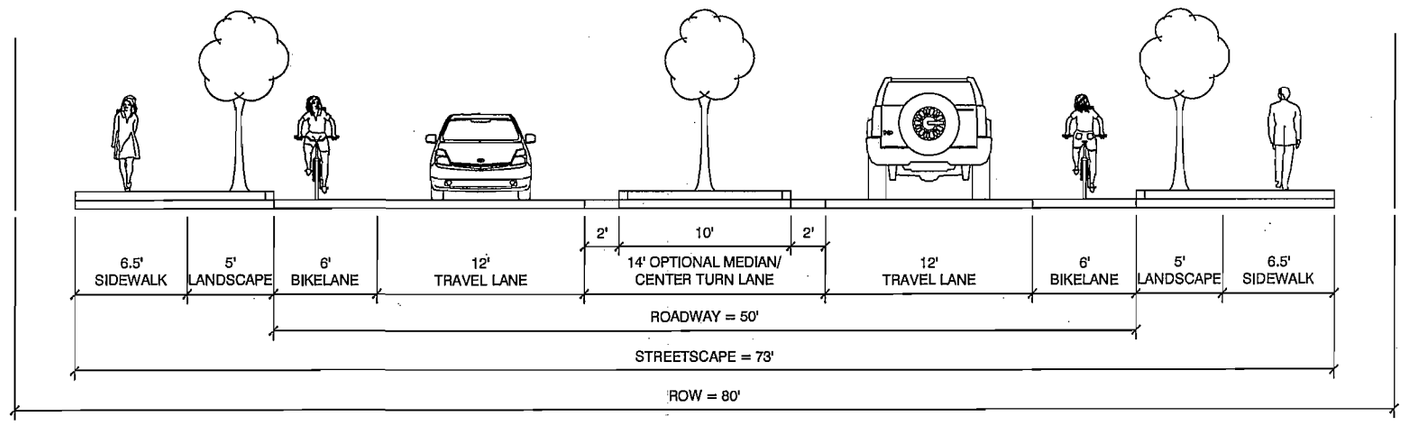
[1] Design of all state highways are subject to the design standards and guidelines in the ODOT Highway Design Manual.
[2] On-street parking can be provided for all city streets at the discretion of the public works director.
[3] The Ash Creek Drive cross-section includes sidewalk and bike lane on the north side and a multi-use path on the south side, separated from the roadway by a ten-foot natural buffer.
[4] Curb extensions are encouraged on minor collectors to encourage appropriate travel speeds.
[5] For local streets, parking can be eliminated on one side to meet "skinny" street standards.

The street cross-section standard figures are intended to be used for planning purposes for new road construction, as well as for those locations where it is physically and economically feasible to improve existing streets. Detailed design elements, such as cross-slopes, are not shown in the figures, but should be added when the City updates its standard engineering drawings. Also, additional width for turn lanes may be needed at specific intersections based on an engineering investigation; these are not shown in the street design standards, which address the typical cross-sections of streets between intersections.

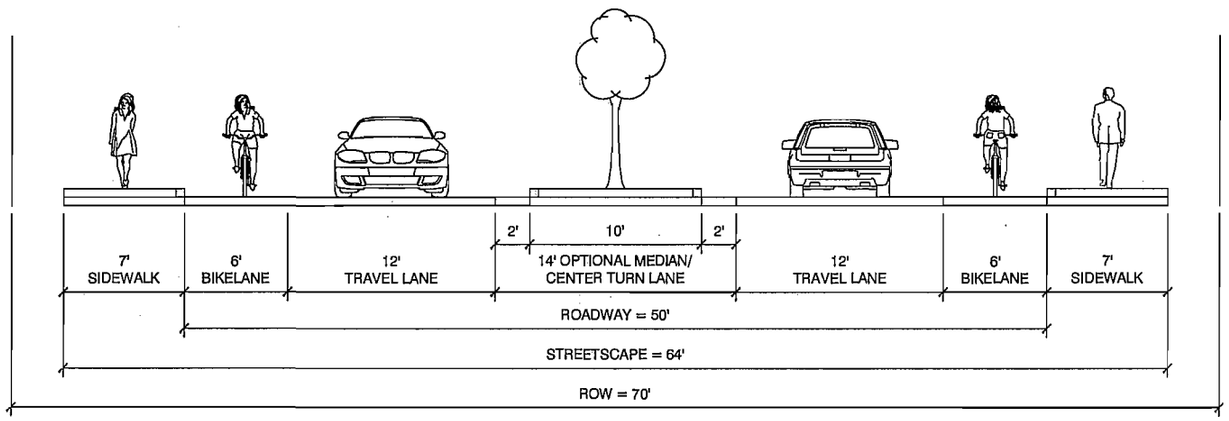
As previously noted, ODOT is conducting a detailed corridor plan for OR 99W which will include a more detailed evaluation of the capacity needs for the corridor, including a potentially wider cross section for the highway.

Ash Creek Drive

The Ash Creek Drive (major collector) cross-section shows a parallel off-road multi-use path to the south along the existing UGB. This treatment has the added benefit of preserving right of way for potential future widening of Ash Creek Drive in the event that future (beyond 2030) traffic volumes negatively impact the downtown and a southern bypass becomes desirable.



MAJOR ARTERIAL



MINOR ARTERIAL

NOTES:

- ROW = RIGHT-OF-WAY
- ON-STREET PARKING MAY BE PERMITTED AT THE DISCRETION OF THE PUBLIC WORKS DIRECTOR

ARTERIAL STREET CROSS-SECTION STANDARDS
MONMOUTH, OREGON

FIGURE **7-3**

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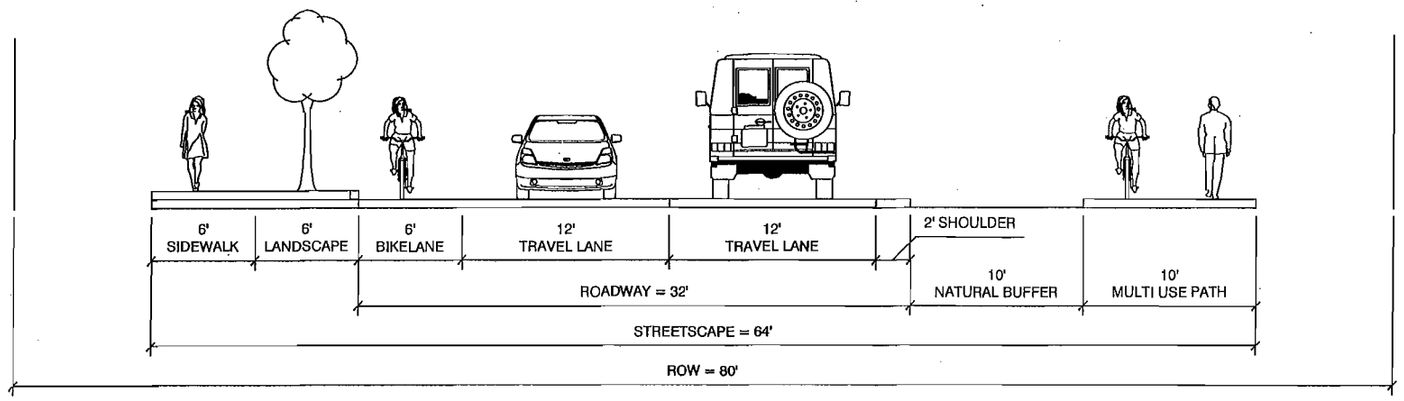
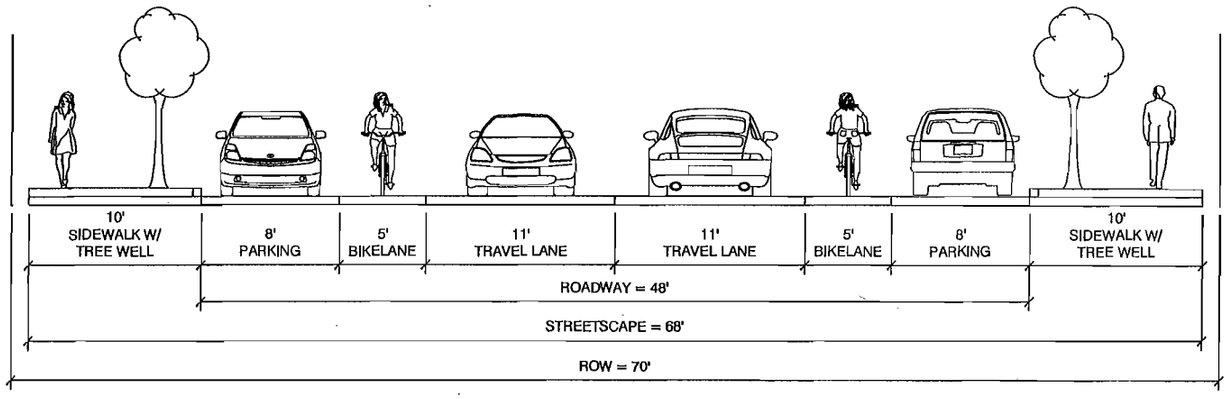


ASH CREEK DRIVE (MAJOR COLLECTOR)



OR 51 DOWNTOWN STA

NOTES:

- ROW = RIGHT-OF-WAY
- ON-STREET PARKING MAY BE PERMITTED AT THE DISCRETION OF THE PUBLIC WORKS DIRECTOR

SPECIAL DESIGNATION STREET CROSS-SECTION STANDARDS
MONMOUTH, OREGON

FIGURE 7-4

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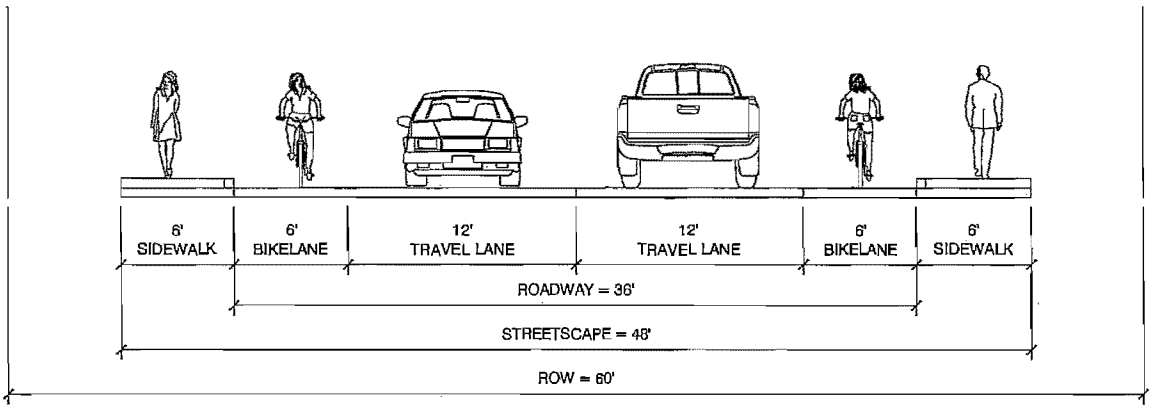
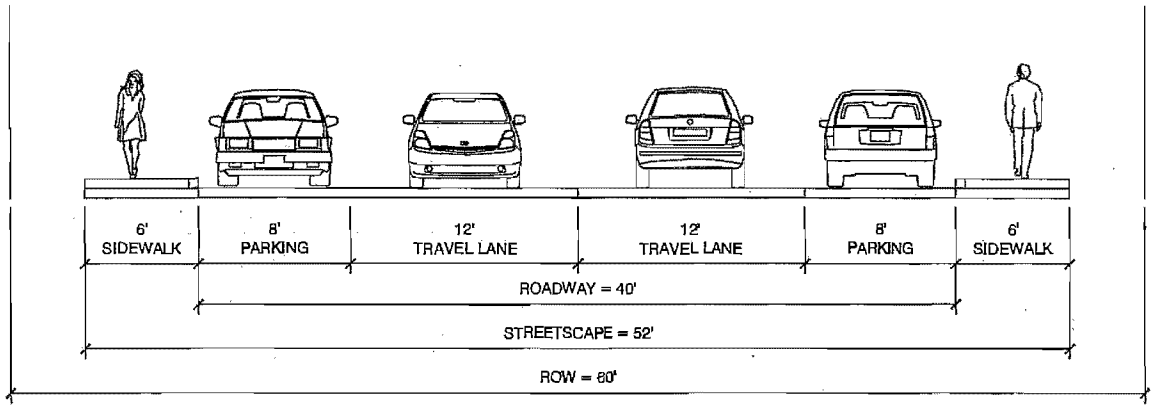
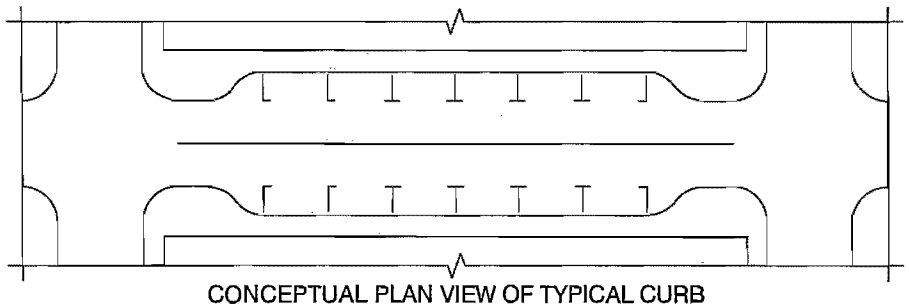


MAJOR COLLECTOR



MINOR COLLECTOR



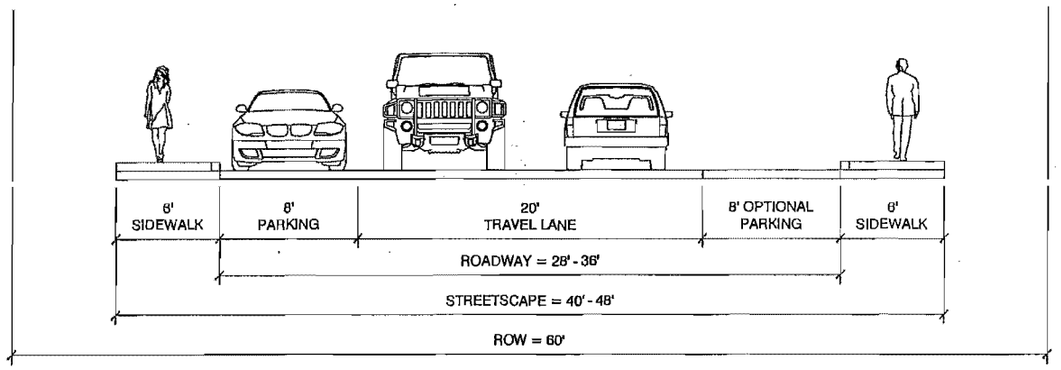
CONCEPTUAL PLAN VIEW OF TYPICAL CURB EXTENSION FOR MINOR COLLECTOR

NOTES:

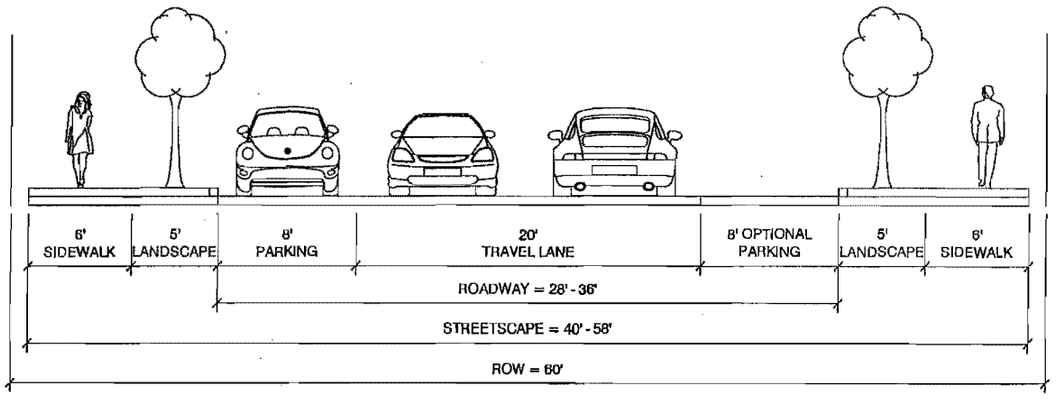
- ROW = RIGHT-OF-WAY
- ON-STREET PARKING MAY BE PERMITTED AT THE DISCRETION OF THE PUBLIC WORKS DIRECTOR
- CURB EXTENSIONS ARE ENCOURAGED ON MINOR COLLECTORS TO PROMOTE ADHERENCE TO POSTED SPEED LIMITS

COLLECTOR STREET CROSS-SECTION STANDARDS
MONMOUTH, OREGON

FIGURE **7-5**



LOCAL STREET



LOCAL STREET, PLANNED UNIT DEVELOPMENT

NOTES:

- ROW = RIGHT-OF-WAY
- PARKING MAY BE REMOVED FROM ONE SIDE OF THE STREET SUBJECT TO APPROVAL BY THE PUBLIC WORKS DIRECTOR

LOCAL STREET CROSS SECTION STANDARDS
MONMOUTH, OREGON

FIGURE **7-6**

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On-Street Parking on Major Collectors and Arterials

The street cross-sections show on-street parking on all streets classified as minor collectors or lower. Along certain higher classified streets, some on-street parking may be beneficial, especially where adjacent to existing single family or planned multi-family residential uses. On-street parking can be allowed on any street subject to the approval of the public works director.

Local Street Options

The standard cross-section for local streets includes on-street parking on both sides of the street, with a total paved cross-section of 36 feet. The City can permit development of "skinny streets" that provide parking on only one side of the street, for a paved cross-section of 28 feet. The skinny street option is appropriate for lower volume streets (less than 400 vehicles per day).

Landscaping strips on local streets are an option for planned unit developments, subject to the approval of the public works director.

Guidelines for Arterial/Collector Intersection Improvements

In addition to roadway cross-section standards, the City should adopt standards for intersection improvements (note that improvements on state highways must meet ODOT operating and design criteria). As intersection improvements are made at arterial/collector intersections in the City, the following general guidelines should be considered:

- maintain adequate signing of side-streets (stop signs and visible street signs);
- restrict parking and potential sight obstructions in the intersection vicinity;
- provide intersection illumination to increase visibility;
- provide proper channelization (striping, raised medians, etc.) of movements;
- provide a paved apron on unpaved side-street approaches to create a smooth transition to and from the main street;
- install right-turn transition tapers or lanes at high-speed unsignalized intersections and right-turn lanes at signalized intersections on highway approaches when warranted;
- install left-turn lanes when warranted to reduce interruptions in the flow of through traffic; and,
- locate traffic signals or roundabouts with considerations of appropriate spacing requirements and impacts on side-street traffic patterns.

ACCESS MANAGEMENT PLAN

As the City of Monmouth continues to grow, its street system will become more heavily traveled. Consequently, it will become increasingly important to manage access on the arterial and major collector street system as new development occurs, in order to preserve those streets' function for carrying through traffic. ODOT has legal authority to regulate access points along state highways

within the city's urban growth boundary. The City of Monmouth and Polk County jointly manage Hoffman Road, Talmadge Road, and Helmick Road (Warren Street South) to ensure the efficient movement of traffic and enhance safety. The City independently manages access on all other collector and local streets within its jurisdiction.

The Oregon Transportation Planning Rule (TPR) defines access management as a set of measures regulating access to streets, roads, and highways, from public roads and private driveways. The TPR requires that new connections to arterials and state highways be consistent with designated access management categories. This TSP includes an access management policy that maintains and enhances the integrity (capacity, safety, and level of service) of the city's streets.

Access management standards vary depending on the functional classification and purpose of a given roadway. Roadways on the higher end of the functional classification system (i.e., arterials and major collectors) tend to have higher spacing standards, while facilities such as minor collectors and local streets allow more closely spaced access points. These standards apply to new development or redevelopment; existing accesses are allowed to remain as long as the land use does not change. As a result, access management is a long-term process in which the desired access spacing to a street slowly evolves over time as redevelopment occurs.

In implementing access management standards, parcels cannot be land-locked but must have some way of accessing the public street system. This may mean allowing shorter access spacings than would otherwise be allowed, but the possibility of providing shared access with a neighboring parcel should also be explored. Where a property has frontage on two roadways, access on the roadway of lower classification is preferred, all other things being equal. The following discussion presents the hierarchical access management system for roadways in the Monmouth urban growth boundary.

ODOT Access Management Standards

The OHP specifies an access management classification system for state facilities based on a highway classification system. The OHP classifies OR 99W as a Regional Highway and a Freight Route; OR 51 is classified as a District Highway. Future developments along OR 99W and OR 51 (new development, redevelopment, zone changes, and/or comprehensive plan amendments) will be required to meet the OHP Access Management policies and standards. Table 7-3 summarizes ODOT's current access management standards for regional and district highways under the 1999 OHP.

City Roadway Access Standards

Table 7-4 identifies the minimum public street intersection and private access spacing standards for the City of Monmouth roadway network as they relate to new development and redevelopment. Minimum and maximum standard widths for private driveways are summarized in Table 7-5. County facilities within the city's UGB are planned and constructed in accordance with these street design standards.

TABLE 7-3 ACCESS SPACING STANDARDS ON STATE HIGHWAYS

Posted Speed	Spacing Standards[1]	Spacing Standards for STA
OR 99W – Regional Highway		
50 mph	830 feet	n/a
40 & 45 mph	750 feet	n/a
30 & 35 mph	425 feet	n/a
≤ 25 mph	350 feet	n/a
Monmouth Highway (Highway 194) and OR 51 – District Highway		
50 mph	550 feet	n/a
40 & 45 mph	500 feet	n/a
30 & 35 mph	350 feet	175 feet or mid-block[2]
≤ 25 mph	350 feet	175 feet or mid-block[2]

NOTE: Spacing standards obtained from the OHP (OHP). Consult the OHP for updates and addenda.

[1]Measurement of the approach road spacing is from the center on the same side of the roadway.

[2] Per the OHP, driveways are discouraged in STAs. However, "where driveways are allowed and where land use patterns permit, the minimum access management spacing for driveways is 175 feet or mid-block if the current block is less than 350 feet".

TABLE 7-4 ACCESS SPACING STANDARDS ON CITY STREETS

Functional Classification	Public Street	Private Access Drive (feet)
Local Street	150 feet	50 feet
Minor Collector	300 feet	50 feet
Major Collector	300 feet	100 feet
Ash Creek Drive	300 feet	150 feet
Minor Arterial	350 feet or block length	200 feet or mid-block
Major Arterial[1]	350 feet or block length	350 feet or block length

[1]Access standards identified in the OHP supersede this table on all state highways.

TABLE 7-5 PRIVATE ACCESS DRIVEWAY WIDTH STANDARDS

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

Variances to Access Spacing Standards

Access spacing variances may be provided to parcels whose highway/street frontage, topography, or location would otherwise preclude issuance of a conforming permit and would either have no reasonable access or cannot obtain reasonable alternate access to the public road system. In such a situation, a conditional access permit may be issued by ODOT or the City of Monmouth, as appropriate, for a connection to a property that cannot be accessed in a manner that is consistent with the spacing standards. The permit can carry a condition that the access may be closed at such time that reasonable access becomes available to a local public street. The approval condition might also require a given land owner to work in cooperation with adjacent land owners to provide either joint access points, front and rear cross-over easements, or a rear access upon future redevelopment.

The requirements for obtaining a deviation from ODOT's minimum spacing standards are documented in OAR 734-051. For streets under City jurisdiction, the City may reduce the access spacing standards, at the discretion of the Public Works Director, if the following conditions exist:

1. Joint access driveways and cross access easements are provided in accordance with the standards;

2. The site plan incorporates a unified access and circulation system in accordance with the standards;

3. The property owner enters into a written agreement with the City that pre-existing connections on the site will be closed and eliminated after construction of each side of the joint use driveway; and,

4. The proposed access plan for redevelopment properties moves in the direction of the spacing standards.

The Public Works Director may modify or waive the access spacing standards for streets under City jurisdiction where the physical site characteristics or layout of abutting properties would make a development of a unified or shared access and circulation system impractical and would make meeting the access standards infeasible, subject to the following:

1. The application of the location of access standard will result in the degradation of operational and safety integrity of the transportation system.

2. The granting of the variance shall meet the purpose and intent of these standards and shall not be considered until every feasible option for meeting access standards is explored.

3. Applicants for variance from these standards must provide proof of unique or special conditions that make strict application of the standards impractical. Applicants shall include proof that:

    a. Indirect or restricted access cannot be obtained;

b. No engineering or construction solutions can be applied to mitigate the condition; and,

c. No alternative access is available from a road with a lower functional classification than the primary roadway.

4. No variance shall be granted where such hardship is self-created.

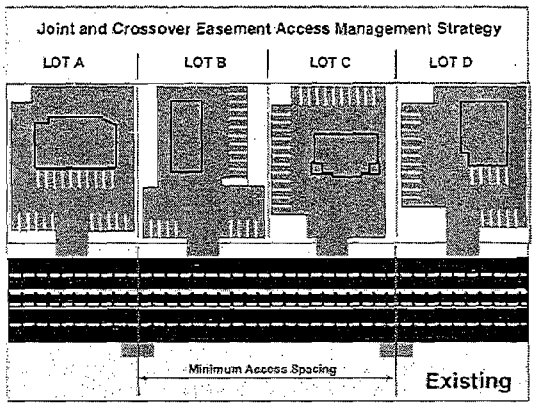
Access Management Measures

From an operational perspective, access management measures limit the number of redundant access points along roadways. This enhances roadway capacity and benefits circulation. Enforcement of the access spacing standards should be complemented with the provision of alternative access points. Purchasing right-of-way and closing driveways without a parallel road system and/or other local access could seriously affect the viability of the impacted properties. Thus, if an access management approach is taken, alternative access should be developed to avoid "land-locking" a given property.

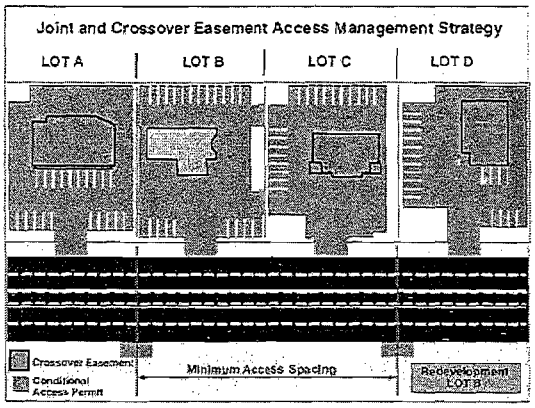
As part of every land use action, the City of Monmouth will evaluate the potential need for conditioning a given development proposal with the following items in order to maintain and/or improve traffic operations and safety along the arterial and collector roadways.

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

Figure 7-7 illustrates the application of cross-over easements and conditional access permits over time to achieve access management objectives. The individual steps are described in Table 7-6. As illustrated in the figure and supporting table, using these guidelines, all driveways along the highways will eventually move in the overall direction of the access spacing standards as development and redevelopment occur along a given street.



Step 1



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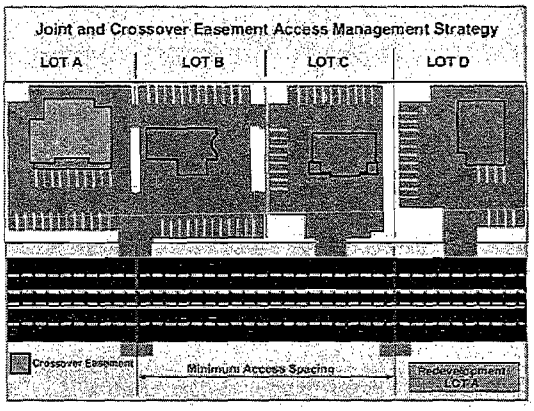

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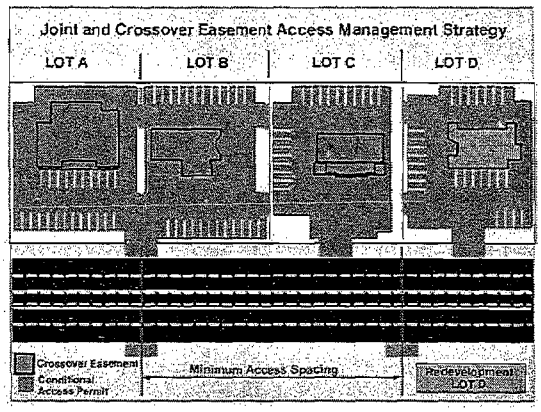
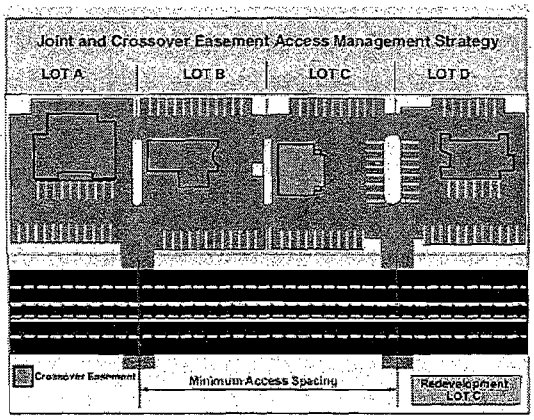
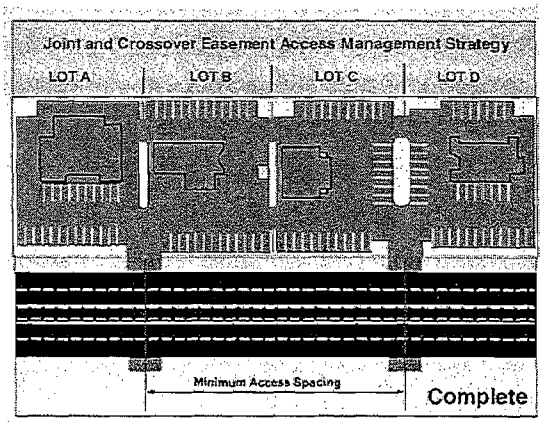


Step 4



Step 5



Step 6

EXAMPLE OF CROSSOVER EASEMENT / INDENTURE / CONSOLIDATION / CONDITIONAL ACCESS PROCESS MONMOUTH, OREGON

FIGURE 7-7

TABLE 7-6 EXAMPLE OF CROSSOVER EASEMENT/INDENTURE/CONSOLIDATION - CONDITIONAL ACCESS PROCESS

Step	Process
1	EXISTING – Currently Lots A, B, C, and D have site-access driveways that neither meet the access spacing criteria of 500 feet nor align with driveways or access points on the opposite side of the highway. Under these conditions motorists are into situations of potential conflict (conflicting left turns) with opposing traffic. Additionally, the number of side-street (or site-access driveway) intersections decreases the operation and safety of the highway
2	REDEVELOPMENT OF LOT B – At the time that Lot B redevelops, the City would review the proposed site plan and make recommendations to ensure that the site could promote future crossover or consolidated access. Next, the City would issue conditional permits for the development to provide crossover easements with Lots A and C, and ODOT/City would grant a conditional access permit to the lot. After evaluating the land use action, ODOT/City would determine that LOT B does not have either alternative access, nor can an access point be aligned with an opposing access point, nor can the available lot frontage provide an access point that meets the access spacing criteria set forth for segment of highway.
3	REDEVELOPMENT OF LOT A – At the time Lot A redevelops, the City/ODOT would undertake the same review process as with the redevelopment of LOT B (see Step 2); however, under this scenario ODOT and the city would use the previously obtained cross-over easement at Lot B consolidate the access points of Lots A and B. ODOT/City would then relocate the conditional access of Lot B to align with the opposing access point and provide and efficient access to both Lots A and B. The consolidation of site-access driveways for Lots A and B will not only reduce the number of driveways accessing the highway, but will also eliminate the conflicting left-turn movements the highway by the alignment with the opposing access point.
4	REDEVELOPMENT OF LOT D – The redevelopment of Lot D will be handled in same manner as the redevelopment of Lot B (see Step 2)
5	REDEVELOPMENT OF LOT C – The redevelopment of Lot C will be reviewed once again to ensure that the site will accommodate crossover and/or consolidated access. Using the crossover agreements with Lots B and D, Lot C would share a consolidated access point with Lot D and will also have alternative frontage access the shared site-access driveway of Lots A and B. By using the crossover agreement and conditional access permit process, the City and ODOT be able to eliminate another access point and provide the alignment with the opposing access points.
6	COMPLETE – After Lots A, B, C, and D redevelop over time, the number of access points will be reduced and aligned, and the remaining access points will meet the access spacing standard.

PEDESTRIAN AND BICYCLE SYSTEM PLAN

Providing connections between major activity centers is a key objective of the pedestrian and bicycle system plans. Major activity centers are defined to be facilities that typically attract high levels of pedestrian and bicycle activity on a regular basis. Within the City of Monmouth, these activity centers include the downtown core on Main Street (Monmouth Highway), city parks, the Western Oregon University campus, Monmouth Elementary and the Ash Creek School. Significant bicycle and pedestrian activity also exists connecting residents of Monmouth to Talmadge Middle School and Central High School, both of which are located on 16th Street in Independence.

This section identifies specific pedestrian and bicycle priorities for local connectivity and access. In addition to these projects, the Ash Creek Trail will provide continuous off-road connections for pedestrians and bicycles between Monmouth and Independence.

Pedestrian System Components

Pedestrian facilities include sidewalks and off road trails, as well as treatments to aid pedestrians crossing traffic. The street design standards will ensure that pedestrian facilities are provided in conjunction with all new or substantially reconstructed public streets. For existing roadways without sidewalks, the inclusion of sidewalks should be required with any redevelopment of adjacent properties or with significant improvements in the roadways. In addition, several priority projects have been identified to improve pedestrian conditions along areas with current or potentially high pedestrian activities. These projects are shown in Figure 7-8 and are included in the project summary tables (7-7 through 7-10) at the end of this section. *Detailed prospectus sheets for each individual project are provided in Appendix B.*

Bicycle System Components

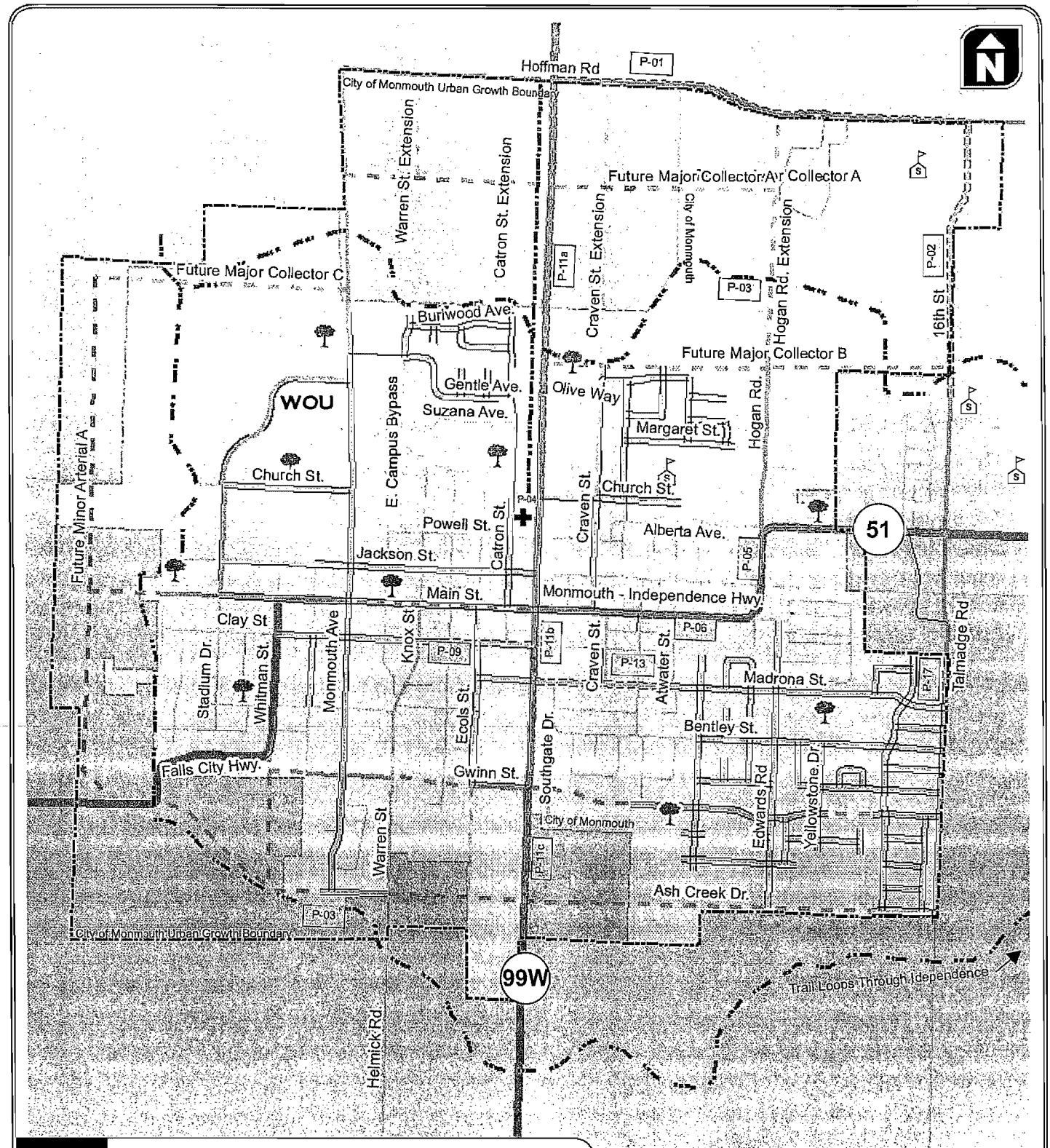
The bicycle plan is intended to establish a network of bicycle lanes and routes that connect the City's bicycle generators and provide a safe and effective bicycle travel system. As shown in Figure 7-9, bicycle lanes should be provided along all arterials and major collectors. These designated on-street bicycle lanes provide essential connections between many of the residential neighborhoods, commercial areas, schools, and various recreational areas within the city. These projects are shown in Figure 7-9 and are included in the project summary tables (7-7 through 7-10) at the end of this section. *Detailed prospectus sheets for each individual project are provided in Appendix B.*

Like the pedestrian system, designated bicycle lanes are planned throughout the City of Monmouth to improve the bicycle network. As the City of Monmouth reviews potential bicycle system improvements, it should recognize that there is usually limited funding for such projects. To help alleviate the potential funding shortages, the City will require bicycle system improvements in conjunction with development-related street improvements.

PUBLIC TRANSPORTATION PLAN

The population of the City of Monmouth does not meet the 25,000 person threshold at which a transit element is required for the TSP, per the Transportation Planning Rule. However, City staff should pursue incremental improvements to existing services to enhance transit as a commuter option for residents who work in Salem or Dallas. The following improvements should be evaluated for implementation:

- An additional designated bus stop location on OR 51 between OR 99W and the east City limits would serve passenger demand for regional CARTS transit service. The commercial zoned property on the south side of the OR 51 S-curve may provide a convenient bus stop and turnaround upon development.

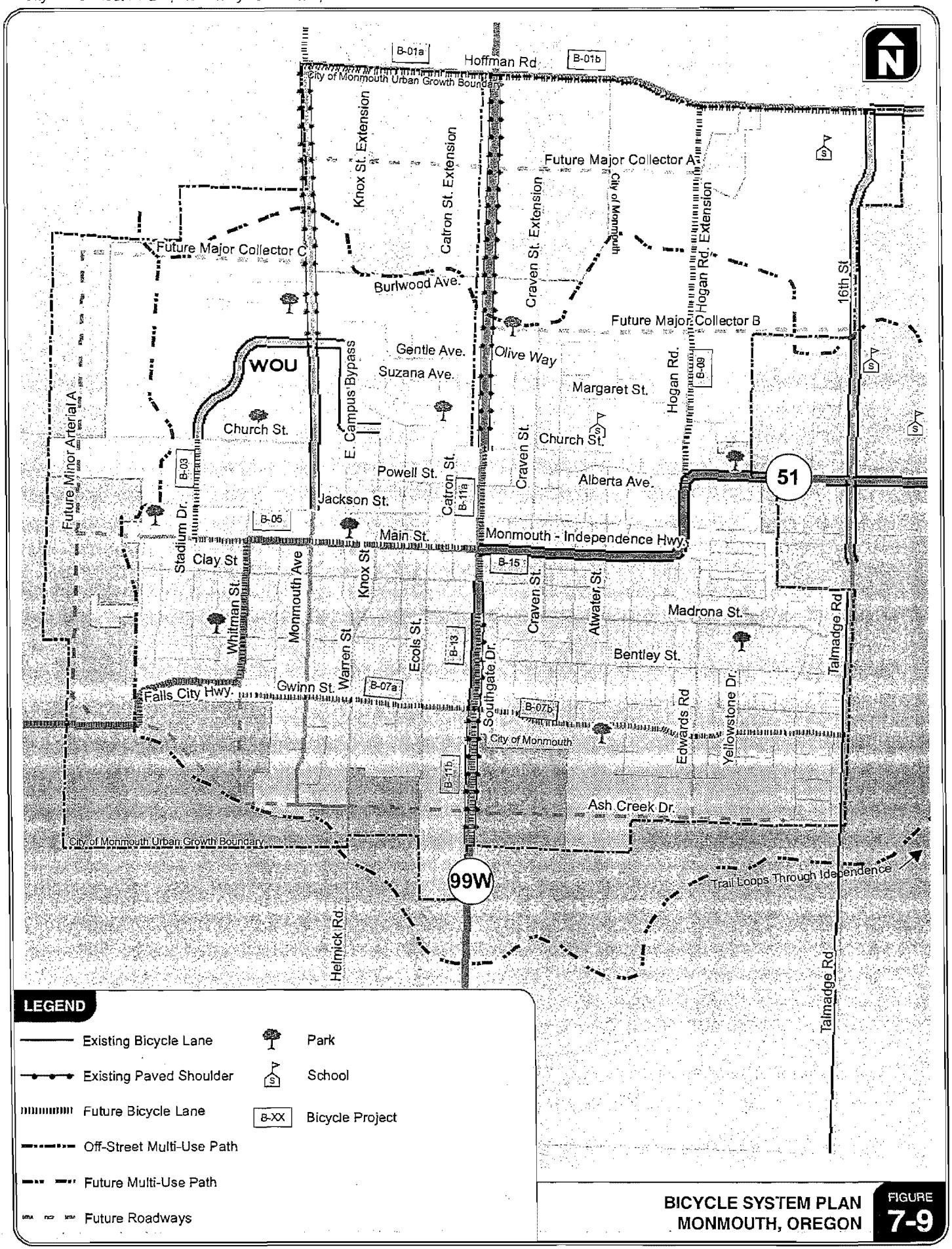


LEGEND

- Existing Sidewalk
- Priority Sidewalk Project
- Off-Street Multi-Use Path
- Future Multi-Use Path
- Future Roadways
- Park
- School
- Pedestrian Crossing Project
- P-XX Pedestrian Right of Way Project

PEDESTRIAN SYSTEM PLAN
MONMOUTH, OREGON

FIGURE **7-8**



BICYCLE SYSTEM PLAN
MONMOUTH, OREGON

FIGURE **7-9**

- The existing CARTS service provides five round trips connecting Salem and Monmouth. Residents of Monmouth can take a bus at 6:25 a.m. or at 8:45 a.m. for a 35-minute trip to Salem. In the evening, Monmouth residents can depart Salem at 4:05 p.m. or 6:05, for a 30 minute trip back to Monmouth. While this schedule does provide a commuter service connection between Monmouth and Salem, an additional pick up time for morning (approximately 7:30 a.m.) and evening (approximately 5:15 p.m.) routes would result in hourly service options, and would provide commuters with greater flexibility during a typical 8:00 a.m. to 5:00 p.m. work day.

Increasing frequency would likely require an expansion of capacity in the form of an additional bus and bus driver. Nevertheless, as Monmouth grows as a bedroom community, this type of increased transit service has the potential to make transit an attractive alternative to driving.

AIR SERVICE

The nearest public airport serving the City of Monmouth is the Independence State Airport (http://www.airnav.com/airport/7S5), located northeast of Monmouth in Polk County. It is a *general aviation* facility, meaning that it serves flights other than military and scheduled commercial flights. Commercial air service at the nearest airport in Salem (McNary Field, http://www.flysalem.com/) was discontinued in October, 2008 leaving the nearest commercial flight service for Monmouth residents in Portland(www.flypdx.com/) or Eugene (www.eugeneairport.com/), both located approximately 90-minutes driving time from Monmouth.

Commercial air service is beyond the scale of project that Monmouth can pursue independently. However, the city should remain aware of other changes or opportunities to bring other air travel options to the community and should support those efforts, as they are able.

MARINE SYSTEM PLAN

No navigable waterways are located in the City of Monmouth.

RAIL SERVICE

There are no rail facilities within the Monmouth UGB. Passenger rail service is provided by Amtrak (www.Amtrak.com) at the Salem and Albany stations located approximately 15 and 25 miles, respectively, from Monmouth. The nearest freight rail line is the Willamette & Pacific (W&P) Railroad which runs north-south through Independence. Commercial rail service is beyond the scale of project that Monmouth can pursue independently. However, the city should remain aware of other changes or opportunities to bring other rail travel options to the community and should support those efforts, as they are able.

PIPELINE AND TRANSMISSION SYSTEMS PLAN

Adequate 20-year capacity is provided by the current system. Existing pipeline facilities should be maintained and enhanced as necessary by their respective owners.

IMPLEMENTATION PLAN

This section outlines specific transportation system improvement projects as well as a corresponding timeline for implementation of the identified improvements. The sequencing plan presented is not detailed to the point of a schedule identifying specific years when infrastructure should be constructed, but rather prioritizes projects to be developed within near-term (2011 to 2015), mid-term (2016 to 2020), and long-term (2021 to 2030) horizons. In this manner, the implementation of identified system improvements has been staged to spread investment in the City's transportation infrastructure over the life of the plan. The City will need to periodically update its TSP and will review the need and timing for longer-term improvements at those times.

In addition, several potential projects have been identified for the "long-range vision." Such projects may not be feasible within the twenty-year planning horizon, for reasons of both need and resources. However, they represent a vision for an efficient transportation system in the future and they have been identified to support the preservation of the opportunities as future conditions may warrant them. The City of Monmouth and ODOT should take the appropriate steps to prevent actions and/or development that would preclude these projects in the future.

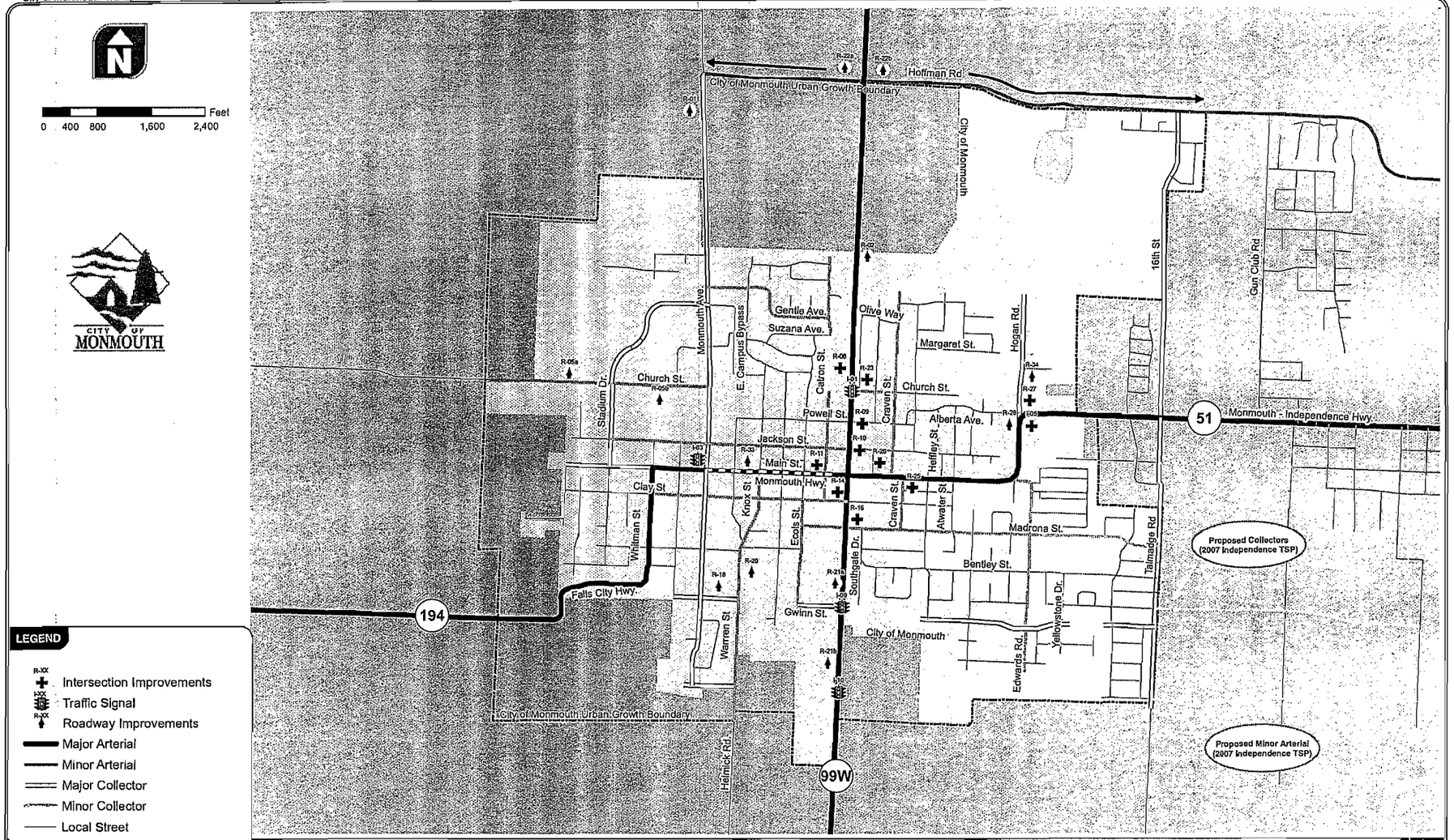
The construction of roads, water, sewer, and electrical facilities in conjunction with local development activity should be coordinated if the City of Monmouth is to develop in an orderly and efficient way. Consequently, the planned improvements identified in the TSP should be considered in light of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

PLANNED IMPROVEMENTS

The planned improvement projects include improvements for motor vehicle, bicycle, and pedestrian travel. While site specific projects such as traffic signals and turn lanes have been included to improve conditions at particular locations, the plan also seeks to develop an efficient transportation network that will reduce reliance on the state highways. New roadways or roadway extensions are planned to serve all modes. These include road segments to fill short gaps in the existing street system, new roads to serve development on adjacent properties, and new arterials and collectors to create an efficient grid system of future roadways.

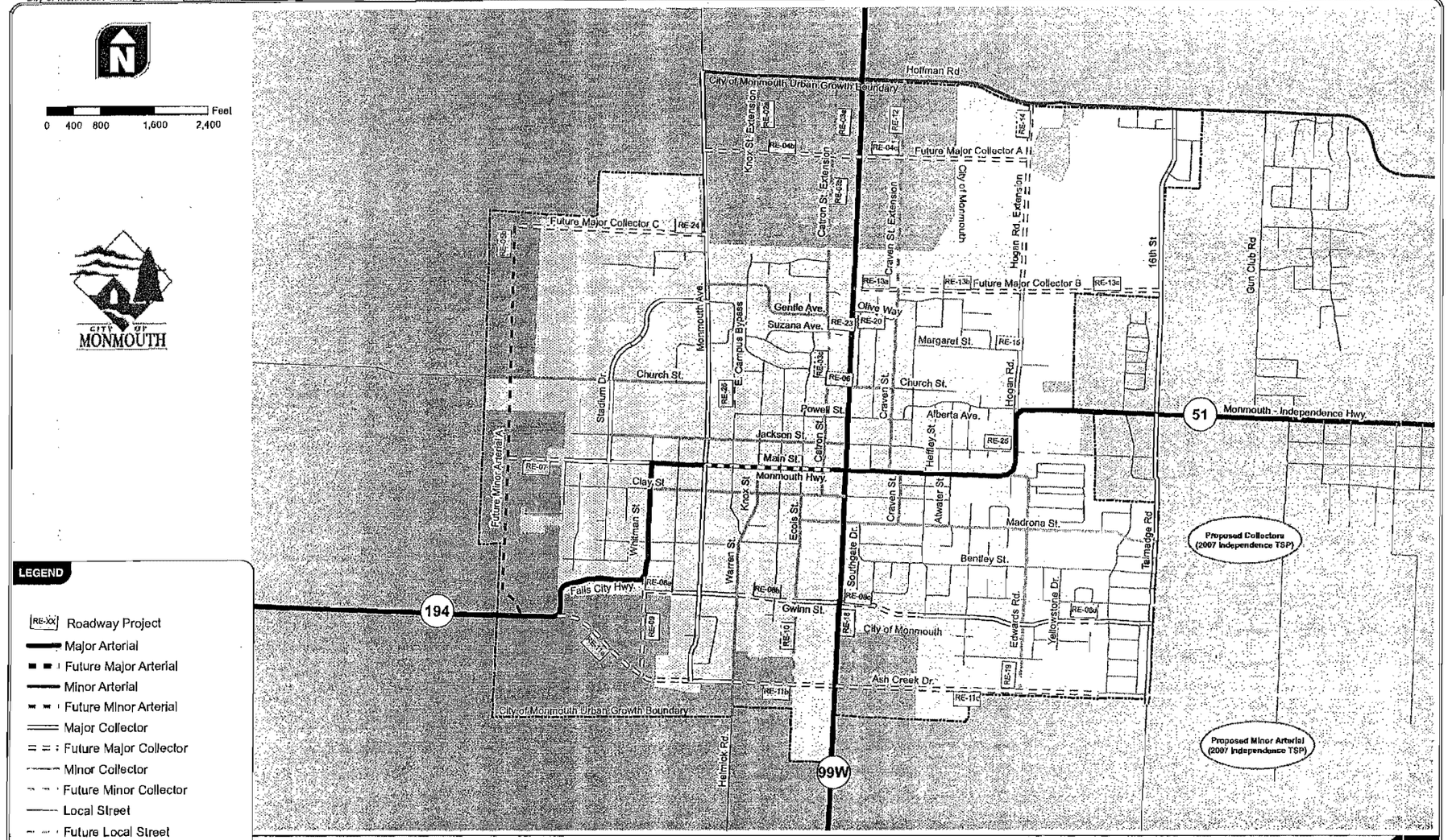
The planned transportation improvements in the City of Monmouth for near-term, mid-term, and long-term and for the future vision are listed in Tables 7-7 through 7-10, respectively. The tables include roadway projects, which are depicted in Figures 7-10A and 7-10B, as well as pedestrian and bicycle projects already shown in Figures 7-8 and 7-9. *Detailed prospectus sheets for each individual project are provided in Appendix B.*

The implementation plan recognizes that only a certain amount of money will be available to fund projects. As a result, a number of lower-cost improvements that are needed immediately are shown in the near-term (2011 to 2015) time frame. The longer project timelines reflect the facts that some projects are not needed immediately and it will take time to accumulate the funds to build those projects.



EXISTING ROADWAY SYSTEM, PLANNED IMPROVEMENTS
MONMOUTH, OREGON

FIGURE 7-10A



FUTURE ROADWAY SYSTEM, PLANNED IMPROVEMENTS
MONMOUTH, OREGON

FIGURE 7-10B

The project list is further refined to reflect the financially constrained environment for state transportation improvements. The resulting *financially constrained* project list identifies projects that could be developed using future revenue from local transportation systems development charge (SDC) revenues. The revenue forecast was developed based on the assumption of maintaining historic revenue streams, but with SDC revenue adjusted to reflect an average SDC rate of $3,500 (based on one single family home) over the 20-year planning horizon. While this is higher than Monmouth's existing SDC rate (as of 2009), it is consistent with Oregon cities of similar size. SDCs and other revenue sources are described in the Transportation Finance Element in Section 8 and in the Volume 2 Technical Appendix[2].

[2] Inclusion of transportation improvements in the TSP does not constitute "planned improvements" for the purposes of considering future comprehensive plan amendments or zone changes unless a funding plan or other mechanism is in place to support a reasonable expectation that a particular improvement will be constructed.

TABLE 7-7 NEAR-TERM (2011 TO 2015) TRANSPORTATION IMPROVEMENT PROGRAM

Project No.	Improvement Location	Type of Improvement	Estimated Cost[1]	Financially Constrained Plan?
Roadway Projects[2]				
R-08	OR 99W/Church Street left-turn lane	Intersection Geometry	$320,000	No
R-14	OR 99W/Clay Street west approach widening	Intersection Geometry	$50,000	Yes
R-16	99W/Madrona Street eastbound left-turn lane	Intersection Geometry	$50,000	Yes
R-18	Gwinn Street full street improvements	Roadway Upgrade	$120,000	Yes
R-23	99W/Church Street westbound left-turn lane	Intersection Geometry	$240,000	Yes
R-27	OR 51/Hogan Road intersection reconfigure	Intersection Geometry	[3]$150,000	Yes[4]
R-28	OR 51 full street improvements	Roadway Upgrade	$700,000	No
R-33	Main Street streetscape improvements	Roadway Upgrade	$440,000	No
RE-03c	Catron Street Extension	Roadway Extension	$660,000	Yes
RE-06	Church Street extension	Roadway Extension	$310,000	Yes
RE-08b	Gwinn Street West construction	Roadway Extension	$790,000	Yes
RE-08c	Gwinn Street East extension	Roadway Extension	$1,100,000	No
RE-08d	Gwinn Street East extension	Roadway Extension	$660,000	Yes
RE-20	Olive Way East extension	Roadway Extension	$100,000	Yes
Pedestrian & Bicycle Projects				
P-04	OR 99W/Church Street ped crossing	Pedestrian Crossing	$10,000	Yes
P-05	OR 51 S-curve sidewalks	New Sidewalk	$440,000	Yes
P-06	OR 51 east sidewalks	New Sidewalk	$130,000	Yes
P-09	Clay Street sidewalks	New Sidewalk	$60,000	Yes
P-12	OR 99W/Madrona Street ped crossing study	Pedestrian Crossing	$15,000	Yes
P-16	OR 51/Atwater Street ped crossing study	Pedestrian Crossing	$15,000	Yes
P-17	Talmadge Road sidewalks (west side)	New Sidewalk	$25,000	Yes
B-07b	Gwinn Street bike lanes (striping only)	New Bike Lane	$2,000	Yes
B-11b	OR 99W south bike lanes (striping only)	New Bike Lane	$3,000	Yes
B-15	OR 51 drainage grates along bike lanes	Safety	$1,500	Yes

[1] Cost estimates assume the following: paved area/streetscapes: $15/sq.ft.; sidewalks: $5/sq.ft.; curb/gutter $15/lineal foot. Right-of-way, permitting, utility and environmental mitigation costs are not included.

[2] All new roadways will include sidewalks; bicycle lanes will be included as determined in the roadway design standards.

[3] Cost is based on available information from the public works department.

[4] To be constructed under existing public/private partnership.

TABLE 7-8 MID-TERM (2016 TO 2020) TRANSPORTATION IMPROVEMENT PROGRAM

Project No.	Project	Type of Improvement	Estimated Cost	Financially Constrained Plan?
Roadway Projects				
I-01	OR 99W/Church Street traffic signal	Intersection Control	$420,000	No
I-09	OR 99W/Gwinn Street traffic signal	Intersection Control	$420,000	No
R-05a	West Church Street full street improvements	Roadway upgrade	$940,000	No
R-05b	Church Street full street improvements, Stadium to Monmouth	Roadway upgrade	$720,000	Yes
R-09	OR 99W northbound and southbound left-turn lanes at Powell Street	Intersection Geometry	$260,000	No
R-11	Main Street/Catron Street eastbound left-turn lane	Intersection Geometry	$180,000	Yes
R-20	Warren Street full street improvements	Roadway upgrade	$370,000	Yes
R-21a	OR 99W half street improvements	Roadway upgrade	$80,000	No
R-22b	Hoffman Road half street improvements	Roadway upgrade	$1,700,000	No
RE-08a	Gwinn Street West extension	Roadway Extension	$360,000	No
RE-18	Southgate Drive extension	Roadway Extension	$1,100,000	No
Pedestrian & Bicycle Projects				
P-01b	Hoffman Road sidewalks	New sidewalk	$320,000	Yes
P-02	16th Street sidewalks	Sidewalk Infill	$340,000	Yes
P-11a	OR 99W sidewalks north of Church Street	New sidewalk	$400,000	No
P-13	Madrona Street east sidewalks	New sidewalk	$160,000	Yes
B-01b	Hoffman Road bike lanes	New Bike Lane	$600,000	No
B-03	Stadium Road bike lanes	New Bike Lane	$290,000	No
B-05	Monmouth Highway west bike lanes	New Bike Lane	$330,000	No
B-07a	Gwinn Street bike lanes	New Bike Lane	$170,000	Yes
B-13	OR 99W bike lanes	New Bike Lane	$1,000	Yes

[1] Cost estimates assume the following: paved area/streetscapes: $15/sq.ft.; sidewalks: $5/sq.ft.; curb/gutter $15/lineal foot. Right-of-way, permitting, and environmental mitigation costs are not included.

[2] All new roadways will include sidewalks; bicycle lanes will be included as determined in the roadway design standards.

TABLE 7-9 LONG-TERM (2021 TO 2030) TRANSPORTATION IMPROVEMENT PROGRAM

Project No.	Improvement Location	Type of Improvement	Estimated Cost	Financially Constrained Plan?
Roadway Projects				
I-03	Main Street/Monmouth Avenue traffic signal	Intersection control	$420,000	No
I-10	OR 99W/Ash Creek Drive traffic signal	Intersection control	$420,000	No
R-01	Monmouth Avenue full street improvements	Roadway upgrade	$570,000	Yes
R-02	OR 99W street improvements, Hoffman to	Roadway upgrade	$2,300,000	No
R-10	OR 99W north-southbound left-turn lanes at	Intersection geometry	$260,000	No
R-21b	OR 99W full street improvements	Roadway upgrade	$400,000	Yes
R-22a	Hoffman Road half street improvements, UGB to OR 99W	Roadway upgrade	$800,000	Yes
R-25	OR 51/Craven South westbound left-turn lane	Intersection geometry	$180,000	Yes
R-26	OR 51/Craven North eastbound left-turn lane	Intersection geometry	$180,000	Yes
RE-02a	Warren Street Extension	Roadway extension	$1,100,000	Yes
RE-03a	Catron Street Extension, north	Roadway extension	$1,100,000	No
RE-03b	Catron Street Extension, Burlwood to Collector A	Roadway extension	$1,500,000	No
RE-04b	Northern east-west Major Collector "A"	New roadway	$2,000,000	No
RE-05b	Western north-south Minor Arterial	New roadway	$6,900,000	No
RE-07	Main Street west extension	Roadway extension	$780,000	Yes
RE-09	Whitman St extension south to Ash Creek Dr	Roadway extension	$1,200,000	No
RE-10	Ecols Street extension	Roadway extension	$1,200,000	Yes
RE-11a	Ash Creek Drive extension , west	Roadway extension	$1,900,000	No
RE-11b	Ash Creek Drive extension, central	Roadway extension	$1,300,000	No
RE-11c	Ash Creek Drive extension, east	New roadway	$4,000,000	No
RE-12	Craven Street extension	Roadway extension	$2,900,000	No
RE-15	Margaret Street extension	Roadway extension	$270,000	Yes
RE-19	Edwards Road extension	Roadway extension	$860,000	Yes
RE-23	Suzana Street extension	Roadway extension	$260,000	Yes
RE-24	Northwestern east-west Major Collector "C"	Roadway extension	$2,500,000	No
RE-25	Jackson Street extension	Roadway extension	$2,100,000	No
RE-26	Warren Street Campus Bypass	Roadway extension	$560,000	Yes
Pedestrian and Bicycle Projects				
P-01a	West Hoffman Road sidewalk, south side	New sidewalk	$160,000	Yes
P-03	Ash Creek Trail	New multi-use path	$2,800,000	Yes
P-11b	OR 99W sidewalks between Clay and Madrona	New sidewalk	$25,000	Yes
P-11c	OR 99W sidewalks south of Madrona Street	New sidewalk	$350,000	Yes
B-01a	West Hoffman Road bike lane, south side	New bike lane	$300,000	Yes
B-11a	OR 99W north bike lanes	New Bike Lane	$210,000	Yes

[1] Cost estimates assume the following: paved area/streetscapes: $15/sq.ft.; sidewalks: $5/sq.ft.; curb/gutter $15/lineal foot. Right-of-way, permitting, and environmental mitigation costs are not included.

[2] All new roadways will include sidewalks; bicycle lanes will be included as determined in the roadway design standards.

TABLE 7-10 LONG-RANGE VISION – TRANSPORTATION PLAN

Project	Improvement Location	Type of Improvement
RE-04c	Northern east-west Major Collector "A"	New Major Collector
RE-05a	Western north-south Minor Arterial	New Minor Arterial
RE-13	Northeastern east-west Major Collector "B"	New Major Collector
RE-14	Hogan Road extension	New Major Collector

[1] Cost estimates assume the following: paved area/streetscapes: $15/sq.ft.; sidewalks: $5/sq.ft.; curb/gutter $15/lineal foot. Right-of-way, permitting, and environmental mitigation costs are not included.

[2] All new roadways will include sidewalks; bicycle lanes will be included as determined in the roadway design standards.

Section 8
Transportation Finance Element

Transportation Finance Element

Funding for transportation projects is increasingly in short supply even as existing infrastructure ages and transportation demands increase. The TPR requires that the Monmouth TSP address transportation funding, including the following elements:

- a list of planned transportation facilities and major improvements;
- a general estimate of the timing for planned transportation facilities and major improvements;
- determination of rough cost estimates for the transportation facilities and major investments identified in the TSP; and,
- a discussion of existing and potential financing sources to fund the development of each transportation facility and major improvement (which can be described in terms of guidelines or local policies).

The finance element provides a means for evaluating the likelihood that projects can be funded within the timelines identified in the TSP. Frequently, the costs for improvement projects exceed available funding. The financing element provides a context for evaluating projects and defining priorities in order to build on available opportunities and preserve existing infrastructure.

HISTORICAL MONMOUTH TRANSPORTATION FUNDING REVENUES

Transportation capital improvements are typically funded through a combination of state, city, and private funds. This section documents the City of Monmouth's historical revenue trends for transportation. These funds are used primarily for operations, maintenance, services and materials. In typical years, only a small portion is available for capital improvements.

During the past fifteen years (FY '93-94 through FY '07-08), average annual revenues for Monmouth's transportation system have totaled approximately $766,683 (2008 dollars). These revenues have come from the following five primary sources. Table 8-1 shows a breakdown of the amounts and percentages of the total received from each of these sources:

- The **State Motor Vehicle fund** has provided and will likely continue to provide the majority of funding for the City's transportation system. A major component of the State Motor Vehicle fund is a fuel tax (per gallon). This source faces downward pressure as vehicle fuel efficiency improves and the amount of travel in motor vehicles declines.
- **General Obligation (G.O.) Bonds** require voter approval, but they are a good source of funding for transportation improvements and major renovation projects. G.O. Bonds should continue to be considered for these types of projects in the future.

TABLE 8-1 HISTORIC FUNDING SOURCES: TRANSPORTATION SYSTEM OPERATIONS, MAINTENANCE, & IMPROVEMENTS (2008 DOLLARS)

Source of Funds	Average Annual Revenues FY '93-94 through FY '07-08	Percentage of Total Average Annual Revenues
State Motor Vehicle Fund	$421,537	54.98%
G.O. Bond Proceeds	$142,900	18.64%
State and Federal Grants	$108,511	14.15%
Transportation SDCs	$60,366	7.88%
Interest on Investments	$33,369	4.35%
Total (All Major Sources)	$766,683	100.00%

- **State and federal grants** are normally targeted for specific types of projects, and their availability is often inconsistent. Grant opportunities should continue to be pursued when appropriate for projects needed by the City.
- **Transportation Systems Development Charges (SDCs)** are an excellent source of revenues for growth-required needs, but SDCs are only collected on development activity, so the revenues stream from SDCs may be volatile depending on market conditions.
- **Interest on investments** is entirely dependent on the amount of funds that are available for investment.

A technical memorandum documenting the methodology for calculating the potential transportation SDC for the City of Monmouth along alternative approaches for determining an updated SDC rate is provided in Volume 2 Technical Appendix.

POTENTIAL FUNDING SOURCES

The City has used G.O. bonds and SDCs as local sources of funds for transportation system improvements. Some additional potential local transportation system funding sources the City may wish to consider include: 1) local vehicle fuel taxes, 2) transportation utility fees, and/or 3) local improvement districts (LIDs). Each of these alternative funding sources is described below.

Local Vehicle Fuel Tax

Local governments in Oregon can adopt local vehicle fuel taxes that are assessed and collected at the pump, just like the state vehicle fuel taxes. Funds from these taxes can be used for improvements, operations and maintenance of transportation facilities used by motor vehicles.

Transportation Utility Fee

A growing number of cities in Oregon are adopting transportation utility fees. These fees are based on consideration of transportation systems as utilities just like public water or wastewater systems. Fees are typically assessed by usage (e.g., average number of vehicle trips per development type), with revenues used for transportation system improvements, operations and maintenance.

Local Improvement Districts (LIDs)

LIDs are used to construct or improve streets and other transportation facilities, with benefiting properties assessed a fee to pay the costs. LIDs are frequently used to fund local and collector streets, sidewalks, and other transportation facilities.

POTENTIAL FUTURE FUNDING LEVEL SCENARIOS

Three alternative funding scenarios (reduced, maintain historic, and increased) have been developed to provide estimates of potential revenues for the transportation system through the year 2030. As was noted above, only a portion of the funds in past years have been available for capital improvements. As such, only a portion of revenues under each potential funding level is expected to be available for the improvement projects identified in this TSP. It is expected that projects will be prioritized according to specific needs or opportunities. For example, private development activities frequently contribute to improvements on adjacent facilities, such as the addition of sidewalks on existing streets.

Reduced Funding Level

The reduced funding alternative envisions total funding from all non-SDC sources (G.O. bonds, interest, State funds, grants, etc.) would be limited to a level consistent with the historic average annual allocation from the State Motor Vehicle Fund, and SDC revenues would decline to 80% of their historic average level. Potential annual and total revenues for this alternative are shown in Table 8-2.

TABLE 8-2 REDUCED LEVEL SCENARIO: POTENTIAL FUNDING LEVELS FOR TRANSPORTATION SYSTEM OPERATIONS, MAINTENANCE, & IMPROVEMENTS (2008 DOLLARS)

Source of Funds	Potential Revenues			
	Average Annual	Total Revenues (through 2015)	Total Revenues (through 2020)	Total Revenues (through 2030)
State Motor Vehicle Fund, and all other non-SDC sources.	$421,537	$2,950,762	$5,058,449	$9,273,823
Transportation SDCs	$48,293	$338,048	$579,511	$1,062,438
Total (All Major Sources)	$469,830	$3,288,810	$5,637,960	$10,336,261

Maintain Historic Funding Level

The maintain historic funding alternative envisions total funding from all major sources (G.O. bonds, interest, State funds, grants, SDCs, etc.) would be maintained at the historic average levels This would require that the City pass new G.O. Bonds and/or adopt one or more of a combination of other new sources (e.g., vehicle fuel tax, transportation utility fee, etc.). This would also require continued support from state and federal grants, and SDCs. Potential annual and total revenues for this alternative are shown in Table 8-3.

TABLE 8-3 MAINTAIN HISTORIC LEVEL SCENARIO: POTENTIAL FUNDING LEVELS FOR TRANSPORTATION SYSTEM OPERATIONS, MAINTENANCE, & IMPROVEMENTS (2008 DOLLARS)

Source of Funds	Potential Revenues			
	Average Annual	Total Revenues (through 2015)	Total Revenues (through 2020)	Total Revenues (through 2030)
State Motor Vehicle Fund and all other non-SDC sources.	$706,317	$4,944,219	$8,475,804	$15,538,974
Transportation SDCs	$60,366	$422,562	$724,392	$1,328,052
Total (All Major Sources)	$766,683	$5,366,781	$9,200,196	$16,867,026

Increased Funding Level

The increased funding alternative envisions total funding from all major sources (G.O. bonds, fees, taxes, LIDs, interest, State funds, grants, SDCs, etc.) would rise to 20% above the historic average levels This would require that the City pass new G.O. Bonds and/or adopt one or more of a combination of other new sources (e.g., vehicle fuel tax, transportation utility fee, etc.). This would also require increased support from state and federal grants, and SDCs. Potential annual and total revenues for this alternative are shown in Table 8-4.

TABLE 8-4 INCREASED LEVEL SCENARIO: FUNDING LEVELS FOR TRANSPORTATION SYSTEM OPERATIONS, MAINTENANCE, & IMPROVEMENTS (2008 DOLLARS)

Source of Funds	Potential Revenues			
	Average Annual	Total Revenues (through 2015)	Total Revenues (through 2020)	Total Revenues (through 2030)
State Motor Vehicle Fund, and all other non-SDC sources.	$847,580	$5,933,060	$10,170,960	$18,646,760
Transportation SDCs	$72,439	$507,073	$869,268	$1,593,658
Total (All Major Sources)	$920,019	$6,440,133	$11,040,228	$20,240,418

POTENTIAL FUNDING FOR PLANNED PROJECTS

All of the projects identified in Section 7 are listed in Tables 8-5 through 8-7 (near-term, mid-term, and long-term), respectively. The tables include the project numbers and construction cost estimates. For each project, the potential (non-binding) sources are identified as either Primary (P) or Secondary (S) funding and implementation participants. In general, projects located primarily along state highways are expected to be funded and administered primarily by the state. It was further assumed that most new roadways (RE projects) will occur primarily to support new development, and thus will have significant participation from the private sector.

TABLE 8-5 NEAR-TERM PROJECTS (2011 TO 2015) POTENTIAL FUNDING SOURCES

Project No.	Improvement Location	Estimated Cost[1]	Funding/Implementation Roles		
			State	City	Private
Roadway Projects[2]					
R-08	OR 99W/Church Street southbound left-turn lane	$320,000	P	S	
R-14	OR 99W/Clay Street eastbound approach widening	$50,000	S	P	
R-16	99W/Madrona Street eastbound left-turn lane	$50,000	S	P	
R-18	Gwinn Street full street improvements	$120,000		P	S
R-23	99W/Church Street westbound left-turn lane	$240,000	S	P	
R-27	OR 51/Hogan Road intersection reconfigure	[3]$150,000	S	P	S
R-28	OR 51 full street improvements	$700,000	P	S	S
R-33	Main Street streetscape improvements	$440,000	P	S	S
RE-03c	Catron Street Extension	$660,000		P	S
RE-06	Church Street extension	$310,000	S	P	S
RE-08b	Gwinn Street West construction	$790,000		P	S
RE-08c	Gwinn Street East extension	$1,100,000	S	P	S
RE-08d	Gwinn Street East extension	$660,000		P	S
RE-20	Olive Way East extension	$100,000	S	P	
Pedestrian & Bicycle Projects					
P-04	OR 99W/Church Street pedestrian crossing	$10,000	P	S	
P-05	OR 51 S-curve sidewalks	$440,000	P	S	S
P-06	OR 51 east sidewalks	$130,000	P	S	S
P-09	Clay Street sidewalks	$60,000		P	S
P-12	OR 99W/Madrona St pedestrian crossing study	$15,000	P	S	
P-16	OR 51/Atwater Street pedestrian crossing study	$15,000	P	S	
P-17	Talmadge Road Sidewalks, west side	$25,000		P	
B-07b	Gwinn Street bike lanes (striping only)	$2,000		P	S
B-11b	OR 99W south bike lanes (Gwinn to south UGB)	$3,000	P	S	
B-15	OR 51 drainage grates along bike lanes	$1,500	S	P	
Total		$6,241,500			

P – Primary party with potential funding and implementation responsibility

S – Secondary party in potential funding and implementation

TABLE 8-6 MID-TERM PROJECTS (2016 TO 2020) POTENTIAL FUNDING SOURCES

Project No.	Project	Estimated Cost	Funding/Implementation Roles		
			State	City	Private
Roadway Projects					
I-01	OR 99W/Church Street traffic signal	$420,000	P	S	
I-09	OR 99W/Gwinn Street traffic signal	$420,000	P	S	
R-05a	West Church Street full street improvements	$940,000		P	S
R-05b	Church Street full street improvements, Stadium to Monmouth	$720,000		P	S
R-09	OR 99W northbound and southbound left-turn lanes at Powell Street	$260,000	P	S	S
R-11	Main Street/Catron Street eastbound left-turn lane	$180,000	S	P	S
R-20	Warren Street full street improvements	$370,000		P	S
R-21a	OR 99W half street improvements	$80,000	P	S	S
R-22b	Hoffman Road half street improvements	$1,700,000		P	S
RE-08a	Gwinn Street West extension	$360,000		P	S
RE-18	Southgate Drive extension	$1,100,000		P	S
Pedestrian & Bicycle Projects					
P-01b	Hoffman Road sidewalks	$320,000		P	S
P-02	16th Street sidewalks	$340,000		P	S
P-11a	OR 99W sidewalks north of Church Street	$400,000	P	S	S
P-13	Madrona Street east sidewalks	$160,000		P	S
B-01b	Hoffman Road bike lanes	$600,000		P	S
B-03	Stadium Road bike lanes	$290,000		P	S
B-05	Monmouth Highway west bike lanes	$330,000	P	S	S
B-07a	Gwinn Street bike lanes	$170,000		P	S
B-13	OR 99W south bike lanes (Madrona to Gwinn)	$10,000	P	S	
Total		$9,170,000			

P – Primary party with potential funding and implementation responsibility

S – Secondary party in potential funding and implementation

TABLE 8-7 LONG-TERM (2021 TO 2030) POTENTIAL FUNDING SOURCES

Project No.	Improvement Location	Estimated Cost	Funding/Implementation Roles		
			State	City	Private
Roadway Projects					
I-03	Main Street/Monmouth Avenue traffic signal	$420,000	P	S	
I-10	OR 99W/Ash Creek Drive traffic signal	$420,000	P	S	
R-01	Monmouth Avenue full street improvements	$570,000		P	S
R-02	OR 99W street improvements, Hoffman to Church	$2,300,000	P	S	
R-10	OR 99W north-southbound left-turn lanes at Jackson	$260,000	P	S	S
R-21b	OR 99W improvements, Gwinn to south UGB	$400,000	P	S	S
R-22a	Hoffman Road half street improvements, UGB to OR 99W	$800,000	S	P	S
R-25	OR 51/Craven South westbound left-turn lane	$180,000	P	S	S
R-26	OR 51/Craven North eastbound left-turn lane	$180,000	P	S	S
RE-02a	Warren Street Extension	$1,100,000		P	S
RE-03a	Catron Street Extension, north	$1,100,000		P	S
RE-03b	Catron Street Extension, Burlwood to Collector A	$1,500,000		P	S
RE-04b	Northern east-west Major Collector "A"	$2,000,000		P	S
RE-05b	Western north-south Minor Arterial	$6,900,000		P	S
RE-07	Main Street west extension	$780,000		P	S
RE-09	Whitman St extension south to Ash Creek Dr	$1,200,000		P	S
RE-10	Ecols Street extension	$1,200,000		P	S
RE-11a	Ash Creek Drive extension , west	$1,900,000		P	S
RE-11b	Ash Creek Drive extension, central	$1,300,000	S	P	S
RE-11c	Ash Creek Drive extension, east	$4,000,000	S	P	S
RE-12	Craven Street extension	$2,900,000		P	S
RE-15	Margaret Street extension	$270,000		P	S
RE-19	Edwards Road extension	$860,000		P	S
RE-23	Suzana Street extension	$260,000	S	P	S
RE-24	Northwestern east-west Major Collector "C"	$2,500,000		P	S
RE-25	Jackson Street extension	$2,100,000		P	S
RE-26	Warren Street Campus Bypass	$560,000		P	S
Pedestrian and Bicycle Projects					
P-01a	West Hoffman Road sidewalk, south side	$160,000	S	P	S
P-03	Ash Creek Trail	$2,800,000	S	P	S
B-11a	OR 99W north bike lanes (Church to Clay)	$210,000	P	S	
P-11b	OR 99W sidewalks between Clay and Madrona	$25,000	P	S	S
P-11c	OR 99W sidewalks south of Madrona Street	$350,000	P	S	S
B-01a	West Hoffman Road bike lane, south side	$300,000	S	P	S
Total		$41,805,000			

P – Primary party with potential funding and implementation responsibility
S – Secondary party in potential funding and implementation

Section 9
Ordinance Modifications

Ordinance Modifications

The TPR, as codified in OAR 660-012-0045, requires that local jurisdictions amend land use regulations to reflect and implement the TSP. To that end, proposed regulatory language was developed in order to comply with the TPR and to ensure that local ordinances are consistent with the updated TSP. Proposed implementation language can be found in Volume 2 Technical Appendix, Recommended Zoning Ordinance Amendments. Proposed implementation language is based on the recommendations found in Table 1 in the appendix, which identifies revisions needed to City ordinances in order to comply with the TPR. The memorandum reiterates the specific TPR requirements that are necessary for the City to address and provides specific text amendments to the Zoning Ordinance that meet these requirements. Suggested language can be considered "best practices" and, in some instances, the *Model Development Code & Users Guide for Small Jurisdictions* was used as a reference document for recommended code revisions.

To the extent possible, proposed amendments to the Zoning Ordinance were developed and formatted to be consistent with the existing structure of this regulatory document in order to expedite a code amendment process. In addition to those recommended in the attached memorandum, further amendments to the Zoning Ordinance may be necessary in order to ensure consistency within the document and to more seamlessly integrate new criteria with existing requirements. For this reason, the memorandum includes proposed amendments to the adopted land use ordinance but final recommended changes to the Monmouth Zoning Ordinance will be part of a separate local adoption action.

Appendix A
Public Involvement
Process for TSP Update
Development

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 503.228.5230 503.273.8169

MEMORANDUM

Date: February 19, 2009 Project #: 9105

To: City of Monmouth
Craig Johns, Public Works Director
Mark Fancey, Community Development Director

From: Kittelson & Associates, Inc.
Project: City of Monmouth Transportation System Plan Update
Subject: Public Involvement Process Summary

The Monmouth Transportation System Plan Update benefited from an effective public process, facilitating the identification of transportation system deficiencies as well as potential solutions.

The following table summarizes the public involvement meetings and open houses, and the dates on which they have occurred.

Table 1 Public Involvement Summary

Event	Location	Time	Date
TAC Meeting #1	City of Monmouth Volunteer Hall	2:00 - 4:00 p.m.	July 30, 2008
TAC Meeting #2	City of Monmouth Volunteer Hall	2:00 - 4:00 p.m.	September 24, 2008
TAC Meeting #3	City of Monmouth Volunteer Hall	2:00 - 4:00 p.m.	October 15, 2008
Open House #1	City of Monmouth Public Library	6:00 - 8:00 p.m.	October 15, 2008
TAC Meeting #4	City of Monmouth Volunteer Hall	2:00 - 4:00 p.m.	December 10, 2008
TAC Meeting #5	City of Monmouth Volunteer Hall	2:00 - 4:00 p.m.	February 4, 2009
Open House #2	City of Monmouth Volunteer Hall	6:00 - 8:00 p.m.	February 4, 2009
TAC Meeting #6	City of Monmouth Volunteer Hall	2:00 - 4:00 p.m.	March 4, 2009

The following items of public process documentation are included within this appendix:

- Technical Advisory Committee (TAC) Meeting Agendas and Minutes
- Open House Summary Memorandums and Sample Feedback Comment Sheets

Monmouth Transportation Systems Plan
Technical Advisory Committee (TAC)
Meeting #1 – July 30, 2008
Volunteer Hall
Monmouth, Oregon

TAC Members Attending:
Mike Maloney – Central School District
Steve Oulman – DLCD
Tom Neal – Western Oregon University
Mike Danko – City of Independence
Jeff Donahue – Polk County Fire District #1
Paul Sieber – Monmouth Traffic Safety Commission
Naomi Zwerdling – ODOT
Mark Fancey – City of Monmouth
Craig Johns – City of Monmouth

Consultant Team:
Judith Gray, Kittelson & Associates, Inc.
Marc Butorac – Kittelson & Associates, Inc.
Diego Arguea - Kittelson & Associates, Inc.

The meeting began at 2:05 PM.

Introductions

Project Overview

Judith Gray opened the meeting by outlining the project work scope. The Transportation System Plan (TSP) study area includes the area within the Monmouth Urban Growth Boundary. The current TSP was completed in 1997. The TSP update will use a planning horizon to 2030. Gray explained that 24 intersections in Monmouth have been analyzed. She noted that a detailed project work scope is found in the notebooks distributed to TAC members.

Schedule of deliverables and meetings

Judith Gray said this is the first of six (6) TAC meetings. The work scope also includes two (2) open houses and three (3) work sessions with the Planning Commission. Public hearings before the Planning Commission and City Council will be conducted during the adoption phase of the project.

Marc Butorac said that the goal of the work with the TAC is consensus building. This approach will mean that by the adoption phase the TAC is confident with the results included in the TSP update. Butorac outlined the project meeting schedule through the adoption phase.

Memorandum review process

Regarding the TAC meeting process, Butorac explained that technical memos will be sent to the Project Management Team (PMT) comprised of Mark Fancey, Craig Johns, and Naomi Zwerdling the week before the TAC meets. The PMT will review and comment on the draft technical memos. Mark Fancey will then e-mail the memos to the TAC on the Friday before the Wednesday TAC meeting.

Marc Butorac asked for comments from the TAC members regarding their expectations, issues, and concerns going into the project.

Naomi Zwerdling noted that she brings ODOT's perspective to the TAC as the Transportation and Growth Management (TGM) program grant manager. She is looking forward to an updated TSP with more current data and is looking forward to the assistance of the TAC in this process.

Steve Oulman from the Oregon Department of Land Conservation and Development (DLCD) explained that the TGM program is a joint program between ODOT and DLCD. Oulman explained that he spent 10 years working in the TGM program before returning to DLCD. He said that the TSP starts with the regulatory construct of the Transportation Planning Rule (TPR), which outlines TSP requirements. Beyond that, an essential issue is the integration of land use and transportation planning. He noted that other objectives include alternative transportation modes, such as pedestrian, bicycling, and transit, all of which are important in college towns.

Mike Danko from the City of Independence said that citizen participation was an essential element of the city's recent TSP update. Open houses were well advertised and well attended.

Danko said that the TSP update should consider the location of a proposed east-west collector described in the Independence TSP. The exact location of the collector is still to be determined. This location can also be incorporated into the Polk County TSP, which is also being updated. He explained that the city is in the process of expanding the UGB, which is currently in the adoption phase. The proposed collector would be constructed as development in this area occurs, but a more exact alignment is needed.

Jeff Donahue from Polk County Fire District #1 noted that his department is concerned with bottlenecks that occur on Highway 51 in either direction from the Fire District station. He said that the Fire District has applied for FEMA grant funds for signaling devices at the Station. He wants to be involved in any discussions of proposed road closures or traffic-calming devices.

Paul Sieber said that he is concerned about traffic. He noted that a bypass was proposed in the mid-1970s, which would have taken traffic from Falls City Highway to the Independence Bridge. He said that he is interested in the issue of traffic calming. Sieber said that Highway 99W is a busy corridor that divides the city. He said that crossing Highway 99W can be a hazard.

Tom Neal from Western Oregon University (WOU) said that the University has just begun the process of updating the 2006 University Master Plan. The Master Plan update process is expected to last two (2) years. He said that during a previous Master Plan update process the idea of closing Monmouth Avenue through campus was proposed. Neal said that this is no longer a viable option and will not be considered. He noted that he rides his bicycle to work and that crossing Highway 99W is an obstacle.

Craig Johns of the City of Monmouth said that he wants to dovetail with the Independence TSP in identifying the proposed route for the new collector. He is looking forward to a list of specific transportation improvement projects that are prioritized.

Mark Fancey of the City of Monmouth said that he is looking forward to an updated document that reflects transportation needs and includes current data. Once the TSP is complete, he will use the document to try to obtain grant funding for specific projects.

Mike Maloney from Central School District said that he is concerned with connectivity issues in the area around Monmouth Elementary School (MES). He explained that Kittleson & Associates had recently completed a study for the School District of alternative means of access in the area around MES.

Maloney aid that the School District would most likely be adding an additional school in Monmouth located west of Highway 99W and another school in the southern portion of Independence. The location of these schools is related to the location of the proposed collector between the two cities.

Marc Butorac noted several other planning projects that will be undertaken within the study area including a speed study on Hoffman Road and the Highway 99W Corridor Plan.

Review draft Statement of Goals and Objectives for the TSP

Marc Butorac reviewed the TSP Goals and Objectives memo. The memo included the goal statement and five (5) objectives from the 1997 TSP. He asked for any modifications.

Steve Oulman suggested adding an objective that recognizes fiscal constraints for transportation improvements. Oulman noted that such a consideration is required for larger cities under the requirements of the TPR. He suggested it would be a good idea for Monmouth to include such an objective.

Next Steps

The next TAC meeting is scheduled for September 17, 2008. (Note: The TAC meeting date was later changed to September 24, 2008.) Technical memos regarding relevant plan, ordinance, and policy review as well as Special Transportation Area and Urban Business Area analysis will be prepared. These will be sent to the TAC the week prior to the meeting.

The meeting adjourned at 3:15 p.m.

Monmouth Transportation Systems Plan
Technical Advisory Committee (TAC)
Meeting #2 – September 24, 2008
Volunteer Hall
Monmouth, Oregon

TAC Members Attending:
Steve Oulman – DLCD
Tom Neal – Western Oregon University
Julene Quinn – Monmouth Planning Commission
Jeff Donahue – Polk County Fire District #1
Paul Sieber – Monmouth Traffic Safety Commission
Naomi Zwerdling – ODOT
Dan Fricke - ODOT
Mark Fancey – City of Monmouth
Craig Johns – City of Monmouth

Consultant Team:
Judith Gray, Kittelson & Associates, Inc.
Marc Butorac – Kittelson & Associates, Inc.
Diego Arguea - Kittelson & Associates, Inc.
Alex Geary - Kittelson & Associates, Inc.
Darci Rudzinski – Angelo Planning Group

Introductions

Plan and Policy Review

Darci Rudzinski of Angelo Planning Group reviewed the technical memorandum regarding the existing planning and policy documents that provide the framework for transportation planning in Monmouth.

The Oregon Transportation Plan (OTP) is the State's comprehensive multi-modal transportation plan. With the 2006 update, the OTP now emphasizes fiscal responsibility in planning for transportation improvements. The OTP provides a framework for prioritizing transportation improvements and funding.

The Oregon Highway Plan (OHP) is an element of the OTP related to state highways. The OTP is a relevant document for local transportation planning due to the location of two state highways in the community. The OHP provides policy direction as well as mobility and spacing standards.

The Oregon Bicycle and Pedestrian Plan is in the process of being updated. If the update is completed this year, the TSP will be updated to ensure that it does not conflict with the Bicycle and Pedestrian Plan.

Ms. Rudzinski mentioned several regional planning documents including the Salem-Keizer Transportation Study (SKATS) and the Specialized Transit Plan for Marion and Polk Counties. She noted that Monmouth is not part of the SKATS area, but the SKATS plan does address transit service for the broader area. The Specialized Transit Plan was prepared to qualify for Federal transit funds.

Ms. Rudzinski noted that the memorandum also reviews the Polk County TSP, which is currently also being updated. She noted the importance of this document as the City's and County's transportation systems must be coordinated. For example, County roads, specifically Hoffman Road and Talmadge

Road, are located within the Monmouth urban area. Julene Quinn mentioned that a number of school children use Talmadge Road, which has only a narrow shoulder available for pedestrians.
Ms. Rudzinski said that the WOU Master Plan is another local planning document that informs the TSP update. Tom Neal said that the University has just begun the process of updating the 2006 University Master Plan. The Master Plan update process is expected to last two (2) years. The Plan addresses campus circulation and transportation facilities on campus, most notably Monmouth Avenue.

Other local planning documents discussed that are important to the TSP update process include the Ash Creek Trail Master Plan, the Safe Routes to School Report, and the recently updated Independence TSP.

Ms. Rudzinski then reviewed the analysis of the Monmouth Zoning and Development Ordinance standards versus the requirements of the Transportation Planning Rule. She noted that the local street standards need to include a narrow street option. Julene Quinn said that narrow streets can cause problems even with restricted parking. Ms. Rudzinski said that such an option may not be appropriate in some areas, but that it provides another local street option for developers. Jeff Donahue said the Fire Code provides minimum width standards for fire lanes and that narrow streets can be used successfully in conjunction with restricted onstreet parking and sprinklers in buildings.

Darci Rudzinski explained that the technical memorandum contains recommendations at this point. No ordinance amendments have yet been developed. TAC members are to provide any comments on the memorandum to Mark Fancey.

Special Designations Report

Judith Gray explained the Special Transportation Area (STA) and Urban Business Area (UBA) designations. She said that the STA designation prioritizes access, while the UBA designation tries to balance mobility and access. The STA designation is typically applied within downtown areas located on a state highway. The report recommends that an STA designation be applied to the area of Main Street, west of Highway 99W. The City can apply for this designation at any time, however the timing is right during the TSP update. The Oregon Transportation Commission (OTC) needs to approve the request.

The consensus of the TAC is that the City should pursue the STA designation for the portion of Main Street west of the Highway 99W intersection and extending west to Monmouth Avenue.

Judith Gray mentioned that the UBA designation can only be applied to potions of state highways running through commercial-zoned areas with speeds in excess of 35 mph. She said that most of the commercial area on Highway 99W has a posted speed of 30 mph, so the UBA designation would not apply in this area. Naomi Zwerdling said that ODOT is in the process of developing a facility plan for Highway 99W and that some of the UBA concepts could possibly be included in that plan. Dan Fricke said that ODOT can work with the City during the facility plan process to incorporate UBA concepts into the plan without applying the actual designation.

Judith Gray said that a STA designation was also considered for the commercial-zoned portion of Highway 51 near the S-curves area. She said that the area does not have the appearance of a traditional downtown where such designations are typically applied, however there is commercial zoning on one side of Highway 51 and a school-crossing zone. She noted that the STA designation places a priority on pedestrian mobility. Dan Fricke said the STA designation would be a tough sell for this area, because it does not have the traditional downtown appearance. Darci Rudzinski suggested that the City may wish to one day rezone that area for commercial uses, while developing an access management plan and commercial design standards that fit well with residential uses in the area. The consensus of the TAC was not to seek the STA designation for this portion of Highway 51 at this time.

Next Steps

The next TAC meeting is scheduled for October 15, 2008. At that time, the TAC will review existing conditions and deficiencies and future needs. The first TSP Open House is scheduled for 6:00 PM to 8 PM that evening.

The meeting adjourned at 3:38 p.m.

Monmouth Transportation Systems Plan
Technical Advisory Committee (TAC)
Meeting #3 – October 15, 2008
Volunteer Hall
Monmouth, Oregon

TAC Members Attending:
Tom Neal – Western Oregon University
Julene Quinn – Monmouth Planning Commission
Jeff Donahue – Polk County Fire District #1
Paul Sieber – Monmouth Traffic Safety Commission
Naomi Zwerdling – ODOT
Dan Fricke – ODOT
Eric Berry – Polk County
Mark Fancey – City of Monmouth
Craig Johns – City of Monmouth
Shannon Grosse – City of Monmouth

Consultant Team:
Judith Gray, Kittelson & Associates, Inc.
Marc Butorac – Kittelson & Associates, Inc.
Diego Arguea - Kittelson & Associates, Inc.

The meeting began at 2:07 PM.

Introductions

Review of Transportation Issues and Priorities

Judith Gray summarized existing conditions in the local transportation system. She also identified several deficiencies in the system. These include irregular geometry at intersections at the S-curves on Highway 51 and significant gaps in some portions of the pedestrian network.

In looking at the street network, Ms. Gray noted several terms used to describe the function of intersections or street segments. These include volume to capacity ratio (v/c) used by ODOT and Level of Service (LOS). She explained that currently, all intersections in the city meet LOS standard E or better, with the exception of the eastbound approach at the Highway 99W/Madrona Street intersection where the left-turn movement is LOS F.

Judith Gray explained that the analysis included whether left-turn movements on Highway 99W and Highway 51 met ODOT warrants for dedicated left-turn lanes. She said that the intersections on Highway 99W north of the Highway 99W/Highway 51 intersection currently met these left-turn warrants. She also noted that all four approaches to the Highway 99W/Highway 51 intersection have queuing problems. Currently, intersections on Highway 51 do not meet left-turn warrants.

Ms. Gray explained that 2030 traffic volumes were developed using estimates from City staff regarding future employment and housing projections. Using these projections, a number of intersections will fail by 2030. In addition, intersections on Highway 51 will meet left-turn warrants

The TAC reviewed a map showing future collector and arterial street extensions and improvements within Monmouth. The Committee was asked to identify some future priorities for improvements. Jeff Donahue

mentioned adding signals near the Fire Station to aid fire trucks entering Highway 51. Eric Berry noted straightening the S-Curves and creating a one-way couplet at Jackson Street and Highway 51. Paul Sieber mentioned eliminating the extension of Gwinn Street to the west connecting to Highway 51 in the southwest portion of the community. Tom Neal and Mark Fancey concurred with this idea. Paul Sieber suggested moving a proposed signal from Gwinn Street/Highway 99W intersection to Ash Creek Drive/Highway 99W intersection. Tom Neal concurred with this suggestion and noted the need for a collector street around the western edge of the WOU campus to connect with Riddle Road and Hoffman Road. Paul Sieber concurred with this idea.

Dan Fricke said that the location for signals should be chosen wisely. In all likelihood, only one additional signal would be placed on Highway 99W through town. Any signal would need to be at least ¼ mile from the existing signal at Hoffman Road.

Marc Butorac asked the TAC to consider development of a north-south collector that would include Edwards Road and Hogan Road and extend as far north as Hoffman Road. This collector could be constructed at some point after the City has replaced the sewage lagoon system with a smaller treatment facility. The TAC was receptive to this concept.

The TAC then considered future bicycle and pedestrian improvements. Paul Sieber noted bicycle and pedestrian improvements on Hoffman Road. Tom Neal mentioned additional sidewalks in the northeast quadrant of the city near Monmouth Elementary School and safer crossing on Highway 99W.

Naomi Zwerdling suggested that the map include the proposed location for the Ash Creek Trail. Julene Quinn mentioned that a number of school children use Talmadge Road, which has only a narrow shoulder available for pedestrians and that proposed improvements should include a sidewalk on the east side of Talmadge Road. She also noted the problems with lunchtime pedestrian traffic from the schools on Highway 51.

Mark Fancey mentioned the Ash Creek Trail, sidewalks on Clay Street near downtown, and sidewalks along Highway 51 west of the S-curves. Naomi Zwerdling also mentioned the Ash Creek Trail and the Safe Routes to School report. Dan Fricke noted several state highway sections that lack sidewalks. Craig Johns asked that the map include the location of city parks. The City is planning to construct sidewalks to provide improved access to a number of parks.

The TAC then reviewed existing and proposed cross-section design standards. The cross-section for Major Arterials, such as Highway 99W, would be changed from four (4) travel lanes to two (2) travel lanes with a 14-foot wide center-turn lane. Marc Butorac explained that the ODOT standard width for center turn lanes is 16 feet, but that a deviation to allow a 14-feet turn lane could be requested. Julene Quinn asked if a four-lane cross-section on Highway 99W would ever be a possibility. Dan Fricke responded that it would be extremely doubtful.

Julene Quinn asked about providing on-street parking on collector streets. Marc Butorac said that the City could adopt both Major Collector and Minor Collector designations, with parking allowed on Minor Collectors.

Julene Quinn said that the "skinny street" option is not viable because the roadway is too narrow. Marc Butorac responded that such a design slows traffic and reduces maintenance costs. Jeff Donahue said that he has no problems with the "skinny street" option as he was used to such standards when working in Las Vegas.

Next Steps

The first TSP Open House is scheduled for October 15, 2008 from 6:00 PM to 8 PM at the Monmouth Public Library. Judith Gray encouraged TAC members to attend. She said that the Open House would be structured with various stations showing maps and data.

The next TAC meeting is scheduled for December 10, 2008. At that time, the TAC will review two new reports: Transportation System Alternatives Analysis and Transportation Financing Program.

The meeting adjourned at 3:46 p.m.

Monmouth Transportation Systems Plan
Technical Advisory Committee (TAC)
Meeting #4 – December 10, 2008
Volunteer Hall
Monmouth, Oregon

TAC Members Attending:
Tom Neal – Western Oregon University
Julene Quinn – Monmouth Planning Commission
Paul Sieber – Monmouth Traffic Safety Commission
Naomi Zwerdling – ODOT
Dan Fricke – ODOT
Mike Danko – City of Independence
Steve Oulman - DLCD
Mark Fancey – City of Monmouth
Craig Johns – City of Monmouth
Shannon Grosse – City of Monmouth

Consultant Team:
Judith Gray, Kittelson & Associates, Inc.
Marc Butorac – Kittelson & Associates, Inc.
Diego Arguea - Kittelson & Associates, Inc.

The meeting began at 2:04 PM.

Introductions

Meeting Objectives

- Final preferred projects
- Project priorities and timeline

Review Tech Memo #3: Alternatives Analysis

Judith Gray explained that the purpose for the meeting was to receive TAC comments on the list of recommended transportation projects included in Tech Memo #3: Alternatives Analysis. The current list of recommendations will be narrowed down for inclusion in the updated TSP.

Ms. Gray explained that projects were placed in one of three possible timelines. Near-term projects are those that can be completed in the next five (5) years. Long-term projects are those that can be completed in six (6) to 20 years. Future Vision projects include those projects that could be completed outside of the 20-year planning horizon.

Paul Sieber asked if there was a mechanism to protect planned roadways. Craig Johns said that through the land use process, the City would require dedication of right-of-way for planned streets.

Review of improvement recommendations and priorities

Judith Gray reviewed the proposed functional classifications and proposed changes. These include both major and minor collector streets and the designation of a Special Transportation Area for the portion of

Main Street (OR 51) located west of OR 99W and extending west to Monmouth Avenue. Parking would be limited on major collector streets, but could be granted an exception at the discretion of the City.

Judith Gray reviewed the proposed street design standards and cross-sections. The proposed cross-sections include a "skinny" street option for local streets. Steve Oulman noted the requirement of the Transportation Planning Rule to reduce pavement width. The proposed Zoning Ordinance amendments associated with the TSP update will include clear standards for allowance of skinny streets. Discussion ensued regarding on street parking on collector streets.

Judith Gray reviewed the planned signalization improvements. The proposed signals on OR 99W l at Church Street and Gwinn Street are proposed as short-term projects. Dan Fricke noted that the Church Street signal location makes more sense than placing a signal further south at Madrona Street and OR 99W.

The TAC reviewed proposed road extensions and new roadways. Several new collector street locations were included in the northern section of the UGB. Several changes to the initial draft memorandum were noted, including elimination of the Alberta Avenue extension to Hogan Road, eliminating the Warren Street extension north, and eliminating road extensions outside of the Monmouth UGB. Tom Neal noted that the draft did not include a planned local street improvement between Stadium Drive and Warren Street.

The TAC discussed the Future Vision projects including the construction of Hogan Road as a public street and the eventual extension of Ash Creek Drive. The TAC discussed interim street standards for Ash Creek Drive that would provide for a sidewalk and bike lane on the north side and a multi-use path on the south side.

The TAC reviewed proposed pedestrian improvements. A raised median is proposed as part of the upcoming pedestrian improvements on OR 51 at the S-curves. Judith Gray indicated that further study is needed around the Madrona Street and OR 99W intersection to determine the preferred crossing location and design.

Judith Gray explained that the project team reviewed ODOT guidelines recommend including bike lanes on streets with minimum 3,000 ADT. She noted Monmouth Avenue as a street with sufficient vehicle trips to merit a dedicated bike lane. She explained that many of the proposed bike improvements are included as part of larger road construction projects.

Judith Gray said that due to the city's population size, no transit plan is needed. She explained that one way to improve service is to increase the number and frequency of trips. Another way is to improve service with additional non-stop routes. CARTS has indicated that there is time available to add another stop on the Polk County route. Craig Johns noted that the City has recently installed five (5) new bus shelters. Marc Butorac said that an additional stop near the east City Limits on OR 51 may b a good location once the commercial development at the S-curves is constructed.

Next Steps

The next TAC meeting is scheduled for January 21, 2009. At that time, TAC members will review Technical Memorandum #4 - Transportation Financing and Draft TSP Update. The second TSP Open House is scheduled for that evening. Judith Gray encouraged TAC members to attend the Open House.

The meeting adjourned at 3:54 p.m.

Monmouth Transportation Systems Plan
Technical Advisory Committee (TAC)
Meeting #5 – February 4, 2009
Volunteer Hall
Monmouth, Oregon

TAC Members Attending:
Julene Quinn – Monmouth Planning Commission
Paul Sieber – Monmouth Traffic Safety Commission
Naomi Zwerdling – ODOT
Steve Oulman – DLCD
Mike Maloney – Central School District
Mark Fancey – City of Monmouth
Craig Johns – City of Monmouth
Shannon Grosse – City of Monmouth

Consultant Team:
Judith Gray, Kittelson & Associates, Inc.
Marc Butorac – Kittelson & Associates, Inc.
Diego Arguea - Kittelson & Associates, Inc.
Don Ganer – Don Ganer & Associates, Inc.

The meeting began at 2:09 PM.

Introductions

Judith Gray said that the final version of Tech Memo #3 is complete. Several errors regarding figures were fixed. She explained that the draft TSP update section had been provided to TAC members. It includes two parts: the updated system plan description and prospectus sheets for the planned projects. She noted that a draft financing memo had also been sent to the TAC.

Ms. Gray said that the second TSP Open House would be held later this evening from 6 to 8PM in Volunteer Hall. She encouraged TAC members to attend.

Ms. Gray reviewed the street functional classifications. OR 99W and OR 51 remain arterial streets in the plan. She noted that Hoffman Road has also been added as an arterial street consistent with the Polk County TSP.

Judith Gray noted two letters of concern. The first is regarding land currently in farm use near the western extension of Ash Creek Drive. The owner has expressed concern about wetlands in the area that could be impacted by future development. Mark Fancey said he has spoken with the property owner and although the land has been placed in a conservation easement, the owner has retained the ability to create lots and sell them. With some future development possible, the extension of Ash Creek Drive could eventually be constructed.

The second letter is from Mike Maloney of Central School regarding the location of Collector Street A and Collector Street B; both located between Hogan Road and 16th Street. Collector A would bisect the School District's property near Ash Creek Intermediate School. Collector B would be located near the south property line of the School District property and would impact a soon to be constructed athletic practice field. After discussion, the consensus of the TAC is to remove Collector Street A. Regarding

Collector Street B it may be possible to shift the location of the athletic field north and away from the street location.

The TAC then reviewed changes to street cross-sections. The Minor Collector standards were changed to show curb extensions. The Major Collector standard was changed to allow parking on such streets at the discretion of the Public Works Director. Ash Creek Drive is designed as a Major Collector with special standards that would provide for a sidewalk and bike lane on the north side and a multi-use path on the south side.

Julene Quinn asked the TAC to consider whether Warren Street (Helmick Road) should be considered a Major Collector. Discussion ensued regarding improving the street and providing offstreet parking. Craig Johns said that on street parking is a problem in the area, which could be worsened if the street were upgraded to a Major Collector. The TAC did not recommend any changes to the proposed functional classification.

No additional changes were made to the list of planned bike and pedestrian improvements.

Draft Financing Plan

Don Ganer presented the draft financing plan. He reviewed historic funding levels for street improvements and sources of funding. Ganer said that using historic trends in Monmouth, approximately $16.8 million in revenue would be available for street improvements through 2030. The cost for the capital improvements listed in the draft TSP is approximately $52 million.

Mr. Ganer provided a handout showing various options for calculating the Streets System Development Charge (SDC). Using 100 percent of the eligible costs for the projects listed in the updated TSP would require a $21,202 SDC per single-family residential unit. Other options discussed included: eliminating state highway projects, eliminating state highway projects and stand alone bike and pedestrian projects, reducing the SDC-eligible portion of all projects uniformly, developing some combination of SDC–eligible percentages for city projects and state highway projects, or reducing the overall number of projects included in the TSP.

Marc Butorac said that many cities develop an SDC by eliminating SDC funding for state highway projects and developing a uniform rate reduction for SDCs on other projects, such as 30 percent of each project. This keeps all local projects SDC-eligible and allows funds to be spent throughout the system. Don Ganer noted that keeping state highway projects SDC-eligible at some level helps to develop funding for such projects and demonstrates a local commitment to these projects. He did not recommend eliminating state highway projects and stand-alone bike and pedestrian projects as a means of reaching a reasonable SDC.

Julene Quinn said that the best approach would be to pick a number that seems reasonable for the SDC, such as $3,000 per single family residential unit. Marc Butorac noted the example of Washington County where the SDC number selected seemed reasonable at the time, but now does not provide sufficient funding.

Don Ganer described the SDC adoption process, which includes 60-day notice and development of a Capital Improvements Program list of projects. Craig Johns said that the SDC rate would be a City Council decision. He said that the Council will want to know more about what other jurisdictions are doing before reaching a decision.

Next Steps

Judith Gray encouraged TAC members to attend the Open House. She said that the Open House would be structured with various stations showing maps and data.

The next TAC meeting is scheduled for March 4, 2009. At that time, TAC members will review proposed Zoning and Development Ordinance amendments intended to the implement the TSP.

The meeting adjourned at 3:29 p.m.

Monmouth Transportation Systems Plan
Technical Advisory Committee (TAC)
Meeting #6 – March 4, 2009
Volunteer Hall
Monmouth, Oregon

TAC Members Attending:
Paul Sieber – Monmouth Traffic Safety Commission
Naomi Zwerdling – ODOT
Steve Oulman – DLCD
Tom Neal - WOU
Mark Fancey – City of Monmouth
Craig Johns – City of Monmouth
Shannon Grosse – City of Monmouth

Consultant Team:
Judith Gray, Kittelson & Associates, Inc.
Marc Butorac – Kittelson & Associates, Inc.
Darci Rudzinski – Angelo Planning Group

The meeting began at 2:03 PM.

Review Revised Draft TSP Update

Judith Gray reviewed some changes to the draft TSP. These included removing Collector A north of Ash Creek School, the inclusion of a pedestrian crossing study near the Highway 51/Atwater Street Intersection, a new section on Traffic Impact Analyses, and refinement of several project timelines by City staff.

Marc Butorac explained that originally the Tech Memos were to be converted to chapters in the TSP. The consultants instead have gone to a more user-friendly approach. He gave as an example, Tech Memo 2, which translates into three chapters in the TSP. Butorac noted that the Tech Memos would be included in their entirety in the TSP appendices.

Draft Ordinances Amendments Review

Darci Rudzinski reviewed her report describing proposed amendments to the Monmouth Zoning and Development Ordinance. She said that some of the amendments are taken from the TGM Model Code.

Ms. Rudzinski said that the proposed amendments would make transportation projects identified in the TSP permitted uses. Discussion ensued as to whether such uses are permitted if Goal 5 conflicts arose.

Ms. Rudzinski said that the amendments include notification to ODOT, Polk County, and other agencies as applicable with coordinated review. She said that Dan Fricke would be providing additional comments on the proposed amendments. Discussion ensued regarding providing notice to ODOT for projects located 250 feet or less from a state highway.

Mark Fancey said that he would include the TSP tables showing street widths, access spacing, etc. in the amendments to the Zoning and Development Ordinance. The TAC reviewed the Traffic Impact Analysis requirements that are included in the amendments. Ms. Rudzinski noted the new language regarding pedestrian circulation for commercial and multi-family developments. Discussion ensued regarding the

size (number of units) in multi-family developments that would require installing pedestrian circulation amenities.

Discussion ensued regarding "skinny street" local street standards and the minimum number of vehicle trips that would which would necessitate constructing wider streets. Mark Fancey said that he would look at the standards recently adopted by Independence.

Next Steps

Judith Gray said that the consultants would be presenting the TSP in work session with the Planning Commission this evening. She said that this is last TAC meeting and she thanked the TAC members for their participation.

The meeting adjourned at 3:15 p.m.

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 503.228.5230 503.273.8169

MEMORANDUM

Date: February 19, 2009 Project #: 9105

To: Craig Johns, City of Monmouth Public Works Director
Mark Fancey, City of Monmouth Community Development Director
Naomi Zwerdling, ODOT

From: Kittelson & Associates, Inc.
Project: City of Monmouth Transportation System Plan Update
Subject: Open House #1

The purpose of this memorandum is to summarize the first Open House of the public involvement process for the Monmouth Transportation System Plan (TSP) Update.

The first Monmouth TSP Open House was hosted by the Project Management Team and the Technical Advisory Committee (TAC) on October 15, 2008, at the Monmouth Public Library from 6:00 p.m. to 8:00 p.m. The Open House followed the third TAC meeting (earlier that afternoon) in which existing conditions and future transportation network deficiencies were presented and discussed.

The purpose of this first Open House was to engage the local community in the development of the 20-year transportation plan that would become the TSP Update. Advertising for Open House #1 was conducted with an insert flyer in the utility bills of every resident (attached), as well as notices in the local newspaper and announcements on the city's web site.

The Monmouth Public Library was set up with presentation boards documenting each step of the TSP development at different stations. Residents were asked to sign in to document public participation. Residents were encouraged to ask questions, comment on any issues in existing conditions, and identify concerns and priorities regarding the future transportation system. This was facilitated by use of comment sheets provided to Open House participants upon arrival. The sign-in sheet and a sample comments sheet are attached.

The Open House included a semi-formal presentation, outlining the need for a TSP update, summarizing the TSP development process, and describing the value of public involvement.

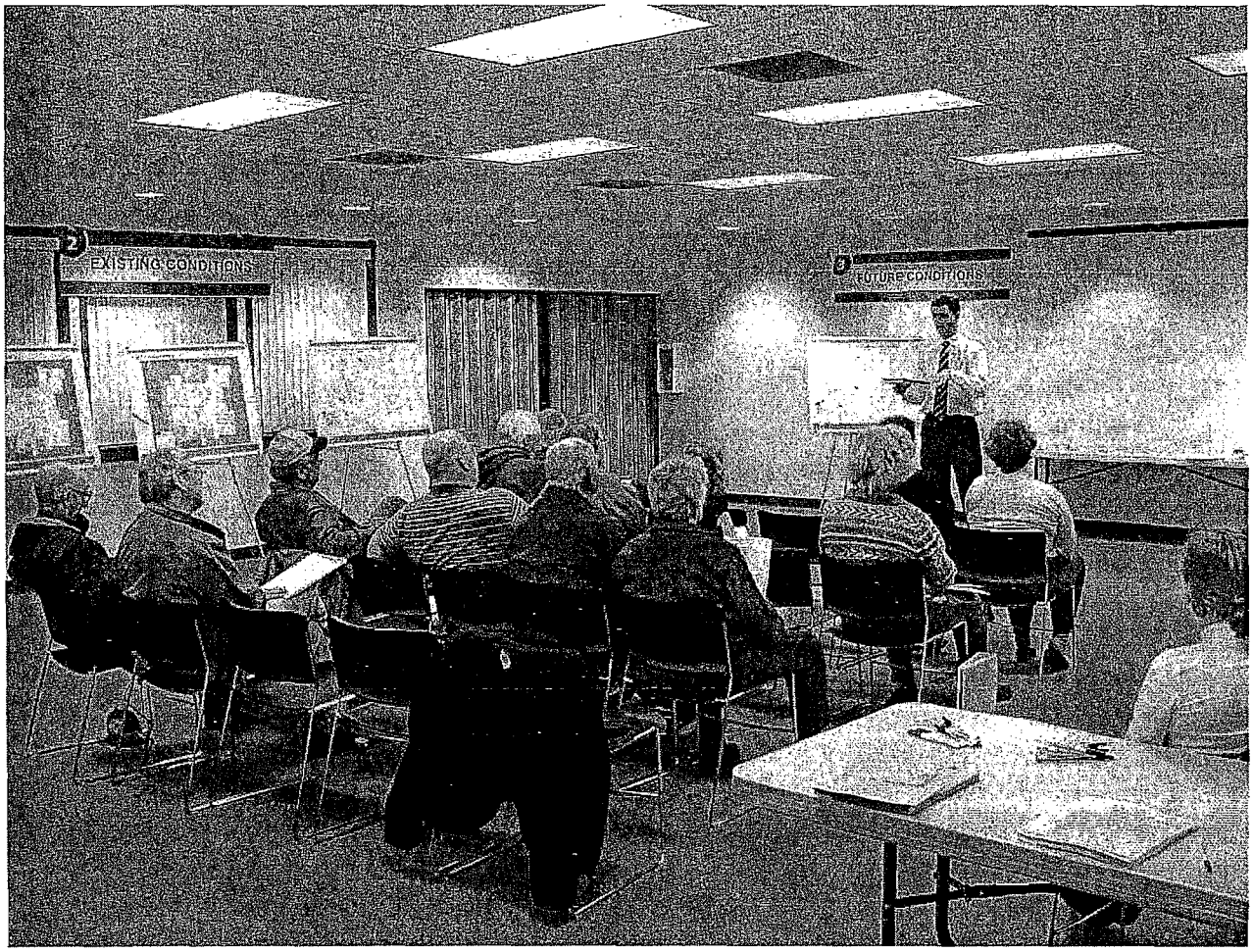


Figure 1
Marc Butorac of Kittelson & Associates, Inc. provides an overview of the TSP process to Monmouth Residents during Open House #1

At the conclusion of the Open House, any comments written directly on presentation boards and on comment sheets were collected for review. Additional comment sheets were received in the mail for one week following the Open House in order to allow residents who were not in attendance an opportunity to provide comments. These were provided to Kittelson & Associates, Inc. for review.

A total of thirty-three comment sheets were submitted by residents and reviewed by Kittelson & Associates, Inc. for the development of the TSP. Comments ranged from issues relating to traffic operations deficiencies to pedestrian and bicycle needs. Other comments provided insight to streetscape aesthetics and desired future visions for Monmouth. All comments were addressed in the alternatives analysis and final plan development.

Attachments: Advertisement Flyer, Sign-in Sheet, Sample Comments Sheet, Sample Presentation Boards

City of Monmouth
Transportation Plan Open House
October 15, 2008
Monmouth Library
6pm - 8pm

The City of Monmouth is currently updating the Transportation System Plan.

Your input and ideas are needed to help the city plan for the future of Monmouth's transportation system.

Transportation System Plan Update - Open House Sign-In Sheet
October 15, 2008

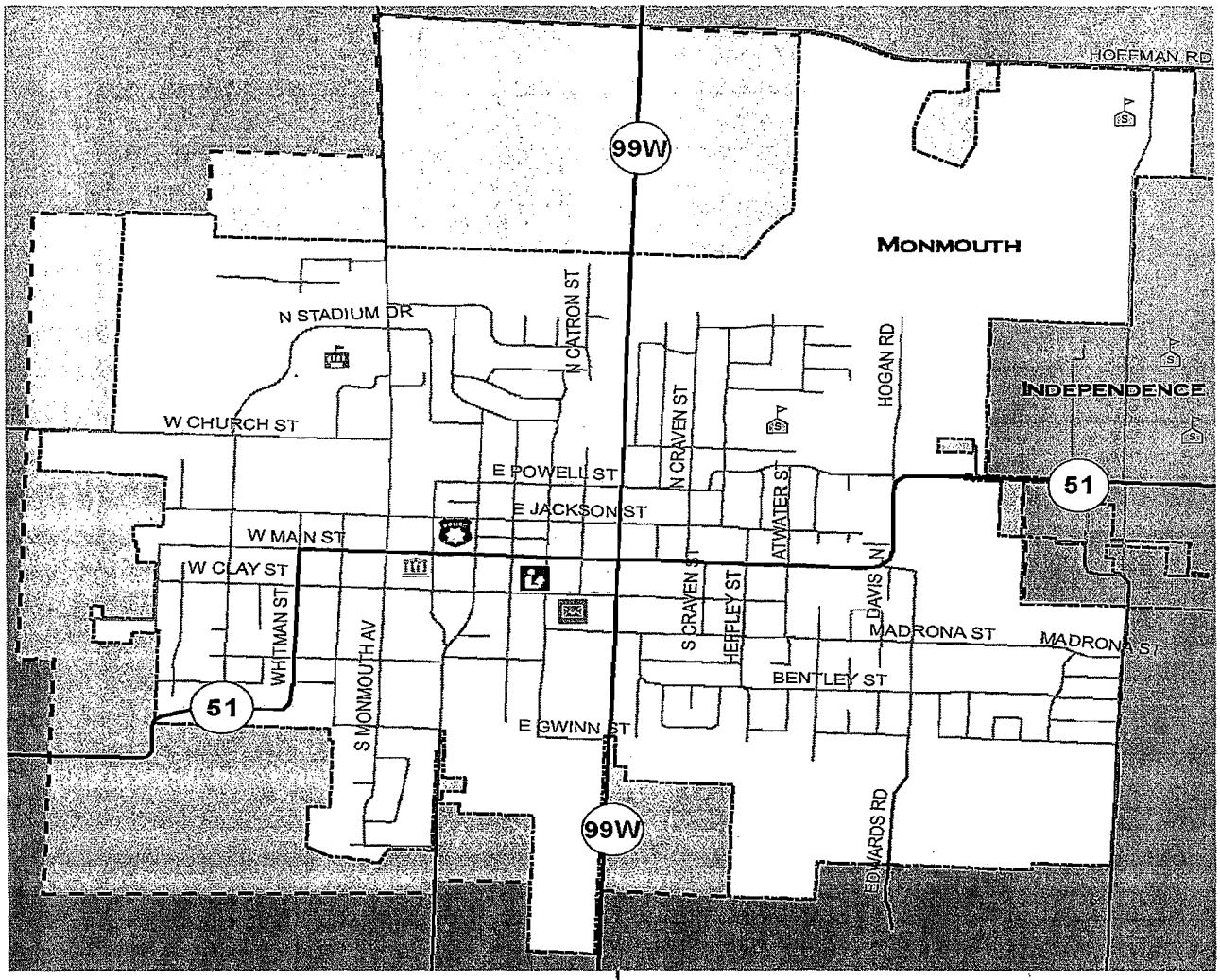
Name	Address	Telephone or Email
Brian Sparks	870 S College	838-3517
Margaret & Morris Johansen	271 Walnut Dr	8-3995
Paul Scott	385 College St S	606-2565
Melanie Ball	311 Cherry Ln. S	mel_art@ munetfiber.com
Madeline Hall	879 N. Monmouth Ave	838-2995
Bill Foshee		838-0678
Don BARRY	136 HEFLEY St. S.	838-6489
STEVE MILLIGAN	266 CLAY ST W	249-1373
Virginia Mytie	271 Knox St - Monmouth	5035606252
Laura ventura	297 Main St. #3	973388-4810
Maria Nesbit	449 ST-Mon-OR-97361	503-606-2224
John Cheever	219 Ackerman St W	503-838-1785
Scott McArthur	520 S. College St	(503) 838-2430
Carol Harding	234 JACOBSON WAY S	503, 838, 2313
CRAIG JOHNS	664 WARREN ST S.	503-751-0179
Shannan Grasse	Willamina	shantay08@gmail.com

Transportation System Plan Update - Open House Sign-In Sheet
October 15, 2008

Name	Address	Telephone or Email
Mary May	1549 Berkeley Ln Monmouth	503-838-4616
Kyle Dasser	234 Jacobson Way S.	838-2313

CITY OF MONMOUTH TRANSPORTATION SYSTEM PLAN UPDATE

To assist the City in identifying existing and future transportation deficiencies/issues and potential solutions to address them, we would request that you identify below a place on the map and identify it with the corresponding number you are describing.



Transportation Deficiency	Your Suggested Improvement or Approach
1.	
2.	
3.	

Please provide you name in case we need to contact you for clarification of your comments.

Your Name: _____

Phone: _____

Drop off or send your comments by Oct. 22
To: Mark Fancey, Community Development Dir.
151 Main Street West
Monmouth, OR 97361
(503) 751-0147

WELCOME

To the City of Monmouth
Transportation System Plan Update

Open House

CITY OF MONMOUTH

OREGON DEPARTMENT OF TRANSPORTATION

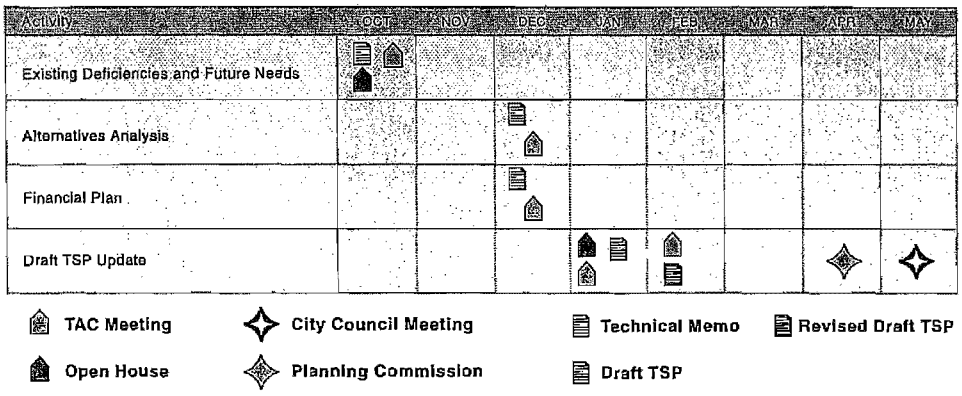
KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING/PLANNING

PROJECT GOAL

To provide for and encourage a safe, convenient and economical transportation system, which includes adequate accessibility to all planned land uses, alternatives to the automobile, and good infrastructure maintenance.

PROJECT OBJECTIVES

1. Monmouth will develop and maintain a transportation system plan that encourages alternatives to, and reduces reliance upon the automobile.
2. Monmouth will develop land use regulations and subdivision ordinances that allow needed transportation facilities and improvements and encourage development patterns that enhance opportunities for pedestrian travel, bicycle travel, and forms of public transportation.
3. Monmouth shall strive to coordinate planning actions, provide transportation services and implement the ODOT State Transportation Improvement Program (STIP) with affected jurisdictions in order to best serve the city's residents.
4. Monmouth shall utilize the Transportation System Plan for guidance in all land use planning and project development activities.
5. Monmouth shall protect transportation facilities, corridors, and sites for the functions identified in this plan.
6. Monmouth will plan its transportation system recognizing the fiscal constraints in constructing and maintaining transportation facilities; some transportation issues may be most economically addressed through actions other than those that add capacity to the roadway system.



MAJOR TSP ELEMENTS

Functional Road Map

Bicycle System

Pedestrian System

Transit Service

Access Management

Roadway Design Standards

Capital Improvement Projects & Priorities

Transportation Finance Plan

PROJECT TEAM

Project Management Team

Mark Fancey, City of Monmouth

Craig Johns, City of Monmouth

Naomi Zwerdling, ODOT

Consultant Team

Judith Gray, Kittelson & Associates, Inc.

Diego Arguea, Kittelson & Associates, Inc.

Marc Butorac, Kittelson & Associates, Inc.

Darci E. A. Rudzinski, A.I.C.P., Angelo Planning Group

Don Ganer, Don Ganer & Associates, Inc.

Technical Advisory Committee

Mike Danko, City of Independence

Jeff Donahue, Fire Marshall, Polk County

Dan Fricke, ODOT

Ken Husby, Polk County

Mike Maloney, Central School District 13J

Tom Neal, Western Oregon University

Steven M. Oulman, DLCD

Paul Sieber, Traffic Safety Committee

Julene Quinn, Planning Commission

Dorothy J. Upton, ODOT

KITTELSON & ASSOCIATES, INC.
TRANSPORTATION ENGINEERING / PLANNING
610 SW Alder Street, Suite 700, Portland, OR 97205 503.228.5230 F 503.273.8169

MEMORANDUM

Date: February 19, 2009 Project #: 9105

To: Craig Johns, City of Monmouth Public Works Director
Mark Fancey, City of Monmouth Community Development Director
Naomi Zwerdling, ODOT

From: Kittelson & Associates, Inc.
Project: City of Monmouth Transportation System Plan Update
Subject: Open House #2

This memorandum summarizes the second Open House of the public involvement process for the Monmouth Transportation System Plan (TSP) Update.

The second Monmouth TSP Open House was hosted by the Project Management Team and the Technical Advisory Committee (TAC) on February 4, 2009 at Volunteer Hall in Monmouth from 6:00 p.m. to 8:00 p.m. The Open House followed the fifth TAC meeting (earlier that afternoon) in which the implementation of the alternatives analysis and the finance plan was discussed, and final direction for the TSP draft was obtained from the TAC.

The purpose of this second Open House was to continue to engage the local community in the development of the 20-year transportation plan that would become the TSP Update. Advertising for Open House #2 was conducted with an insert flyer in the utility bills of every resident, as well as notices in the local newspaper and announcements on the city's web site.

The City of Monmouth Volunteer Hall was set up with presentation boards documenting each step of the TSP development at different stations, similar to Open House #1. An additional station that included the transportation system plan elements was set up for feedback and review from the public attendees to the Open House. Residents were again asked to sign in to document public participation. Residents were encouraged to ask questions and comment on the transportation system plan elements as well as make comments on the physical document. The TSP (Chapter 7) had been posted on the City's website for public viewing prior to the Open House, and was made available for one week following the Open House. Similar to Open House #1, a comment sheet was provided to Open House participants upon arrival. The sign-in sheet and a sample comments sheet are attached.

During the Open House, a semi-formal question-answer session was provided for the group. A brief overview of the transportation system plan elements was followed by several questions related to process, project assumptions, and funding for projects.

Figure 1
Marc Butorac of Kittelson & Associates, Inc. provides a question and answer session for the TSP process to Monmouth Residents during Open House #2.

At the conclusion of the Open House, any comments written directly on presentation boards and on comment sheets were collected for review. Any additional comments were received in the mail for one week following the Open House and were provided those to Kittelson & Associates, Inc. for review.

The majority of questions and comments were addressed during the question-answer session and throughout the Open House. In addition, three written comments were received following the Open House. Two of these comments had been addressed previously in the TSP and the third recommended a valuable alternative for a pedestrian crossing that was added to the final TSP recommendations.

Attachments: Sign-in Sheet, Sample Comments Sheet, Sample Presentation Boards

Appendix B
Transportation
Improvement Project
Prospectus Sheets

Project #: R-08	**OR 99W/Church Street southbound left-turn lane**

Description: Construct southbound left turn lane on OR 99W at Church Street.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

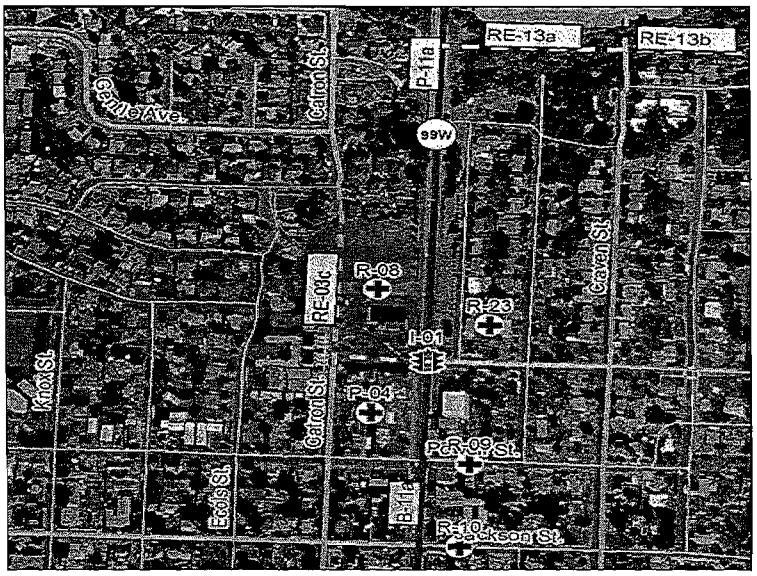
Estimated Construction and Engineering Cost: $320,000

Approximate Lineal Feet: 650

Cost per Lineal Foot: $492

Purpose: A center turn lane would improve capacity, is warranted under existing conditions, and is consistent with the recommended cross section standards for a Major Arterial.

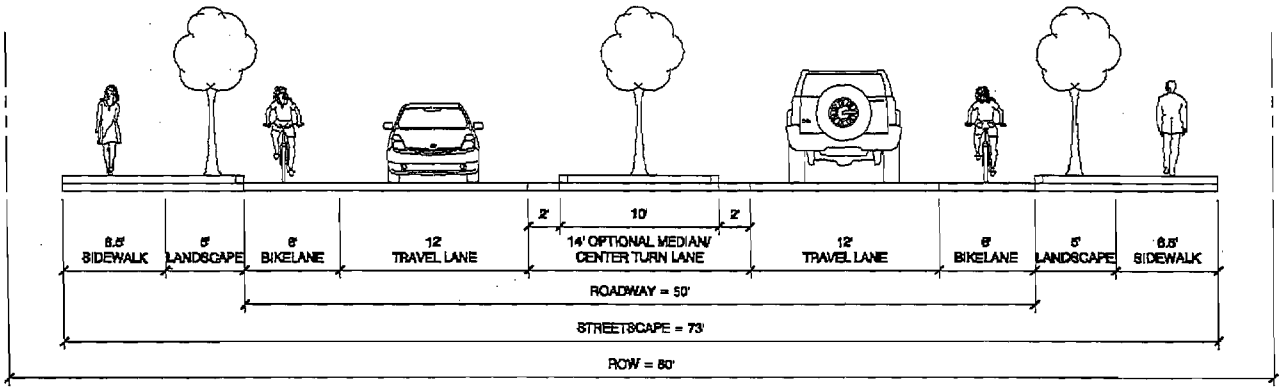
Project Vicinity Map:



Related Projects:

R-02, P-04

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-14	**OR 99W/Clay Street widening of eastbound approach**

Description: Widen eastbound approach to improve geometry.

Location: OR 99W/Clay Street intersection eastbound approach.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $50,000

Approximate Lineal Feet: 200

Cost per Lineal Foot: $250

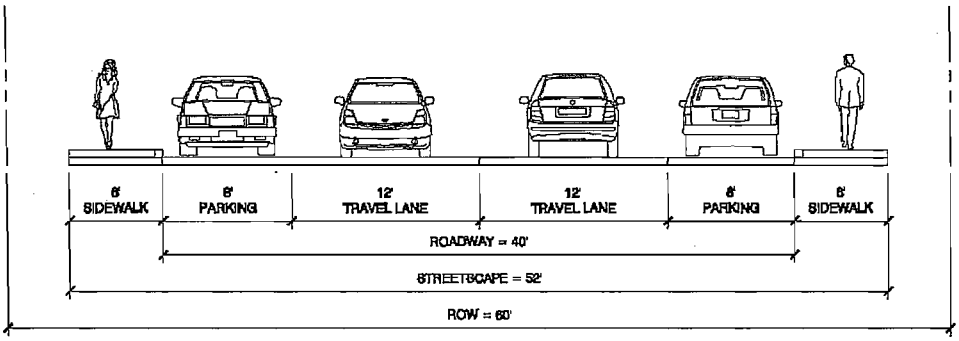
Purpose: The existing eastbound approach lanes are narrower than design standards. The City currently owns the needed right-of-way to widen the lanes to standards.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-16	**99W/Madrona Street eastbound left-turn lane**

Description: Construct eastbound left turn lane to improve eastbound queuing.

Location: OR 99W/M adtona Street intersection eastbound approach.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $50,000
Approximate Lineal Feet: 500
Cost per Lineal Foot: $100

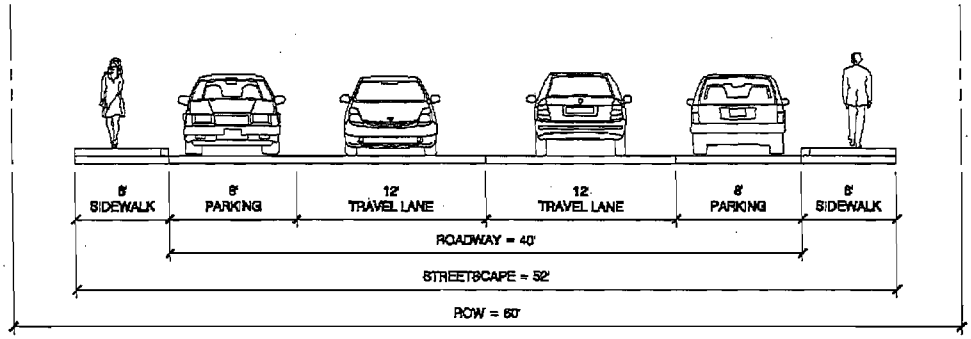
Purpose: Improves eastbound queuing and operations.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-18	**Gwinn Street full street improvements**

Description: Improve existing gravel roadway cross-section to street standards from Warren Street to College Street.

Location: Gwinn Street between Warren Street and College Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $120,000

Approximate Lineal Feet: 950

Cost per Lineal Foot: $126

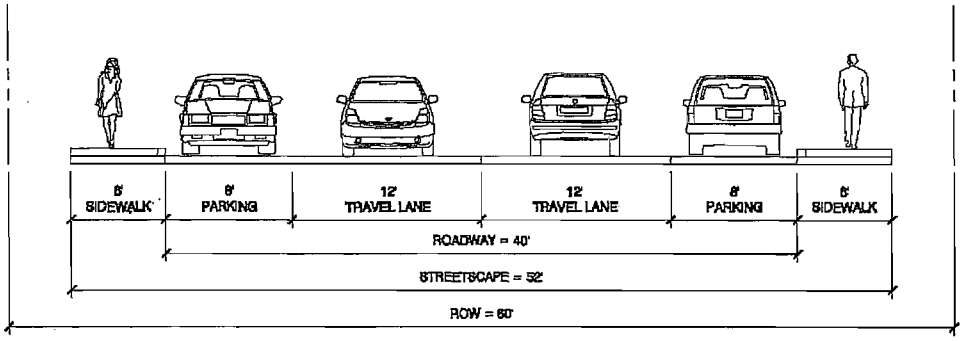
Purpose: Improves existing roadway to design standards.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: R-23	**99W/Church Street westbound left-turn lane**

Description: Construct westbound left turn lane to improve westbound queuing.

Location: OR 99W/Church Street intersection eastbound approach.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $240,000

Approximate Lineal Feet: 600

Cost per Lineal Foot: $400

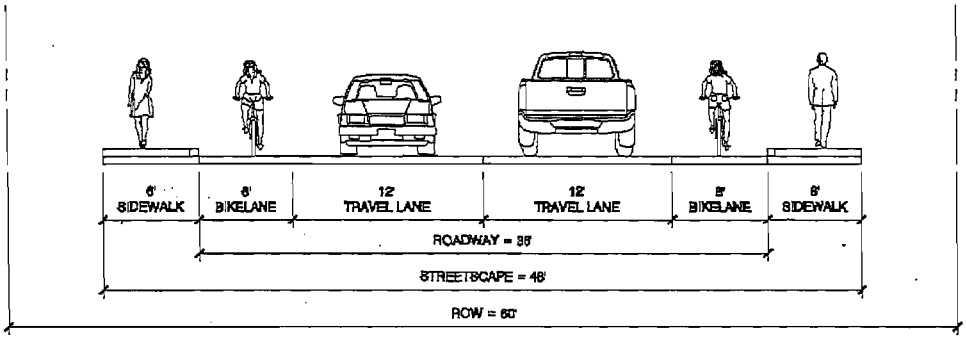
Purpose: Improves operations for traffic at the westbound approach to this intersection. Pedestrian mitigations should be evaluated with installation of the roadway change.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-27	**OR 51/Hogan Road intersection reconfigure and eastbound left-turn lane**

Description: Provide a eastbound left turn lane.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: n/a

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

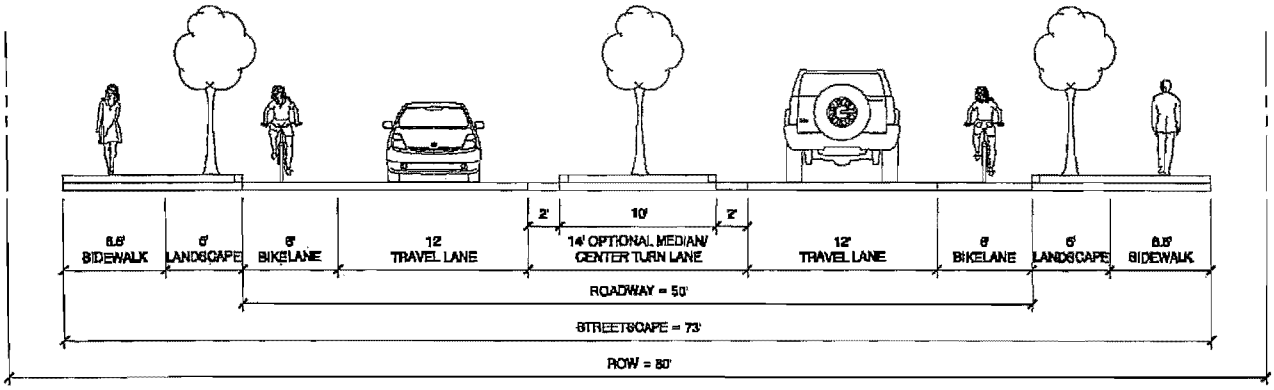
Purpose: This project is planned as part of the roadway improvements required for the planned commercial development southwest of the S Curves (OR 51).

Project Vicinity Map:

Related Projects:

I-05

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-28	**OR 51 full street improvements**

Description: Improve with curb and gutter between Heffley Street and east Price Lane.

Location: OR 51 between Heffley Street and East City Limit.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $700,000

Approximate Lineal Feet: 1,600

Cost per Lineal Foot: $438

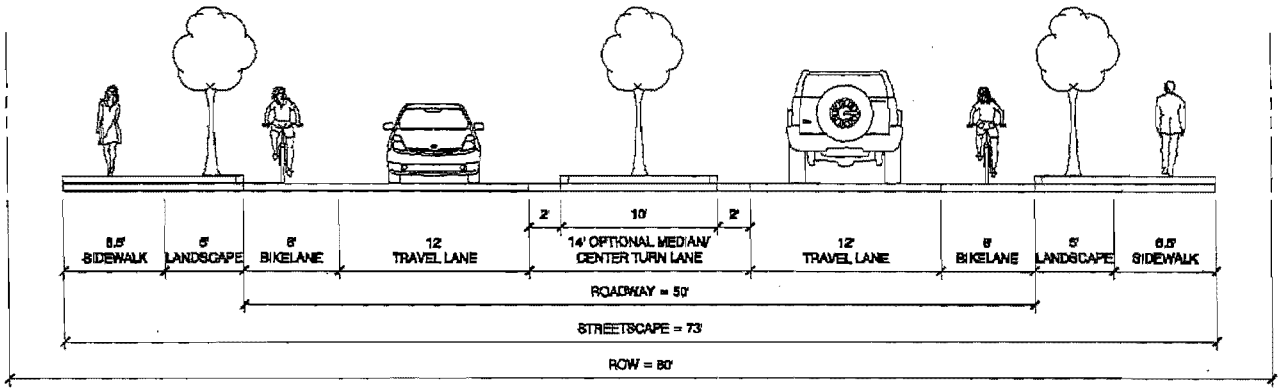
Purpose: Improves existing roadway to design standards.

Project Vicinity Map:

Related Projects:

B-12, P-05, P-06, P-07

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-33	**OR 51 west streetscape improvements**

Description: Provide streetscape improvements along OR 51 west of OR 99W such as curb extensions, landscaping, and/or crosswalks.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $440,000

Approximate Lineal Feet: 2,070

Cost per Lineal Foot: $213

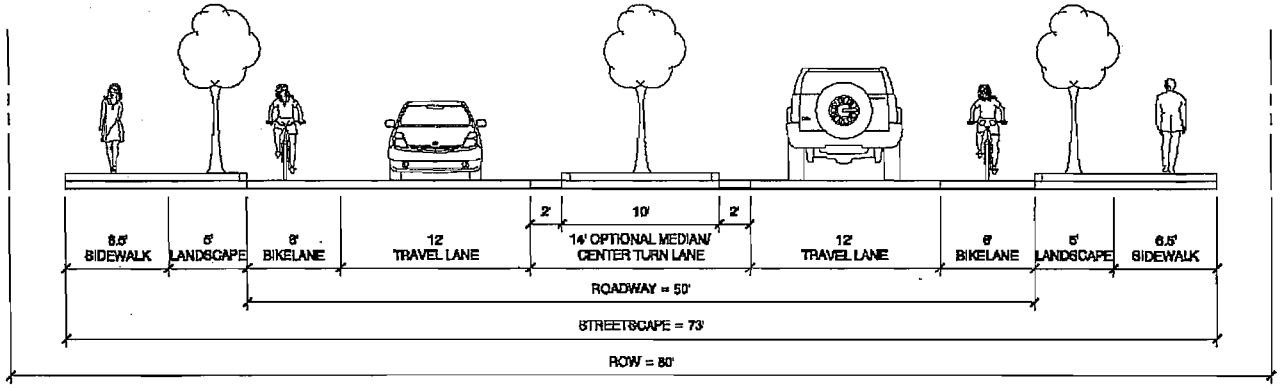
Purpose: Provides traffic calming and improved pedestrian facilities. The resulting cross-section would be consistent with the Special Transportation Area (STA) roadway designation.

Project Vicinity Map:

Related Projects:

R-11, B-05

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: RE-03c	**Catron Street Extension**

Description: Extend Catron Street from Church Street to Gentle Avenue.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $660,000

Approximate Lineal Feet: 680

Cost per Lineal Foot: $971

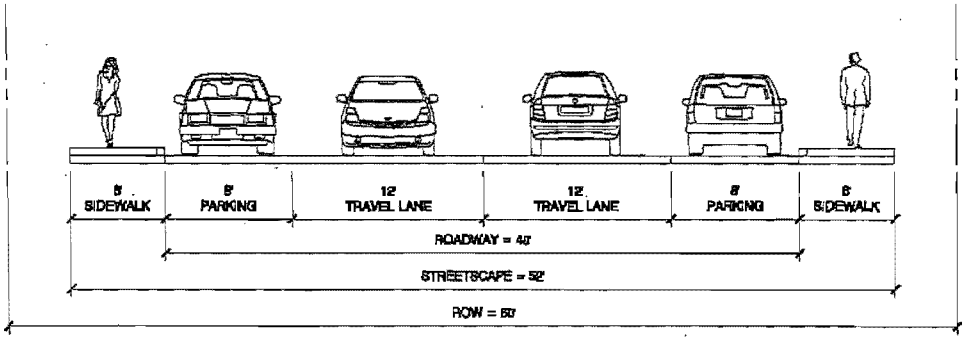
Purpose: Provides north-south connectivity within neighborhood and local roadways.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: RE-06	**Church Street extension**

Description: Extend Church Street from OR 99W to Catron Street.

Location: 99W to Catron.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Near Term 2011-2015

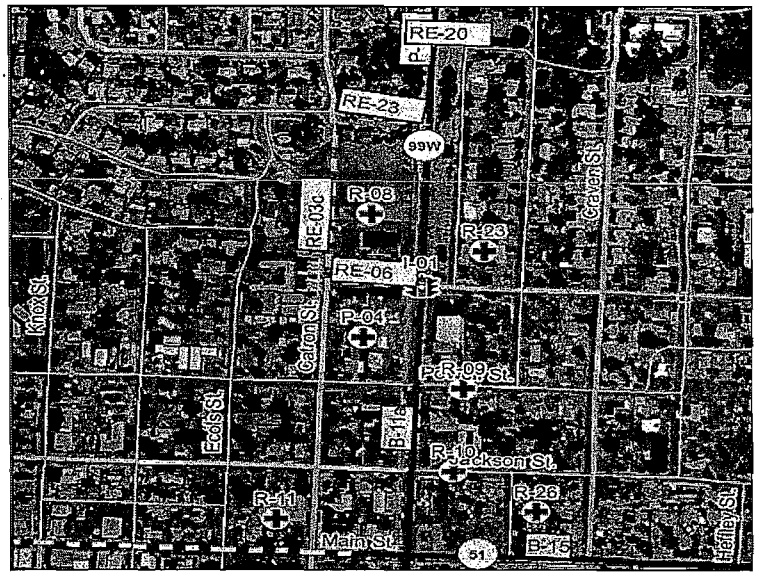
Estimated Construction and Engineering Cost: $310,000

Approximate Lineal Feet: 320

Cost per Lineal Foot: $969

Purpose: Provides connectivity from northwest neighborhoods to OR 99W; subject to ODOT access management policies.

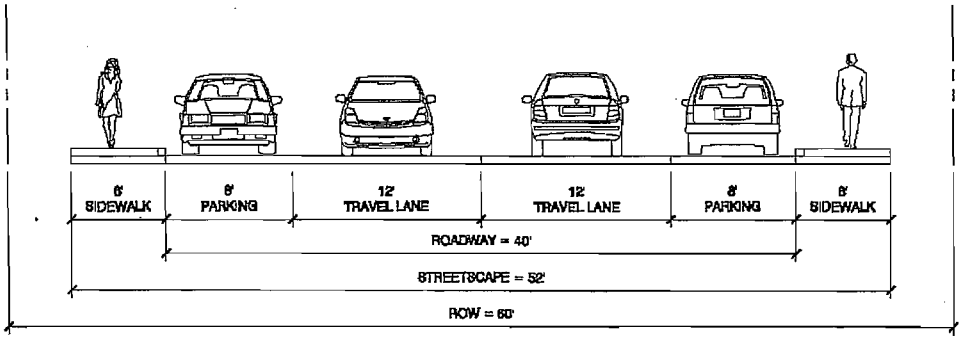
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: RE-08b	**Gwinn Street West construction**

Description: Construct Gwinn Street between Ecols Street and Warren Street.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $790,000

Approximate Lineal Feet: 890

Cost per Lineal Foot: $888

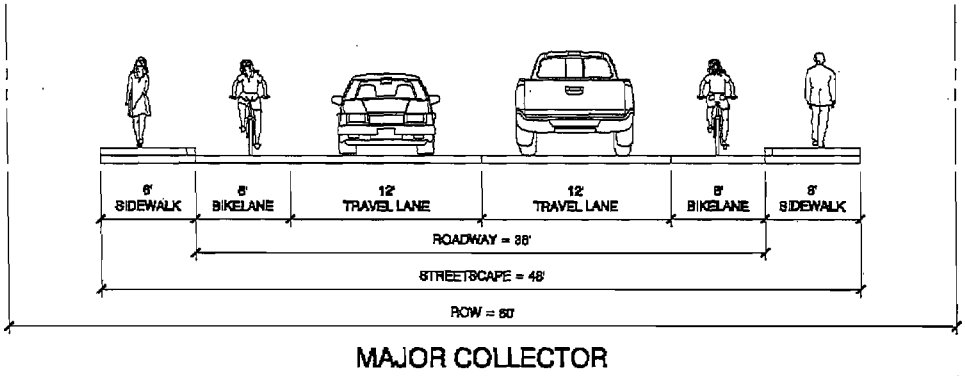
Purpose: Provides grid-network connectivity to neighborhood.

Project Vicinity Map:

Related Projects:

B-07a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-08c	**Gwinn Street East extension**

Description: Extend Gwinn Street from OR 99W to Heffley Street South.

Location: east of Gwinn Street/99W intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Near Term 2011-2015

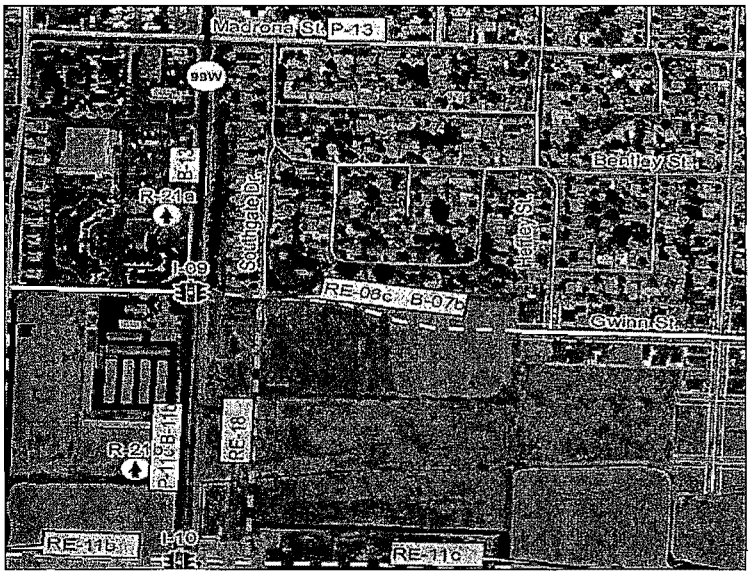
Estimated Construction and Engineering Cost: $1,100,000

Approximate Lineal Feet: 1,280

Cost per Lineal Foot: $859

Purpose: Provides connectivity from southeast neighborhoods to OR 99W.

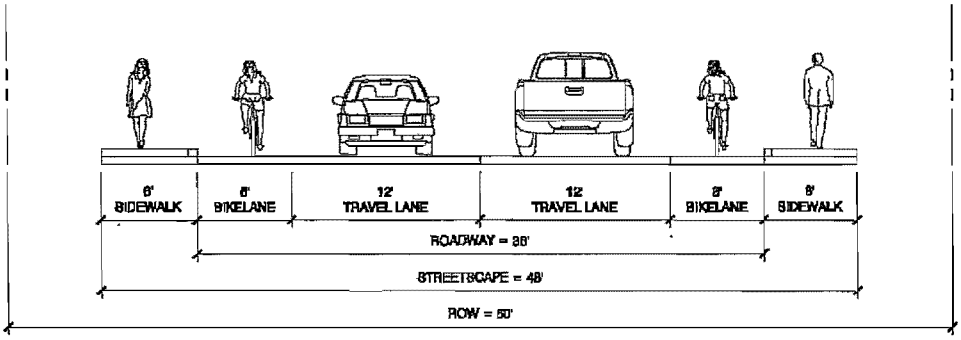
Project Vicinity Map:



Related Projects:

B-07b

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-08d	**Gwinn Street East extension**

Description: Extend Gwinn Street from Yellowstone Drive South to Park Place.

Location: west of Gwinn Street/Talmadge Road intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $660,000

Approximate Lineal Feet: 750

Cost per Lineal Foot: $880

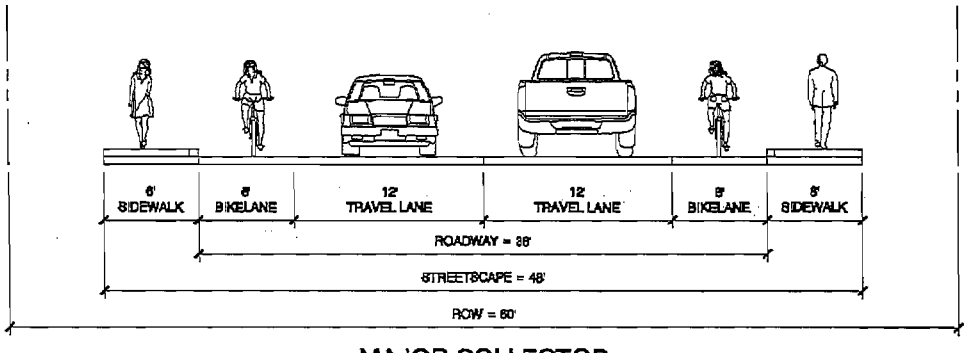
Purpose: Provides continuous street connectivity from Talmadge Road to OR 99W. This gap could also be considered for public park space.

Project Vicinity Map:

Related Projects:

B-07b

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-20	**Olive Way East extension**

Description: Extend Olive Way east between Myrtle Drive and OR 99W.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Local Street	60 feet	Near Term 2011-2015

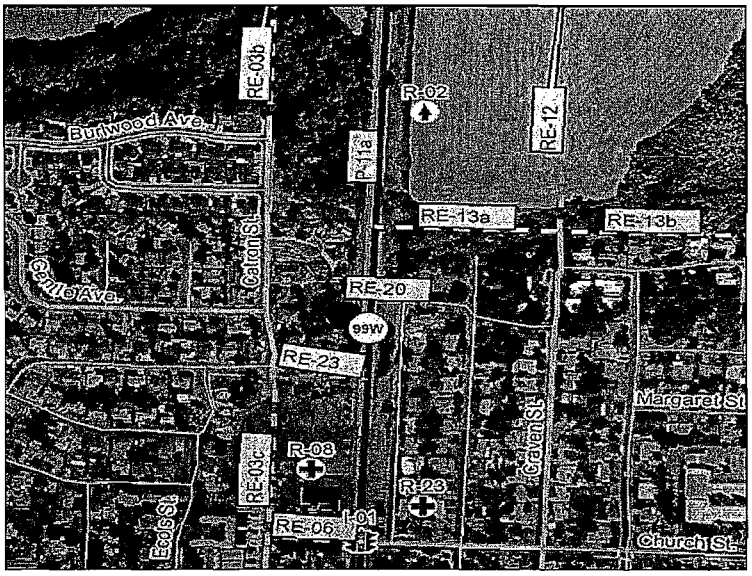
Estimated Construction and Engineering Cost: $100,000

Approximate Lineal Feet: 110

Cost per Lineal Foot: $909

Purpose: Provides additional access into the northeast Monmouth neighborhood.

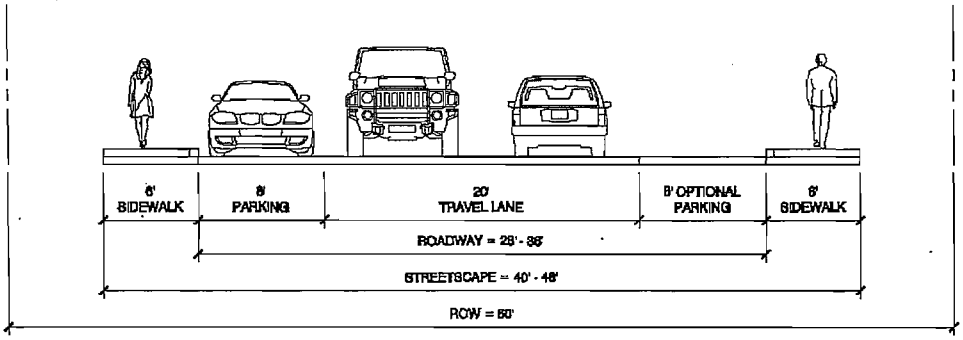
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



LOCAL STREET

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-04	**OR 99W/Church Street pedestrian crossing**

Description: Install raised median crosswalk across OR 99W for access to the Monmouth Elementary School.

Location: 99W/Church Street intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $10,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

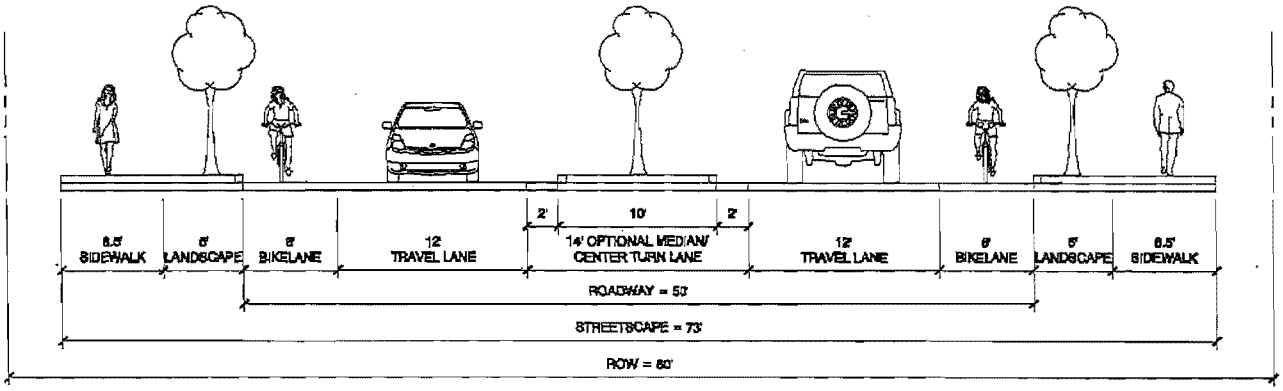
Purpose: Increases the visibility and safety for students and pedestrians into the neighborhood.

Project Vicinity Map:

Related Projects:

R-08

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-05	**OR 51 S-curve sidewalks**

Description: Construct sidewalks along OR 51 along the S-curve section.

Location: OR 51 along S-curve.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $440,000

Approximate Lineal Feet: 3,290

Cost per Lineal Foot: $134

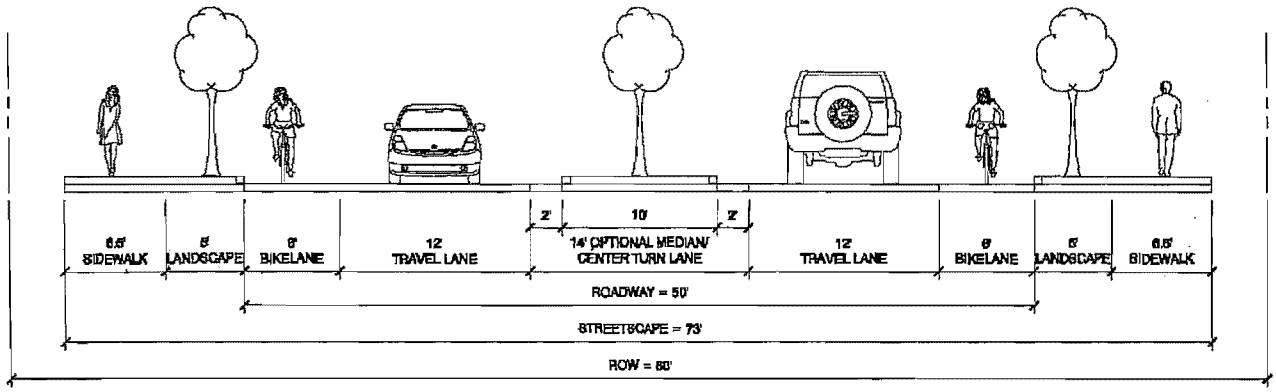
Purpose: Provides safe pedestrian facilities along OR 51.

Project Vicinity Map:

Related Projects:

R-28, B-12

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-06	**OR 51 east sidewalks**

Description: Construct sidewalks along OR 51 between Heffley Street and S-curve.

Location: OR 51 between Heffley and S-curve.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $130,000

Approximate Lineal Feet: 1,000

Cost per Lineal Foot: $130

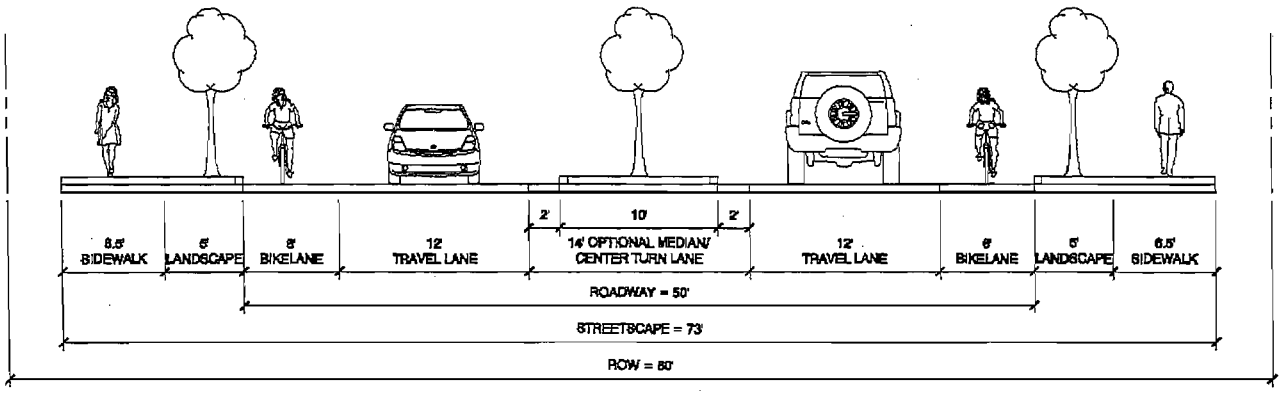
Purpose: Provides safe pedestrian facilities along OR 51.

Project Vicinity Map:

Related Projects:

R-28, B-12

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-09	**Clay Street sidewalks**

Description: Construct sidewalk along Clay Street between Warren Street and Ecols Street.

Location: Clay Street between Warren Street and Ecols Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $60,000

Approximate Lineal Feet: 720

Cost per Lineal Foot: $83

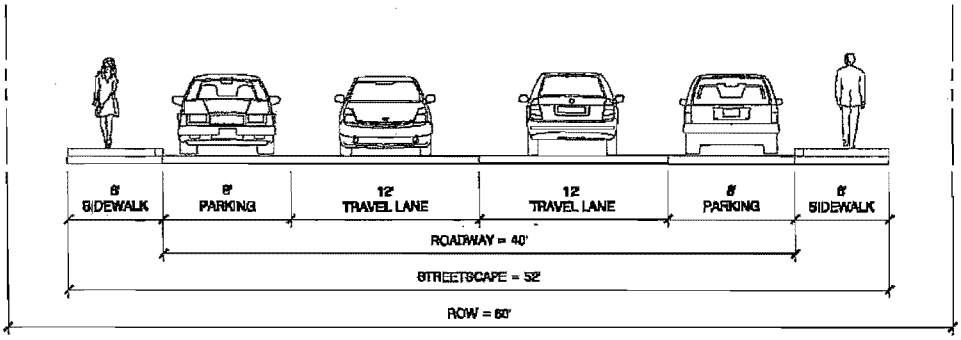
Purpose: Sidewalks are included in the roadway functional classification design standards for this roadway.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: P-12	**OR 99W/Madrona Street pedestrian crossing study**	
Description:	Install painted crosswalk across 99W due to high demand for pedestrian crossing.	
Location:	99W/Madrona Street intersection.	
Functional Classification: Major Arterial	**Required ROW:** 70-80 feet	**Time Frame:** Near Term 2011-2015

Estimated Construction and Engineering Cost: $15,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

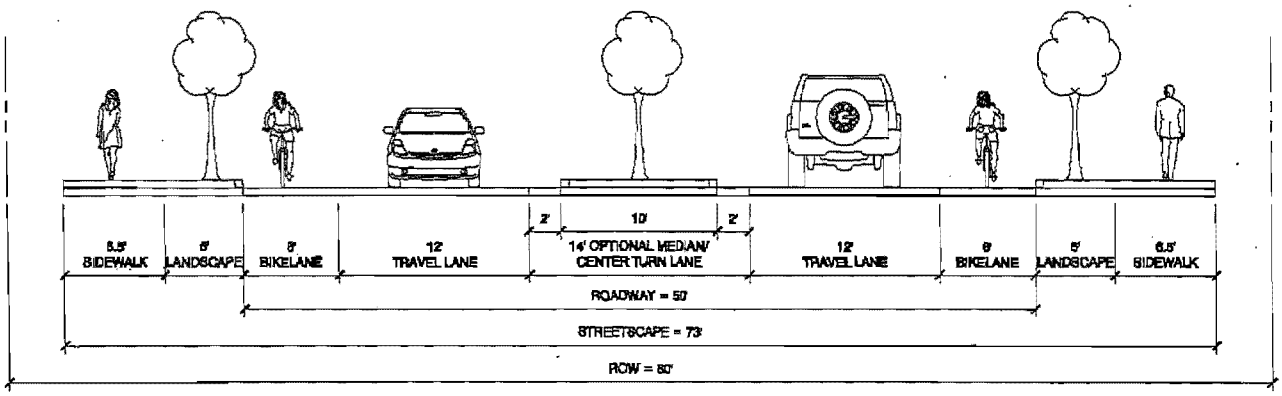
Purpose: Provides a visible crossing area for crossing OR 99W; further evaluation of this crosswalk location is recommended prior to installation.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-16	**OR 51/Atwater Street pedestrian crossing study**

Description: Install painted crosswalk across OR51 due to high demand for pedestrian crossing.

Location: OR51/Atwater Street

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

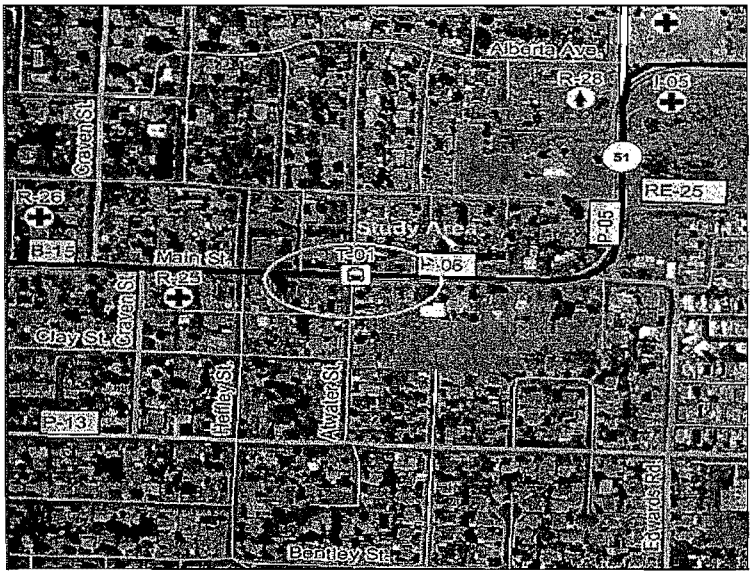
Estimated Construction and Engineering Cost: $15,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

Purpose: Provides a visible crossing area for crossing OR51; further evaluation of this crosswalk location is recommended prior to installation.

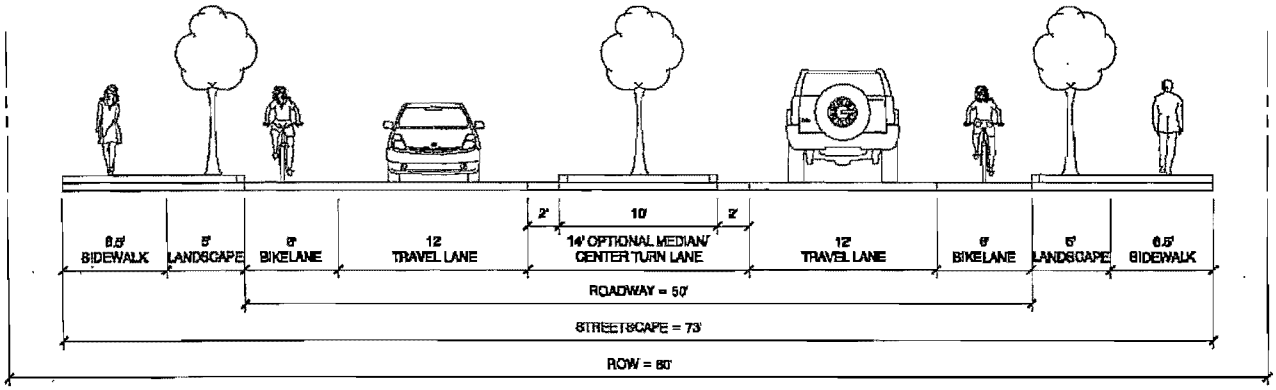
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-17	**Talmadge Road sidewalk**

Description: Construct sidewalks along the west side of Talmadge Road from Madrona Street north to the Urban Growth Boundary.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $25,000

Approximate Lineal Feet: 410

Cost per Lineal Foot: $61

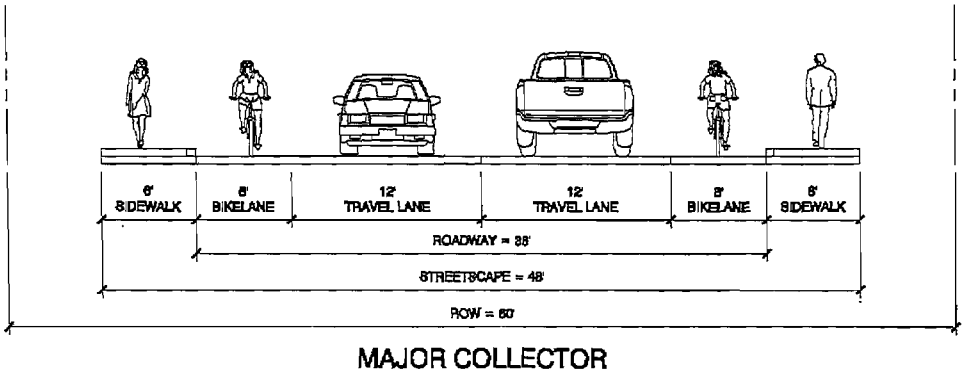
Purpose: Provides safe pedestrian facilities along Talmadge Road.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: B-07b	**Gwinn Street bike lanes**

Description: Stripe bikelanes on existing pavement between OR 99W and Talmadge Road.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Near Term 2011-2015

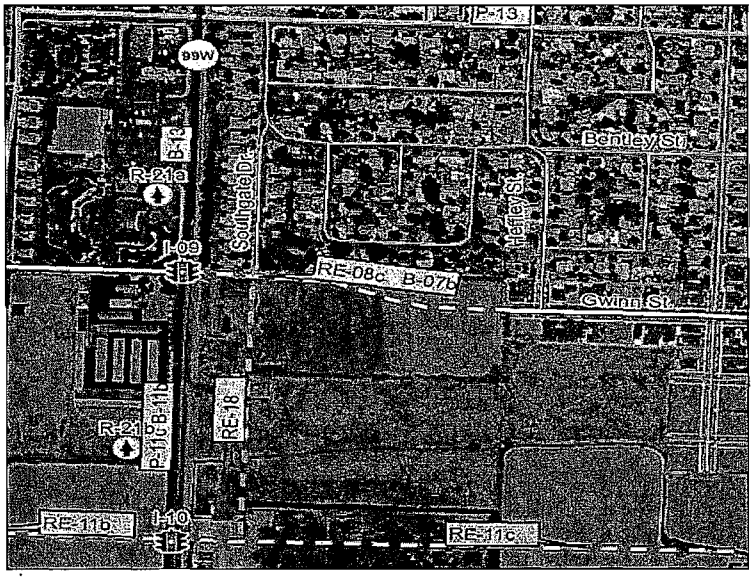
Estimated Construction and Engineering Cost: $2,000

Approximate Lineal Feet: 1,500

Cost per Lineal Foot: $1

Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

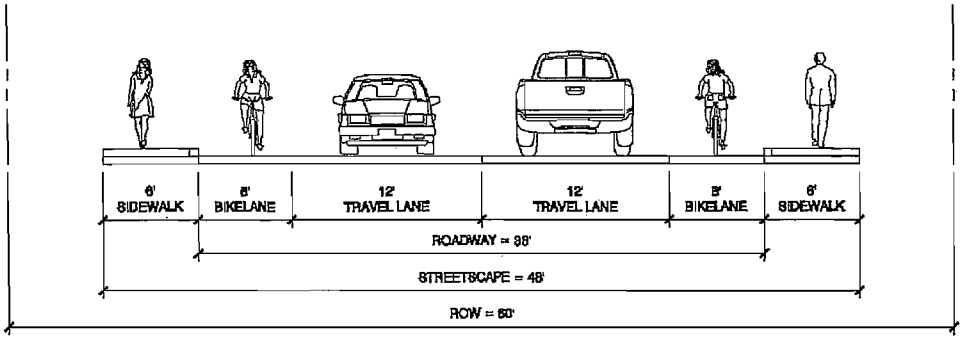
Project Vicinity Map:



Related Projects:

RE-08c, RE-08d

Typical Cross-Section:



MAJOR COLLECTOR

Project #: B-11b	**OR 99W south bike lanes**

Description: Construct bike lanes along OR 99W between Gwinn Street and south city limits.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

Estimated Construction and Engineering Cost: $3,000

Approximate Lineal Feet: 1,660

Cost per Lineal Foot: $2

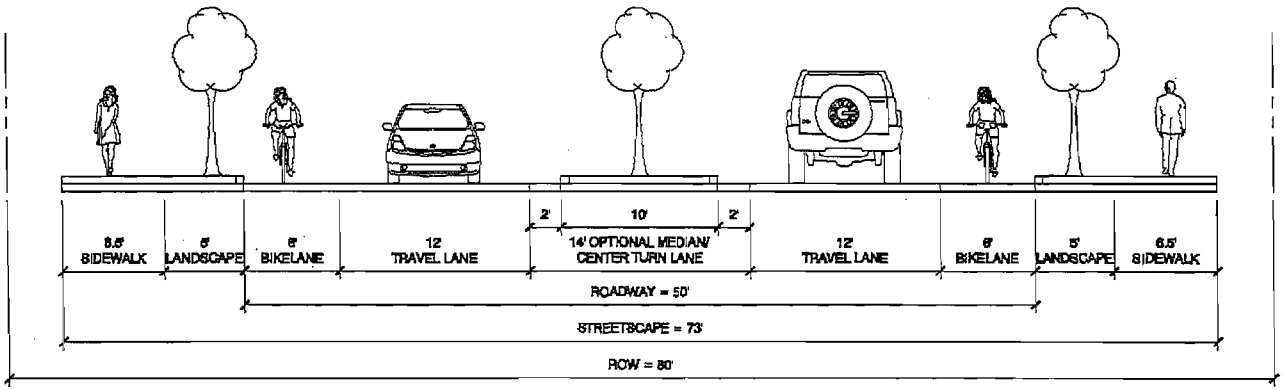
Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

Project Vicinity Map:

Related Projects:

R-21b

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: B-15	**OR 51 drainage grates along bike lanes**

Description: Evaluate and mitigate drainage grates in bike lanes along OR 51.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Near Term 2011-2015

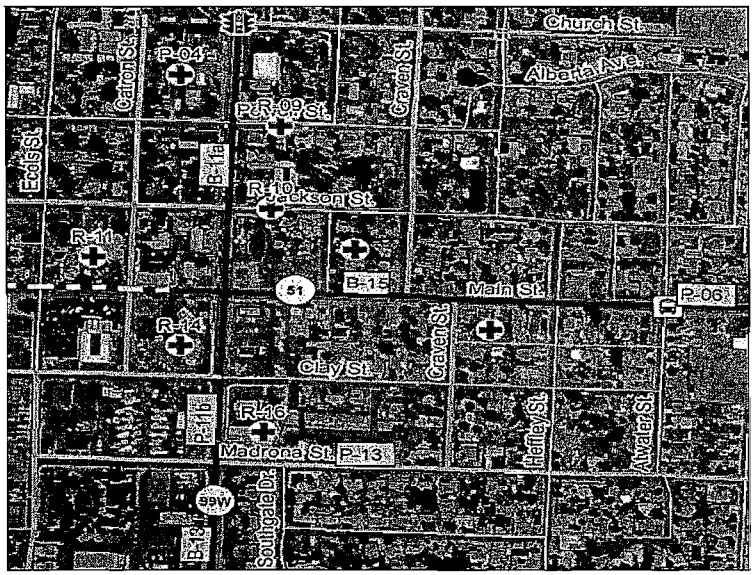
Estimated Construction and Engineering Cost: $1,500

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

Purpose: Depressed drainage grates along OR 51 should be raised if possible and prioritized for perpendicular alignment with bike lane path of travel.

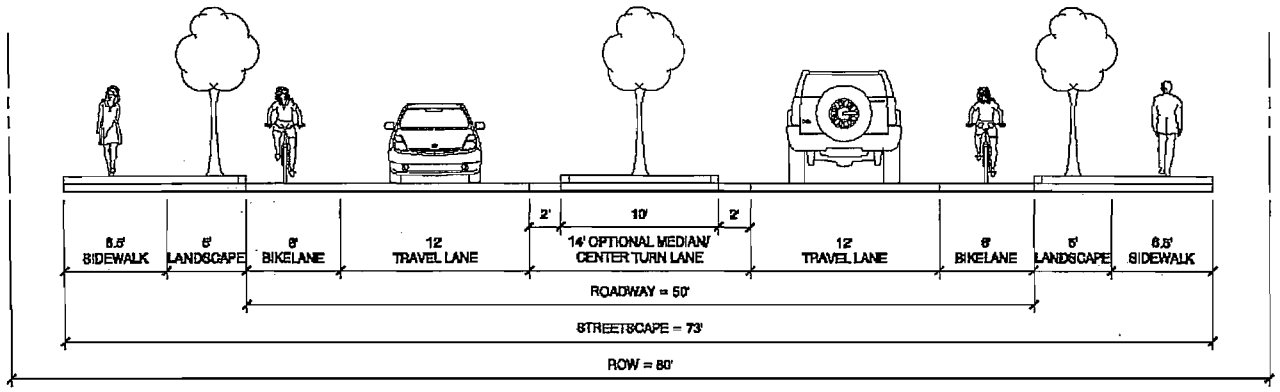
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: I-01	**OR 99W/Church Street traffic signal**

Description: Install traffic signal.

Location: 99W/Church Street intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Mid Term 2016-2020

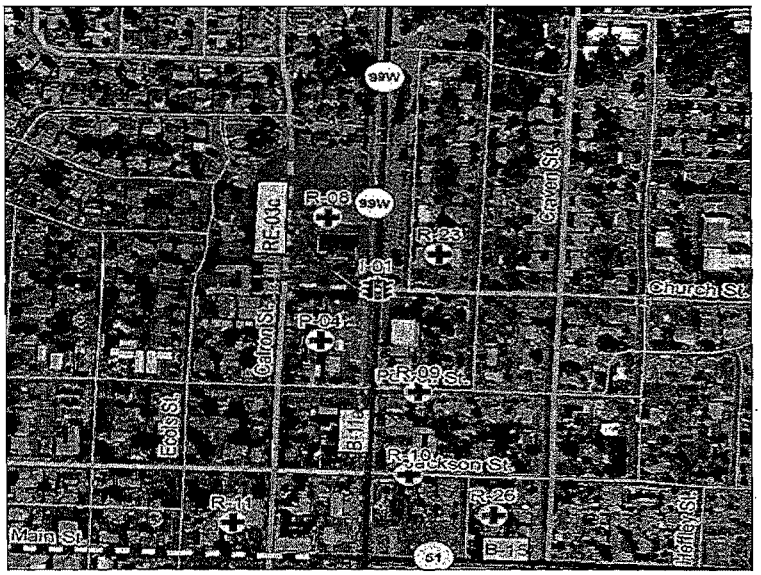
Estimated Construction and Engineering Cost: $420,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

Purpose: A signalized control at this intersection would provide an opportunity for improved traffic flow on OR 99W and a protected pedestrian crossing.

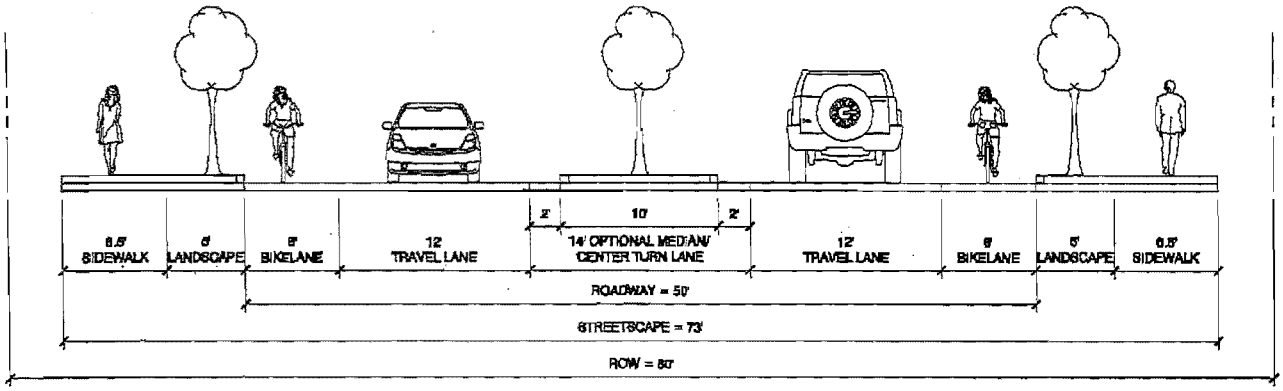
Project Vicinity Map:



Related Projects:

R-08, R-23

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: I-09	**OR 99W/Gwinn Street traffic signal**

Description: Install traffic signal.

Location: 99W/Gwinn Street intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Mid Term 2016-2020

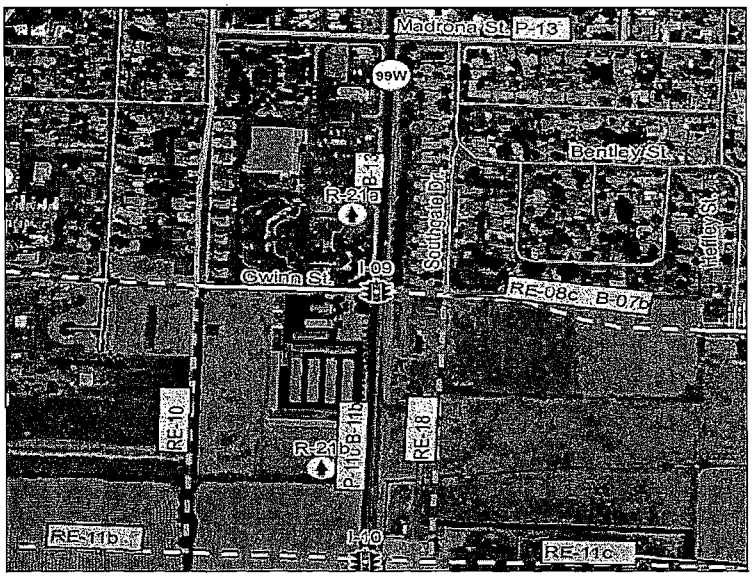
Estimated Construction and Engineering Cost: $420,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

Purpose: Provides improved intersection operations and traffic flow progression in the future along OR 99W between OR 51 and Gwinn Street.

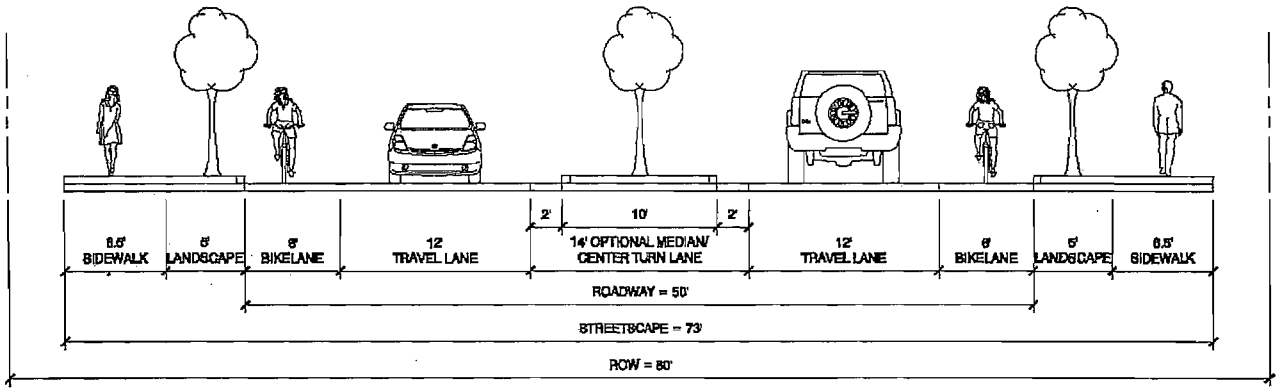
Project Vicinity Map:



Related Projects:

R-21a, R-21b

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-05a	**West Church Street full street improvements , west CL**

Description: Improve roadway cross section to street standards from west UGB boundary to Stadium Drive.

Location: Church Street between West City Limit and Stadium Drive.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $940,000

Approximate Lineal Feet: 1,860

Cost per Lineal Foot: $505

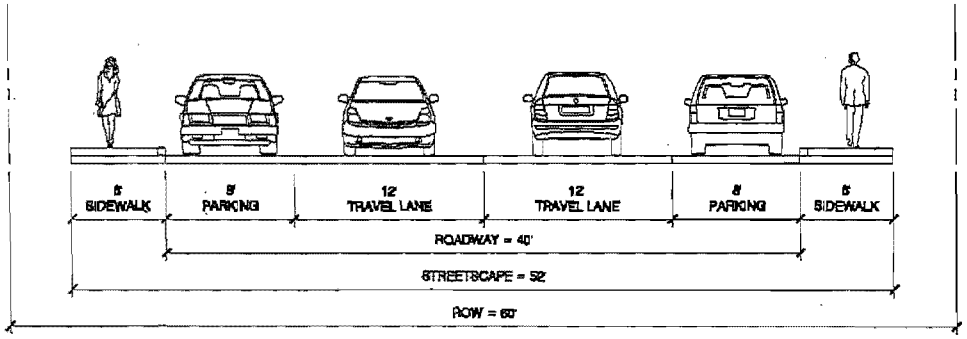
Purpose: Improves existing roadway to design standards.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: R-05b	**Church Street full street improvements, Stadium to Monmouth**

Description: Improve roadway cross section to street standards from Stadium Drive to Monmouth Avenue.

Location: Church Street between Stadium and Monmouth Avenue.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $720,000
Approximate Lineal Feet: 1,430
Cost per Lineal Foot: $503

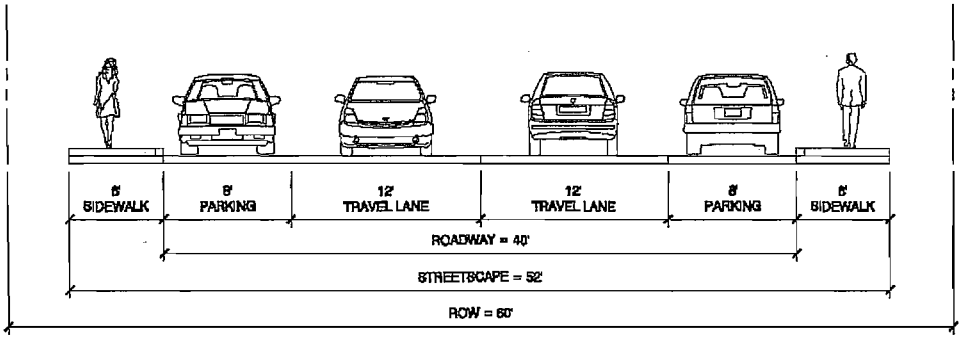
Purpose: Improves existing roadway to design standards.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: R-09	**OR 99W northbound and southbound left-turn lanes at Powell Street**

Description: Construct north and south left-turn lanes on OR 99W at Powell Street.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $260,000

Approximate Lineal Feet: 800

Cost per Lineal Foot: $325

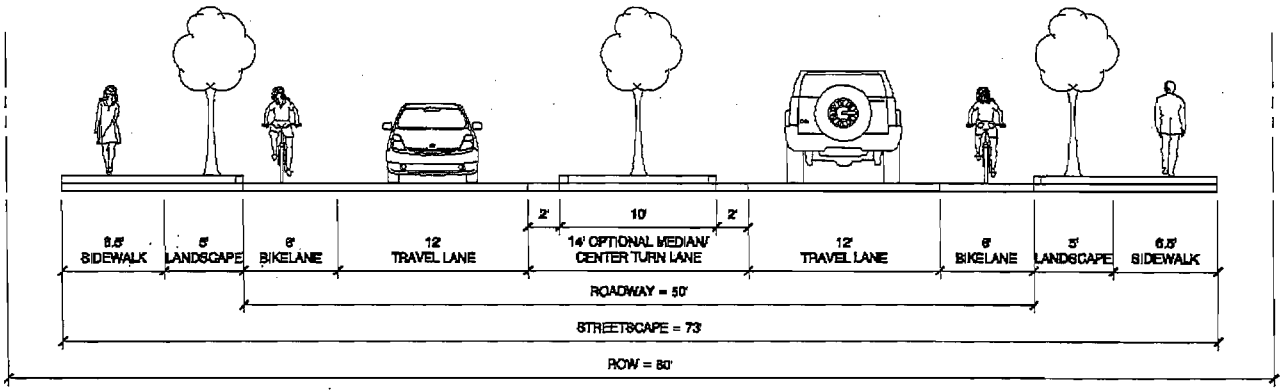
Purpose: A turn lane is warranted under existing conditions and would be consistent with the recommended cross section standards for a major arterial.

Project Vicinity Map:

Related Projects:

B-11a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-11	**OR 51/Catron Street eastbound left-turn lane**

Description: Construct an eastbound left turn lane on OR 51 at Catron.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $180,000

Approximate Lineal Feet: 400

Cost per Lineal Foot: $450

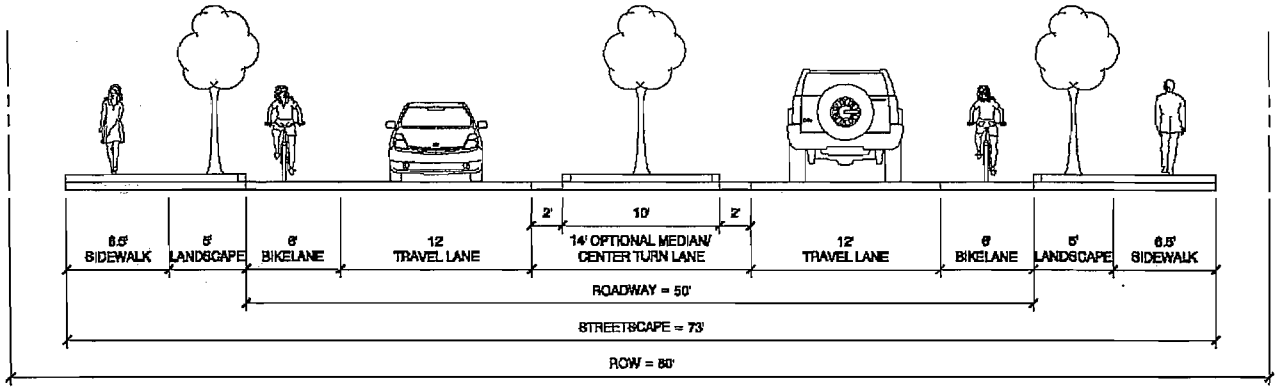
Purpose: The eastbound left-turn lane is warranted under existing conditions and would provide additional capacity at Catron Street.

Project Vicinity Map:

Related Projects:

R-33

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-20	**Warren Street full street improvements**

Description: Improve roadway cross section to street standards from Gwinn Street to the south city limit.

Location: Warren Street between Gwinn Street and south City limit.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $370,000

Approximate Lineal Feet: 1,780

Cost per Lineal Foot: $208

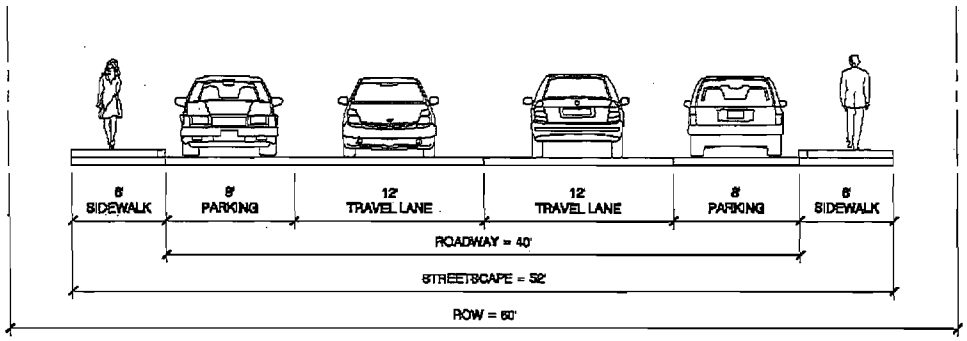
Purpose: Improves existing roadway to design standards.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: R-21a	**OR 99W half street improvements**

Description: Improve with curb and gutter along east side of OR 99W from Madrona Street to Gwinn Street.

Location: OR 99W between Madrona Street and south City limit.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Mid Term 2016-2020

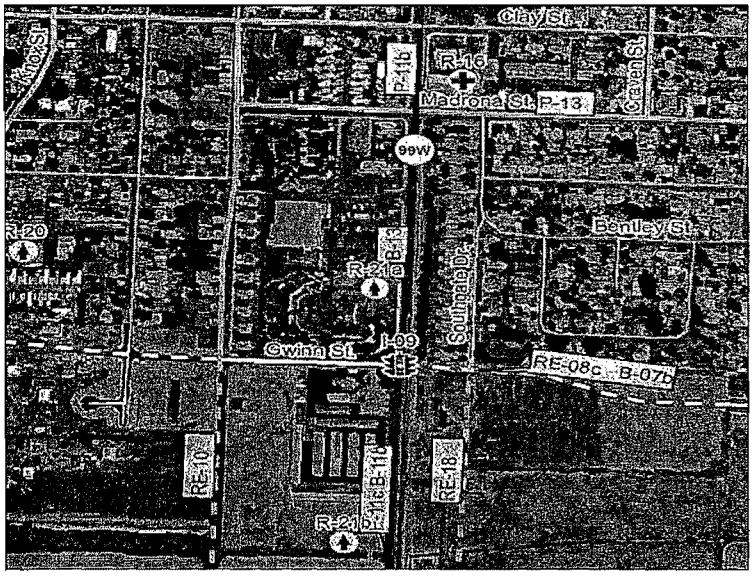
Estimated Construction and Engineering Cost: $80,000

Approximate Lineal Feet: 1,170

Cost per Lineal Foot: $68

Purpose: Improves existing roadway to design standards.

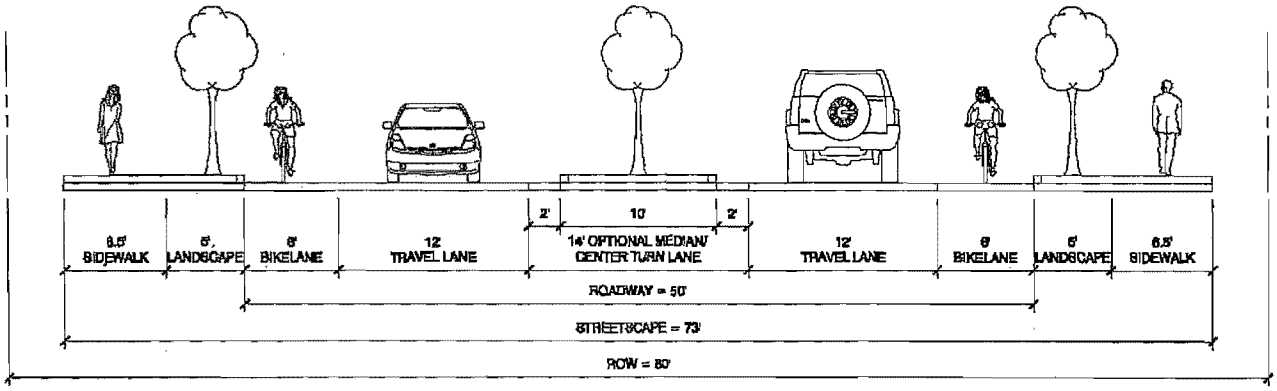
Project Vicinity Map:



Related Projects:

P-11c

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-22b	**Hoffman Road half street improvements**

Description: Improve south side to street standards within UGB boundary.

Location: South side of Hoffman Road between 99W and east UGB.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Arterial	70 feet	Mid Term 2016-2020

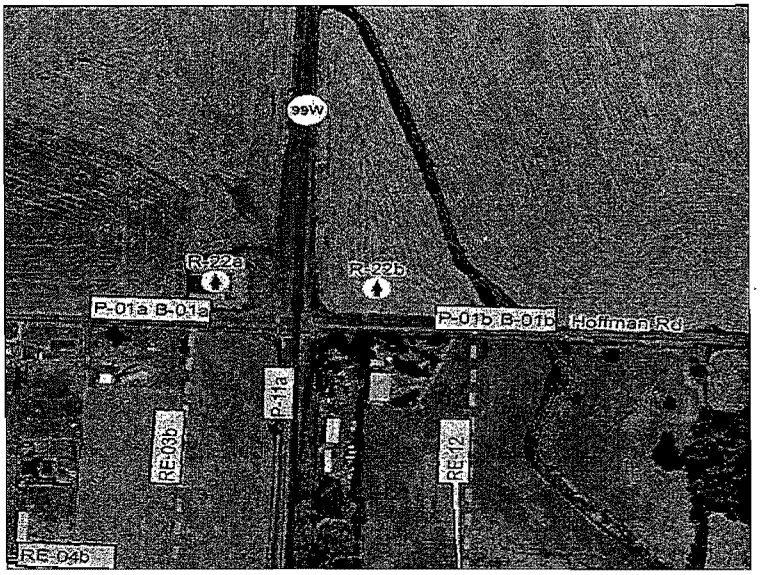
Estimated Construction and Engineering Cost: $1,700,000

Approximate Lineal Feet: 5,050

Cost per Lineal Foot: $337

Purpose: Improves south side of existing roadway to design standards.

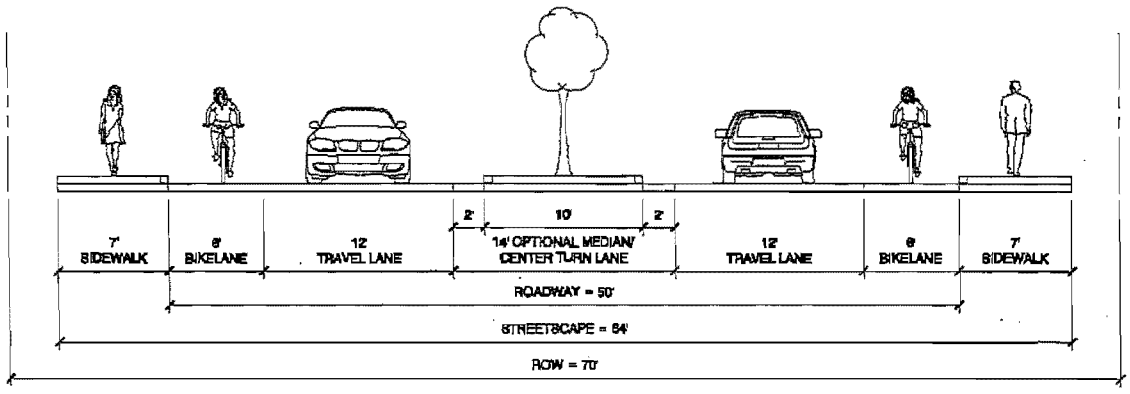
Project Vicinity Map:



Related Projects:

B-01b, P-01b

Typical Cross-Section:



MINOR ARTERIAL

Project #: RE-08a	**Gwinn Street West extension**

Description: Extend Gwinn Street from College Street to Whitman Street (OR 51).

Location: west of Gwinn Street/Monmouth Avenue intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $360,000

Approximate Lineal Feet: 410

Cost per Lineal Foot: $878

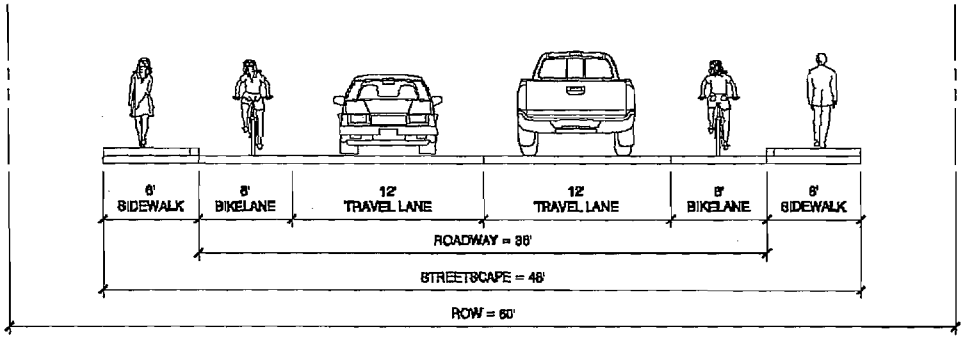
Purpose: Provides grid-network connectivity to neighborhood.

Project Vicinity Map:

Related Projects:

B-07a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-18	**Southgate Drive extension**

Description: Extend Southgate Drive south to Ash Creek Drive extension.

Location: south of Gwinn Street/Southgate Drive S intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Local Street	60 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $1,100,000
Approximate Lineal Feet: 1,220
Cost per Lineal Foot: $902

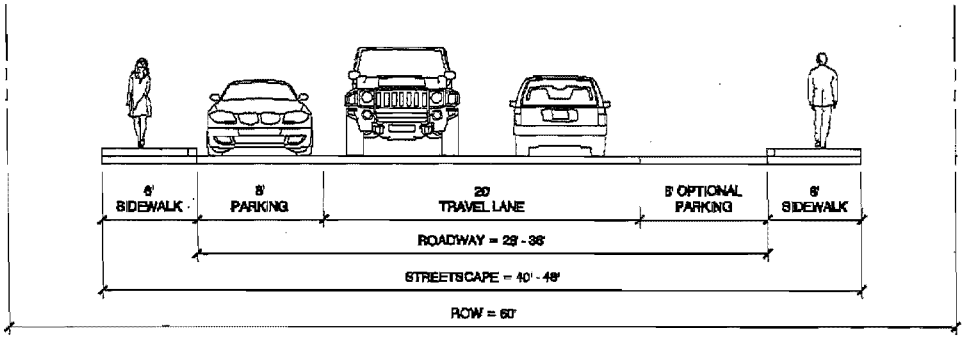
Purpose: Provides local road north-south connection parallel to OR 99W.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



LOCAL STREET

Project #: P-01b	**Hoffman Road sidewalks**

Description: Construct sidewalks along the south side of Hoffman Road between 99W and 16th Street.

Location: Hoffman Road between 99W and 16th Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Arterial	70 feet	Mid Term 2016-2020

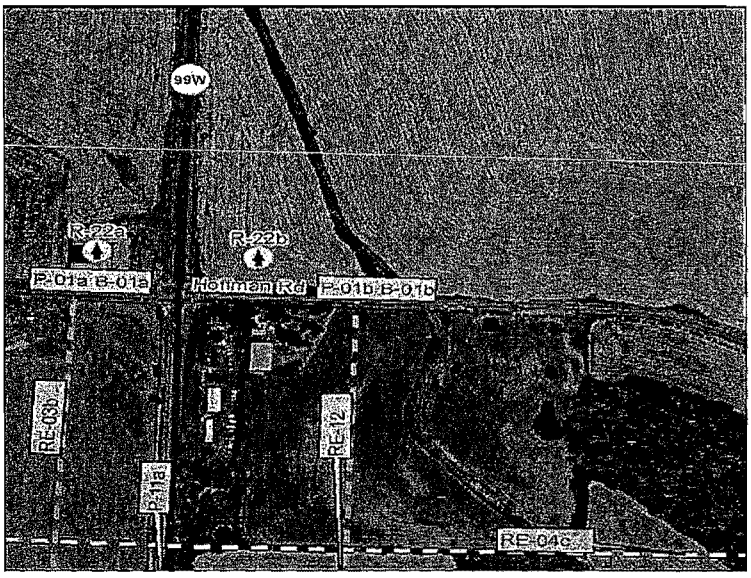
Estimated Construction and Engineering Cost: $320,000

Approximate Lineal Feet: 4,580

Cost per Lineal Foot: $70

Purpose: Cross section standards for all public streets include sidewalks.

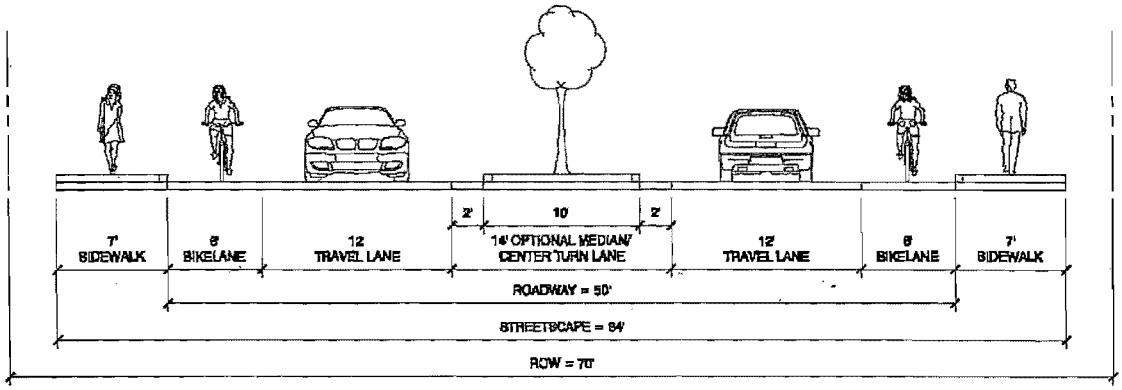
Project Vicinity Map:



Related Projects:

R-22, B-01b

Typical Cross-Section:



MINOR ARTERIAL

Project #: P-02	**16th Street sidewalks**

Description: Complete connectivity of sidewalks along 16th Street and construct new sidewalks where needed between OR 51 and Hoffman Road (within Monmouth city limits).

Location: 16th Street between OR 51 and Hoffman Road.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $340,000

Approximate Lineal Feet: 3,720

Cost per Lineal Foot: $91

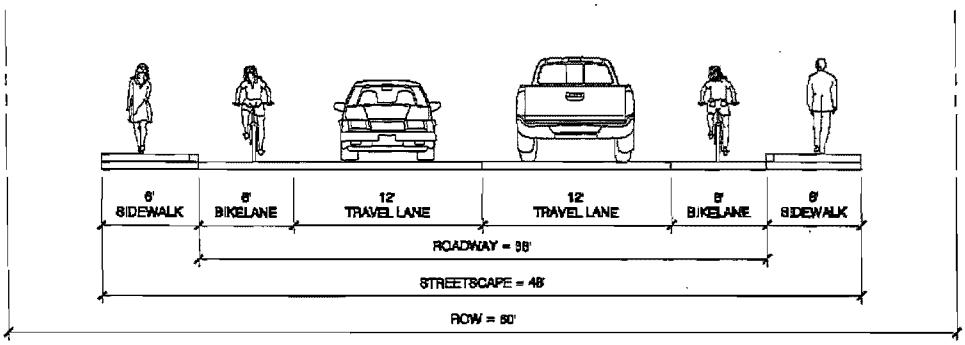
Purpose: Provides continuous sidewalk facilities along this high pedestrian volume facility (Ash Creek School, Talmadge Middle School, Central High School).

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: P-11a	**OR 99W sidewalks north of Church Street**

Description: Construct sidewalks along 99W between Church Street and Hoffman Road.

Location: 99W between Clay Street and Madrona Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Mid Term 2016-2020

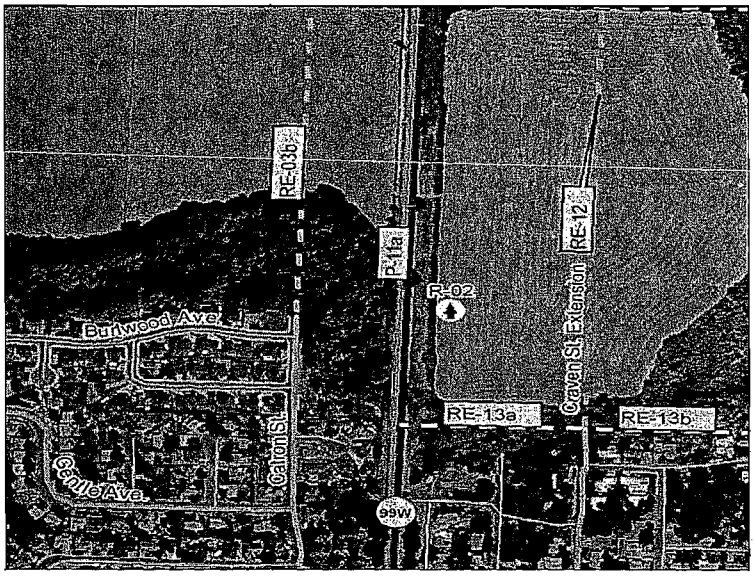
Estimated Construction and Engineering Cost: $400,000

Approximate Lineal Feet: 4,620

Cost per Lineal Foot: $87

Purpose: Provides safe pedestrian facilities along OR 99W.

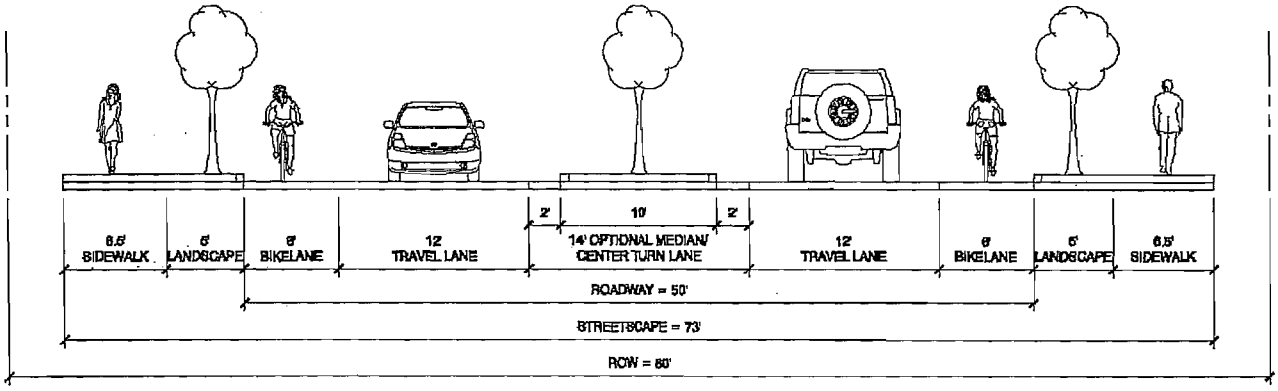
Project Vicinity Map:



Related Projects:

R-02

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-13	**Madrona Street east sidewalks**

Description: Complete connectivity of sidewalks along Madrona Street between 99W and Atwater Street.

Location: Madrona Street between 99W and Atwater Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $160,000

Approximate Lineal Feet: 1,390

Cost per Lineal Foot: $115

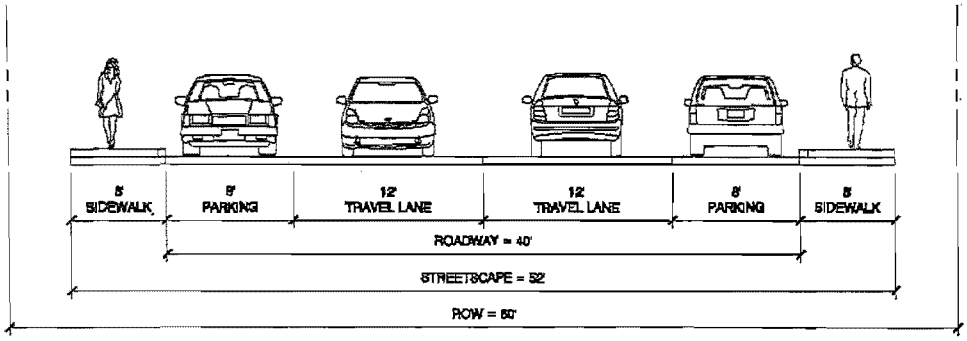
Purpose: Sidewalks are included in the roadway functional classification design standards for this roadway.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: B-01b	**Hoffman Road bike lanes**

Description: Construct bike lanes along south side of Hoffman Road between OR 99W and 16th Street.

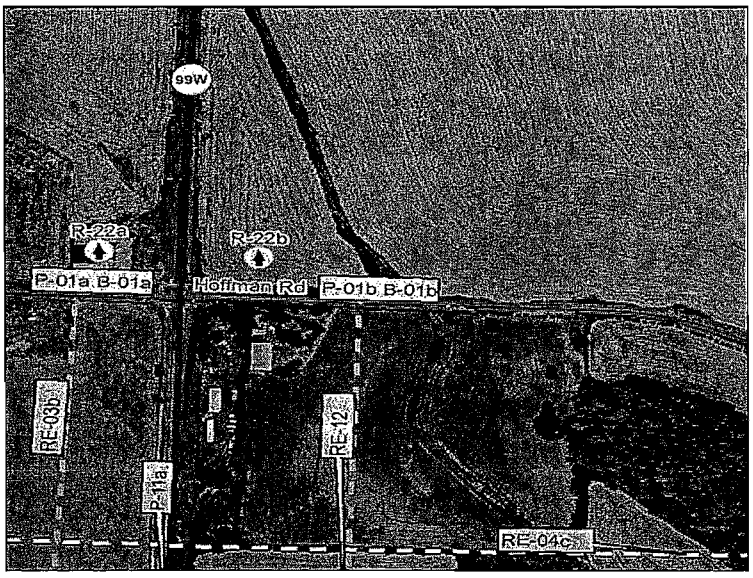
Location: Hoffman Road between 99W and 16th Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Arterial	70 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $600,000
Approximate Lineal Feet: 4,660
Cost per Lineal Foot: $129

Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

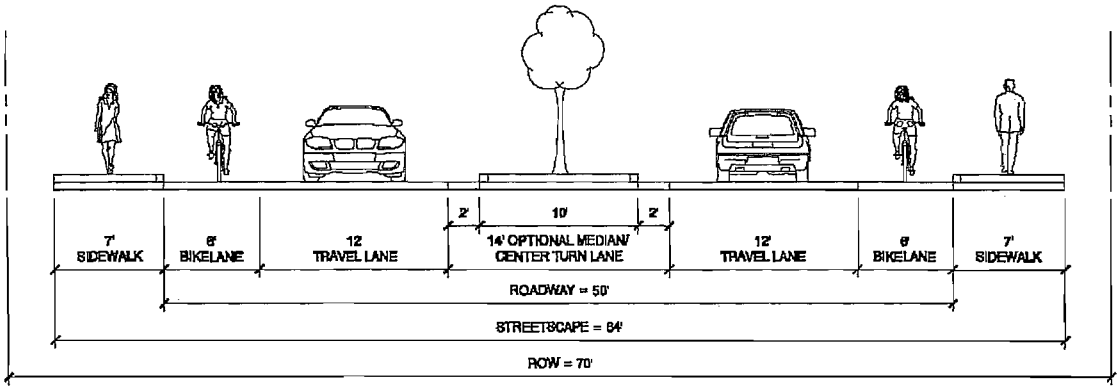
Project Vicinity Map:



Related Projects:

R-22, P-01b

Typical Cross-Section:



MINOR ARTERIAL

Project #: B-03	**Stadium Road bike lanes**

Description: Construct bike lanes along Stadium Road south of Church Street.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $290,000
Approximate Lineal Feet: 2,720
Cost per Lineal Foot: $107

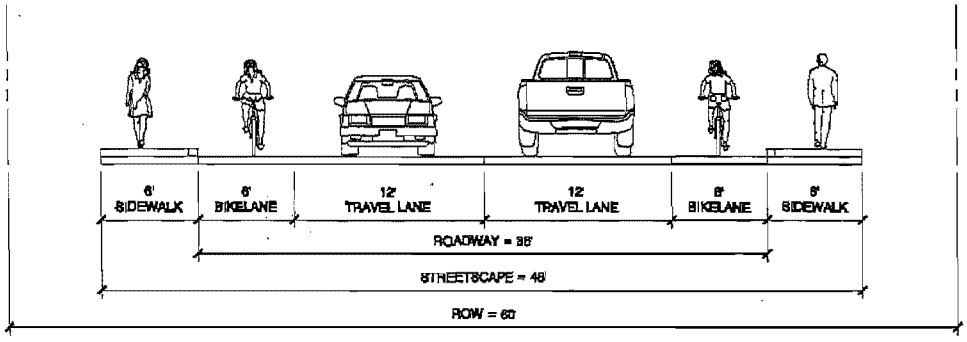
Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: B-05	**OR 51 west bike lanes**

Description: Construct bike lanes along OR 51 from the west city limits (along Falls City Highway and Whitman Street) to Main Street (OR 51).

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	n/a	Mid Term 2016-2020

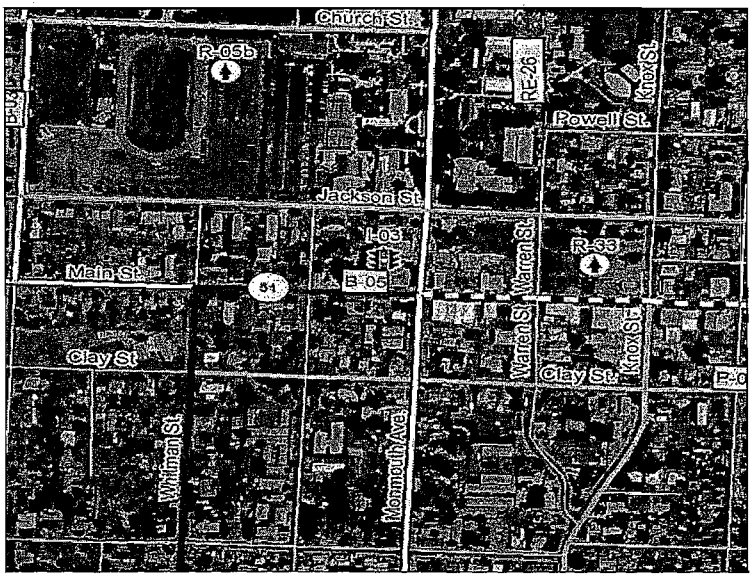
Estimated Construction and Engineering Cost: $330,000

Approximate Lineal Feet: 3,100

Cost per Lineal Foot: $106

Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

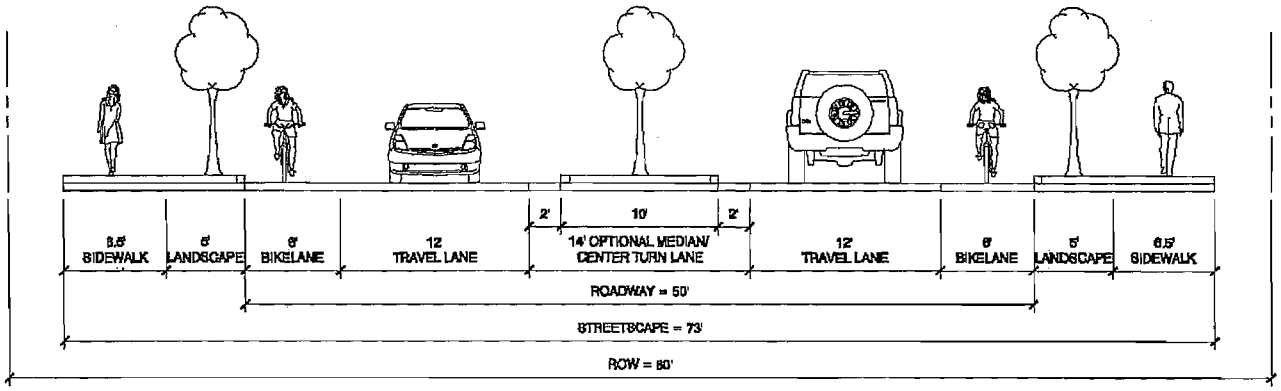
Project Vicinity Map:



Related Projects:

R-33

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: B-07a	**Gwinn Street bike lanes**

Description: Construct bike lanes on Gwinn Street between Whitman Street and OR 99W.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Mid Term 2016-2020

Estimated Construction and Engineering Cost: $170,000

Approximate Lineal Feet: 1,610

Cost per Lineal Foot: $106

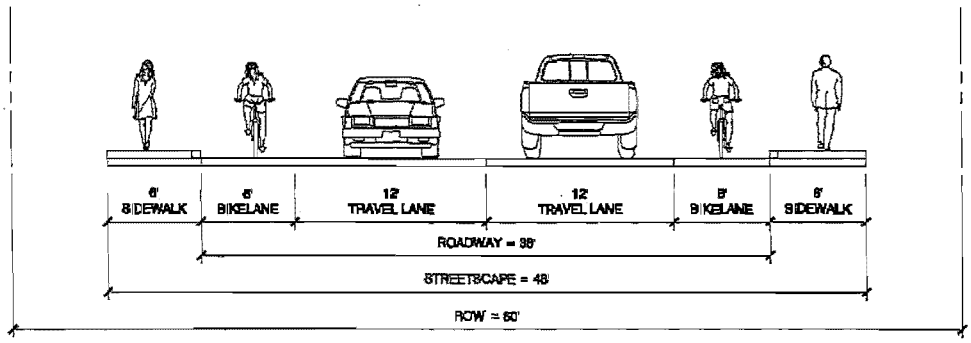
Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

Project Vicinity Map:

Related Projects:

RE-08a, RE-08b

Typical Cross-Section:



MAJOR COLLECTOR

Project #: B-13	**OR 99W bike lanes**

Description: Construct bike lanes along east side of OR 99W between Madrona Street and Gwinn Street.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Mid Term 2016-2020

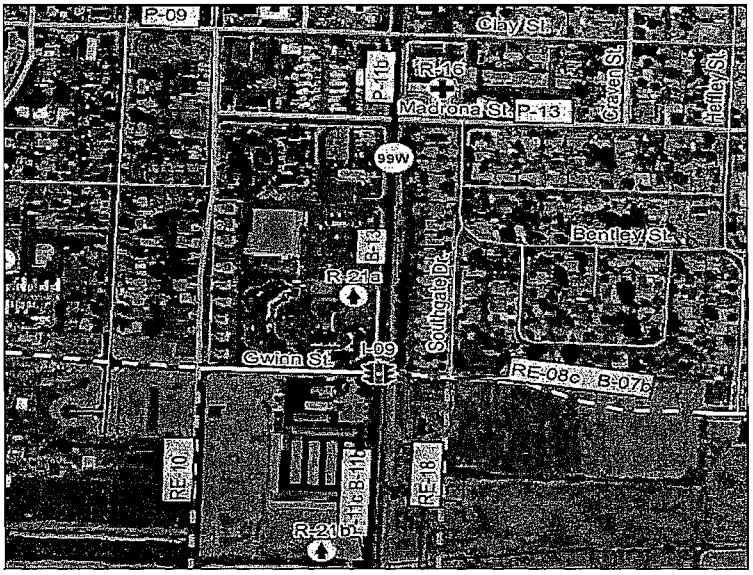
Estimated Construction and Engineering Cost: $1,000

Approximate Lineal Feet: 1,170

Cost per Lineal Foot: $1

Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

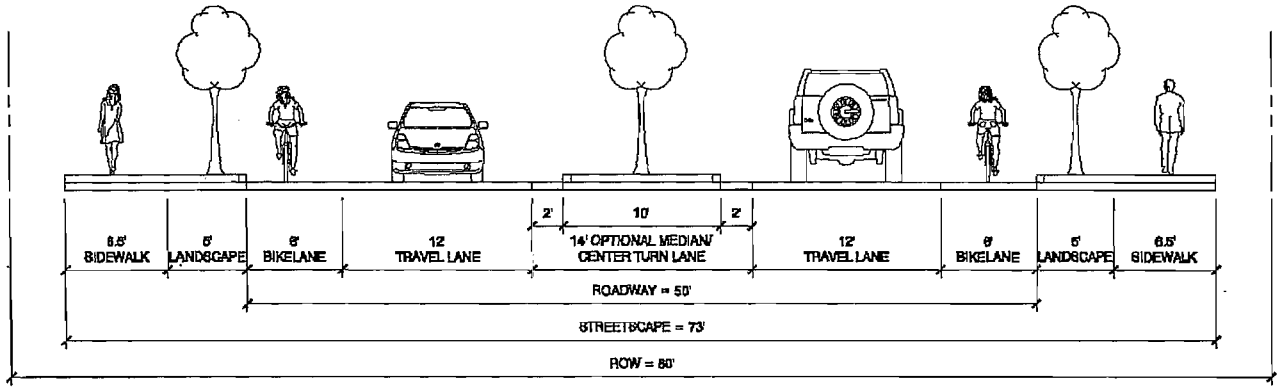
Project Vicinity Map:



Related Projects:

R-21a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: I-03	**OR 51/Monmouth Avenue traffic signal**

Description: Install traffic signal.

Location: OR 51/Monmouth Avenue intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $420,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

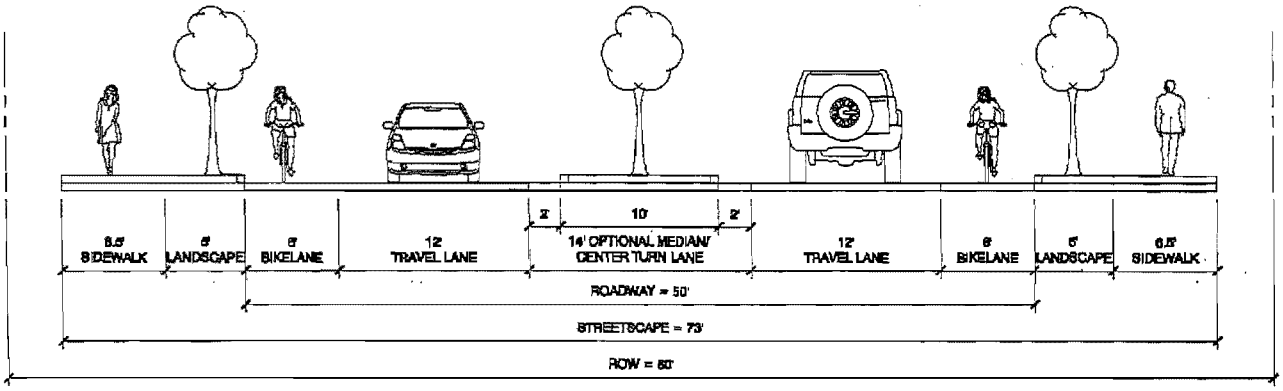
Purpose: A traffic signal would mitigate forecast traffic operations and provide protected pedestrian crossing for students from WOU coming to downtown.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: I-10	**OR 99W/Ash Creek Drive traffic signal**

Description: Install traffic signal.

Location: 99W/Planned E-W Collector (R-11) intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	n/a	Long Term 2021-2030

Estimated Construction and Engineering Cost: $420,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

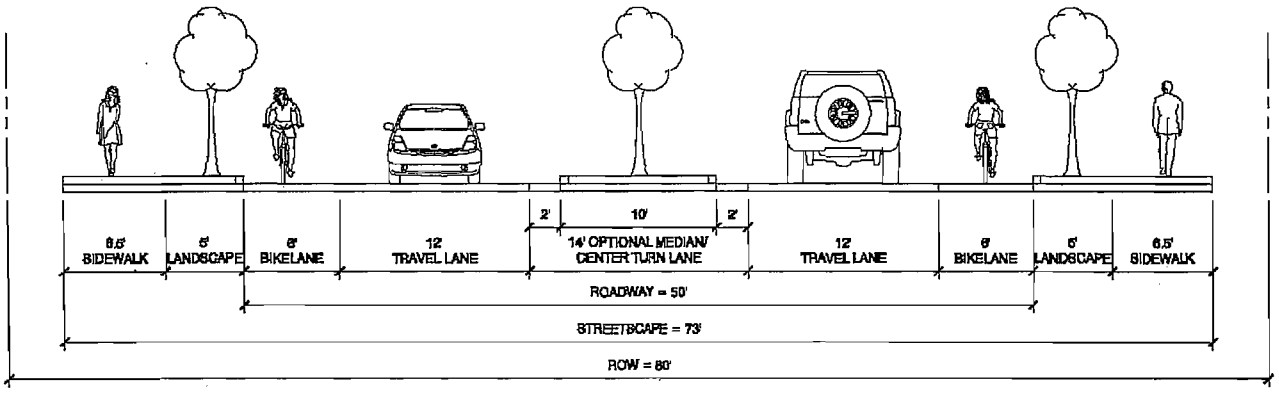
Purpose: A traffic signal at the future OR 99W/Ash Creek Drive intersection will be efficiently spaced with the proposed Gwinn Street signal and will provide operational and progression benefits along OR 99W.

Project Vicinity Map:

Related Projects:

RE-11b, RE-11c, P-03

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-01	**Monmouth Avenue full street improvements**

Description: Improve roadway cross section to street standards from Stadium Drive to Hoffman Road.

Location: Monouth Avenue between Hoffman Road and Whitesell Avenue.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

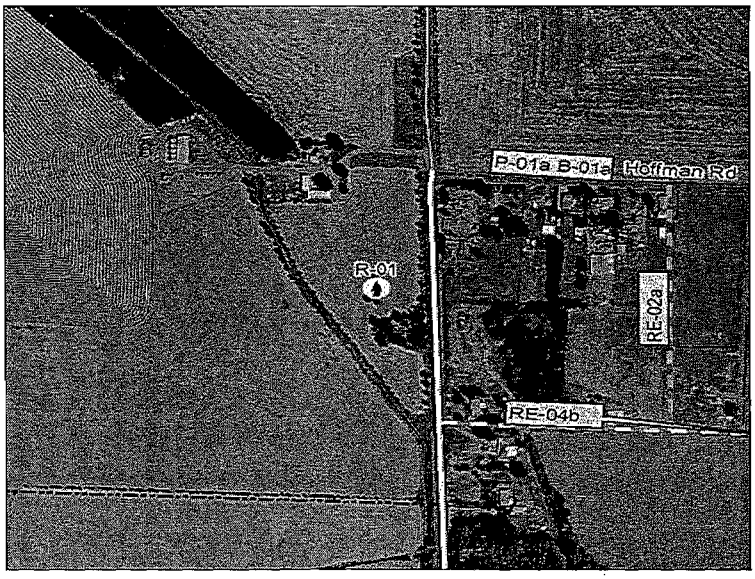
Estimated Construction and Engineering Cost: $570,000

Approximate Lineal Feet: 3,370

Cost per Lineal Foot: $169

Purpose: Improves existing roadway to design standards.

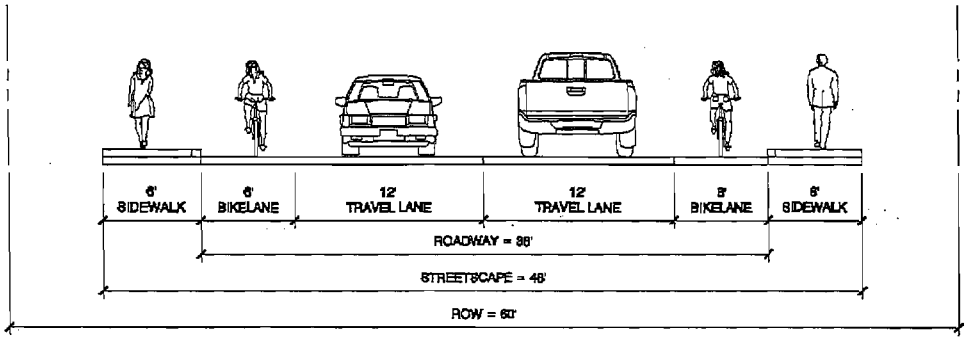
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: R-02	**OR 99W full street improvements, Hoffman to Church**

Description: Improve roadway cross section to street standards between Hoffman Road and Church Street.

Location: OR 99W between Hoffman Road and Church Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $2,300,000

Approximate Lineal Feet: 4,620

Cost per Lineal Foot: $498

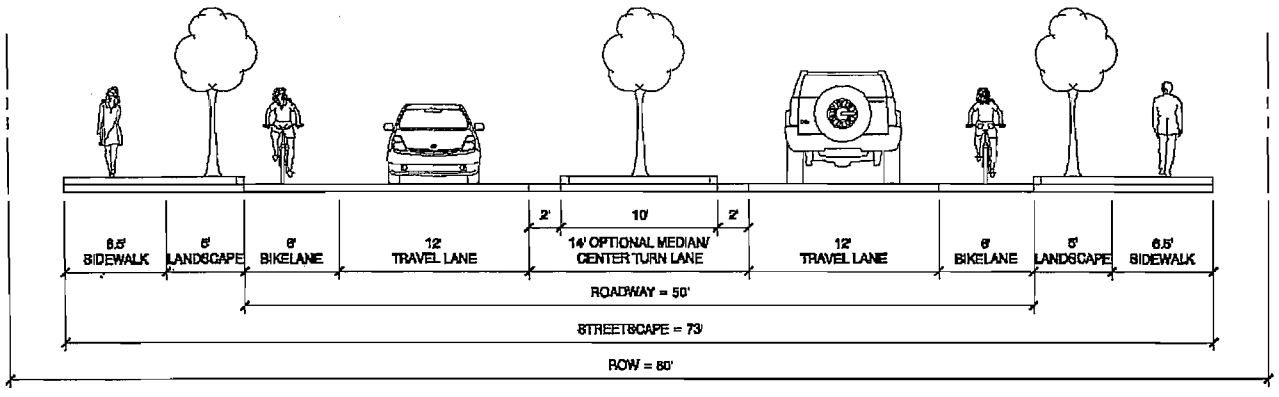
Purpose: Improves existing roadway to design standards.

Project Vicinity Map:

Related Projects:

R-08, P-11a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-10	**OR 99W northbound and southbound left-turn lanes at Jackson Street**

Description: Construct north and south left-turn lanes on OR 99W at Jackson Street.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $260,000

Approximate Lineal Feet: 800

Cost per Lineal Foot: $325

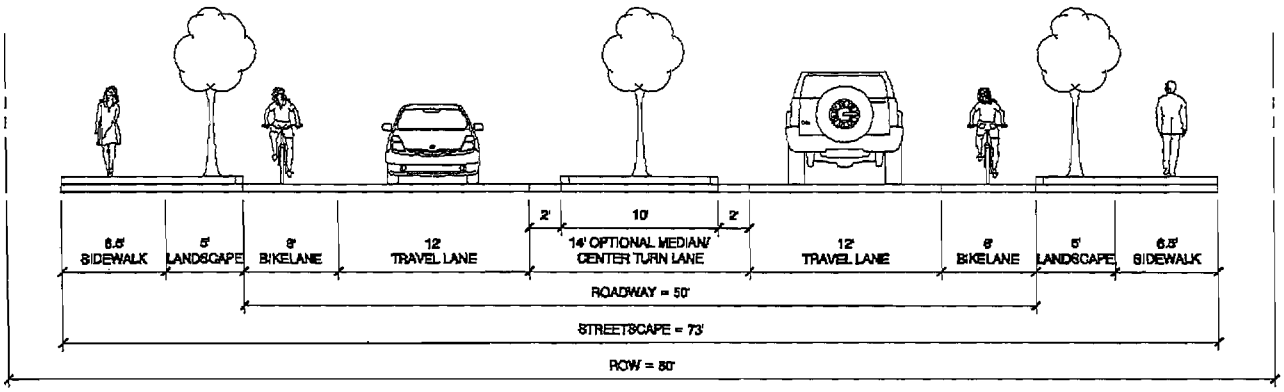
Purpose: A turn lane is warranted under existing conditions, and would be consistent with the recommended cross section standards for a major arterial.

Project Vicinity Map:

Related Projects:

B-11a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-21b	**OR 99W full street improvements**

Description: Improve with curb and gutter along both sides of OR 99W from Gwinn Street to the south city limit.

Location: OR 99W between Madrona Street and south City limit.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $400,000
Approximate Lineal Feet: 1,680
Cost per Lineal Foot: $238

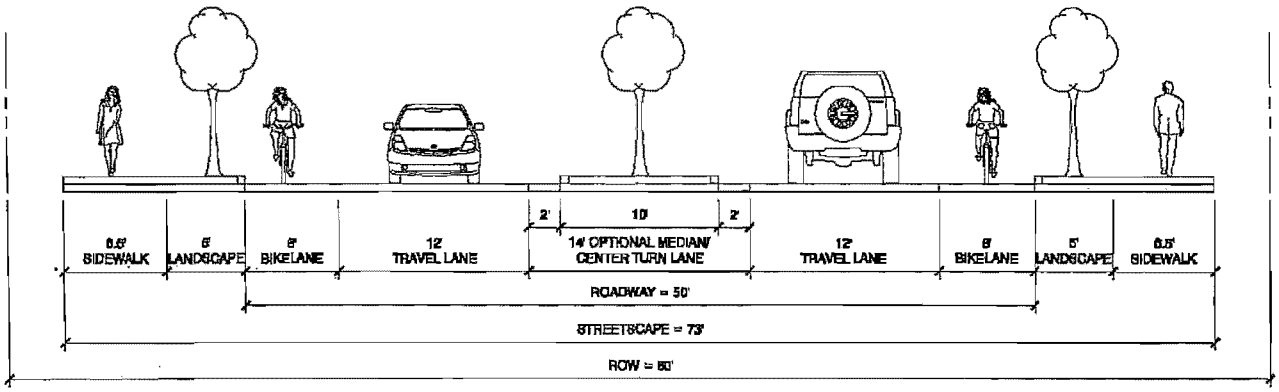
Purpose: Improves existing roadway to design standards.

Project Vicinity Map:

Related Projects:

P-11c

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-22a	**Hoffman Road half street improvements**

Description: Improve south side to street standards within UGB boundary.

Location: South side of Hoffman Road between west UGB boundary and 99W.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Arterial	70 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $800,000

Approximate Lineal Feet: 2,390

Cost per Lineal Foot: $335

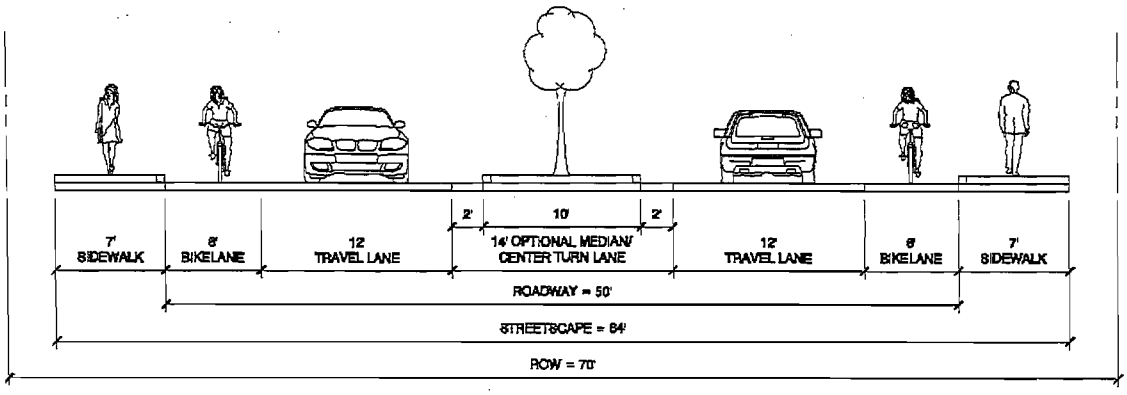
Purpose: Improves south side of existing roadway to design standards.

Project Vicinity Map:

Related Projects:

B-01a, P-01a

Typical Cross-Section:



MINOR ARTERIAL

Project #: R-25	**OR 51/Craven South westbound left-turn lane**

Description: Provide a westbound left turn lane.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $180,000

Approximate Lineal Feet: 400

Cost per Lineal Foot: $450

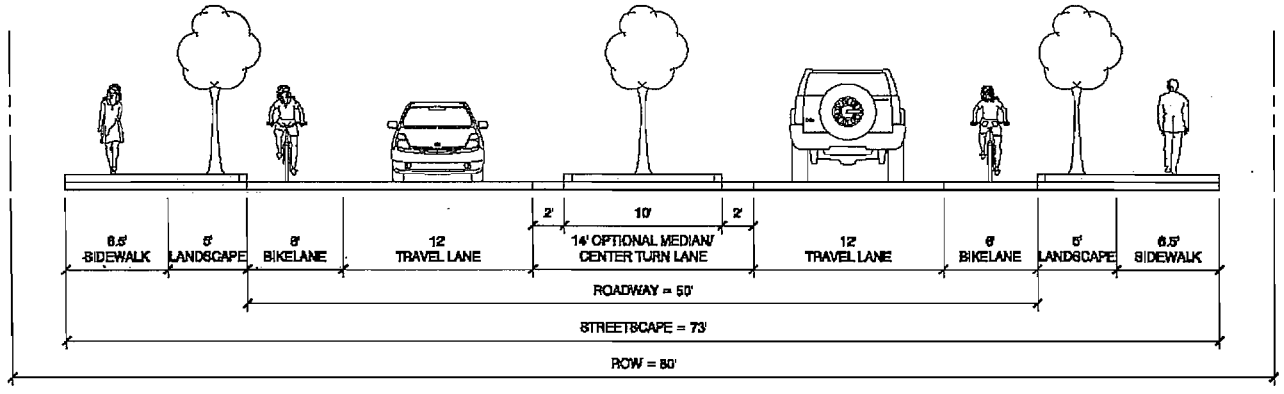
Purpose: The westbound left-turn lane is warranted; however, impacts from left-turning vehicles are minimal. This project should be constructed as redevelopment presents the oportunity.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: R-26	**OR 51/Craven North eastbound left-turn lane**

Description: Provide an eastbound left turn lane.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $180,000

Approximate Lineal Feet: 400

Cost per Lineal Foot: $450

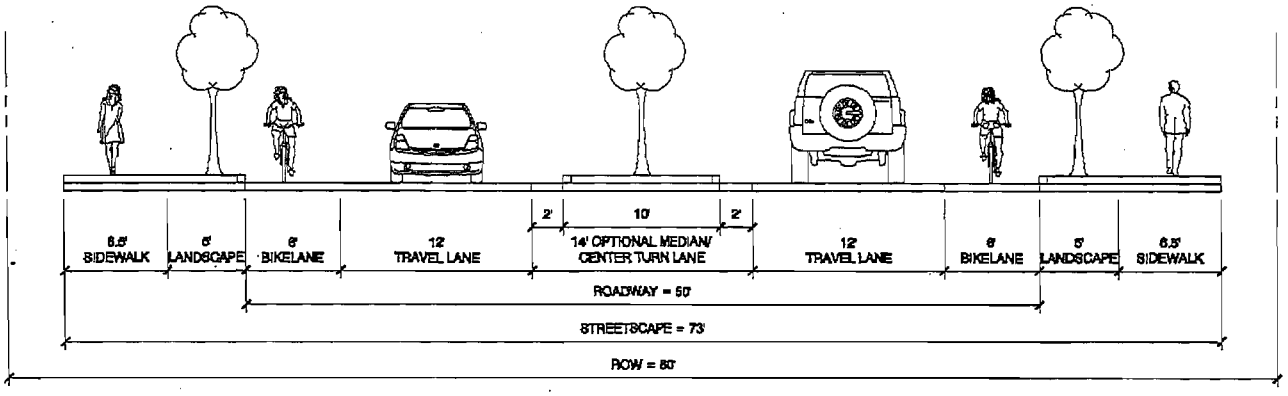
Purpose: The eastbound left-turn lane is warranted; however, impacts from left-turning vehicles are minimal. This project should be constructed as redevelopment presents the oportunity.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: RE-02a	**Warren Street Extension**

Description: Extend Warren Street north from planned east-west major collector (project RE-04) to Hoffman Road.

Location: Planned East-West Connector to Hoffman Road.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Long Term 2021-2030

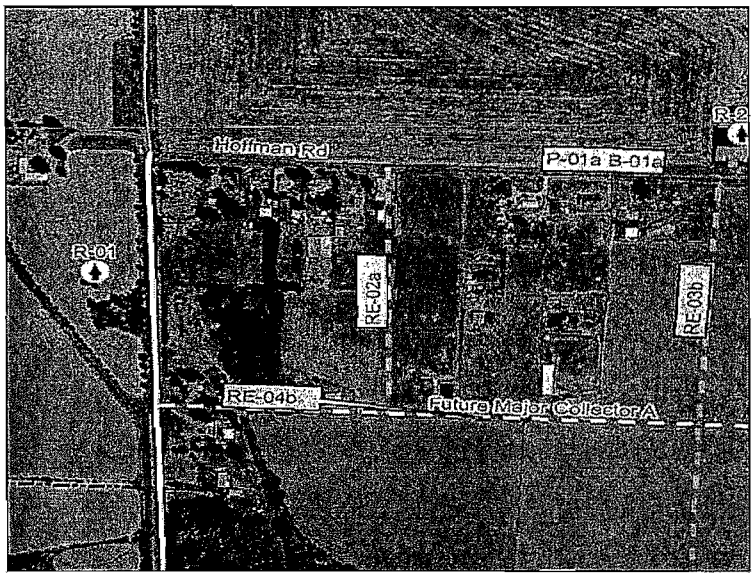
Estimated Construction and Engineering Cost: $1,100,000

Approximate Lineal Feet: 1,130

Cost per Lineal Foot: $973

Purpose: Northern section will provide north-south connectivity to developing area in northwest Monmouth.

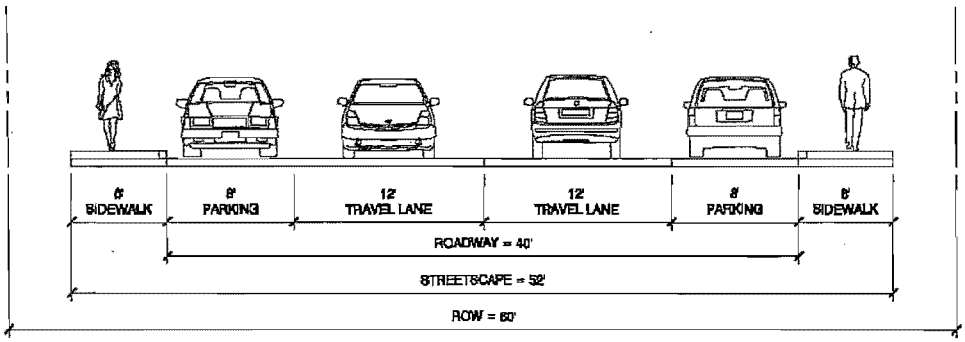
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: RE-03a	**Catron Street Extension, north**

Description: Extend Catron Street north from Planned East-West Connector to Hoffman Road.

Location: Gentle Avenue to Hoffman Road.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Long Term 2021-2030

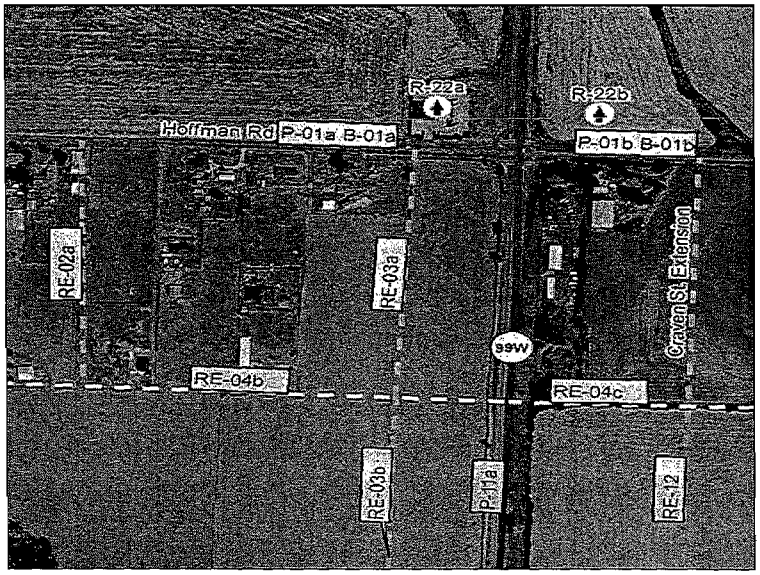
Estimated Construction and Engineering Cost: $1,100,000

Approximate Lineal Feet: 1,110

Cost per Lineal Foot: $991

Purpose: Important north-south alternative to OR 99W (primary) and Monmouth Avenue (secondary) to accommodate future development.

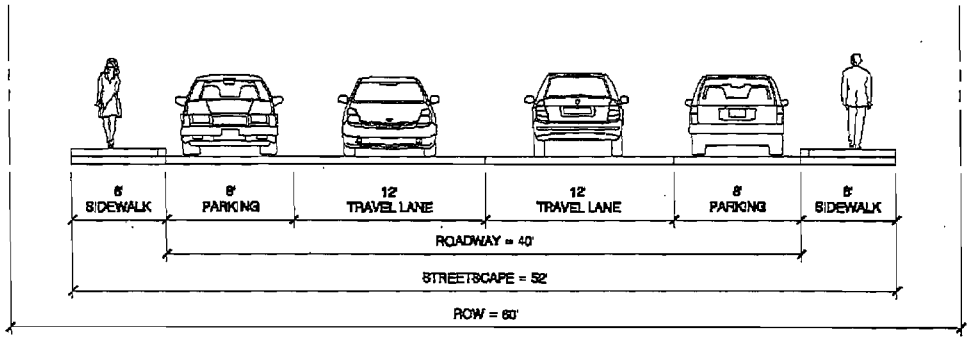
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: RE-03b	**Catron Street Extension, gentle to Collector A**

Description: Extend Catron Street north from Burlwood Avenue to Planned East-West Connector.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $1,500,000
Approximate Lineal Feet: 1,570
Cost per Lineal Foot: $955

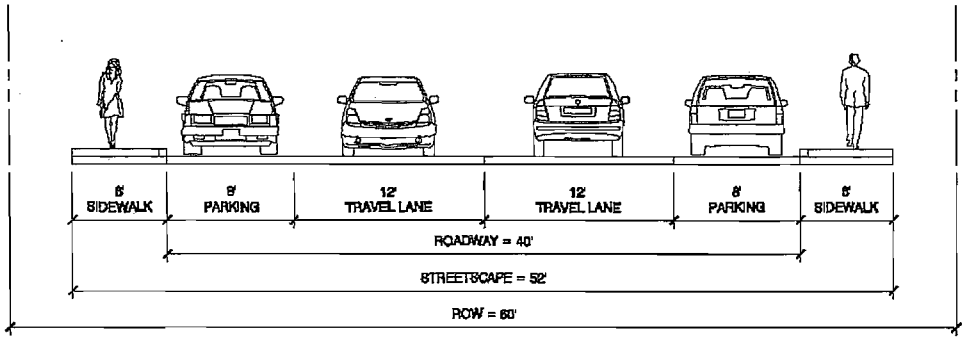
Purpose: Southern section requires bridge over Ash Creek with extensive analysis and mitigations.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: RE-04b	**Northern east-west Major Collector "A"**

Description: Construct east-west Major Collector (approximately 1,100 feet south of Hoffman Road) connecting Monmouth Avenue to OR 99W.

Location: North Monmouth east-west major collector.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $2,000,000

Approximate Lineal Feet: 2,250

Cost per Lineal Foot: $889

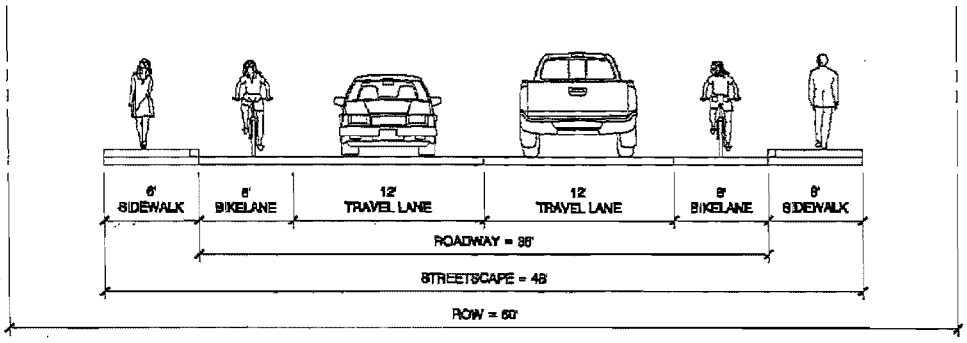
Purpose: Important east-west alternative to OR 51 and Hoffman Road.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-05b	**Western north-south Minor Arterial**

Description: Construct connection between Future Major Collector "C" and OR 51.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Arterial	70 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $6,900,000

Approximate Lineal Feet: 5,780

Cost per Lineal Foot: $1,194

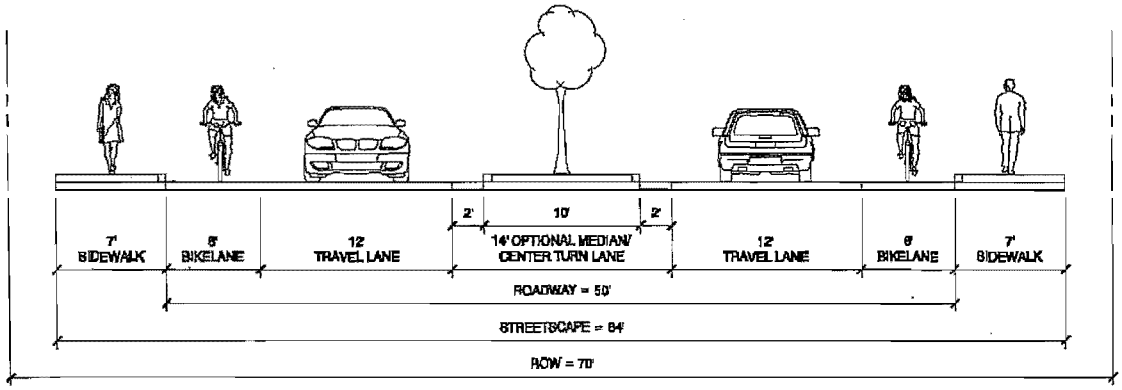
Purpose: Provides north-south bypass, creating relief along OR 51/OR 99W intersection and grid-network possibilities into adjacent WOU campus and neighborhoods.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR ARTERIAL

Project #: RE-07	**Main Street west extension**

Description: Extend Main Street to planned north-south minor arterial.

Location: west of Stadium Drive along Main Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $780,000

Approximate Lineal Feet: 880

Cost per Lineal Foot: $886

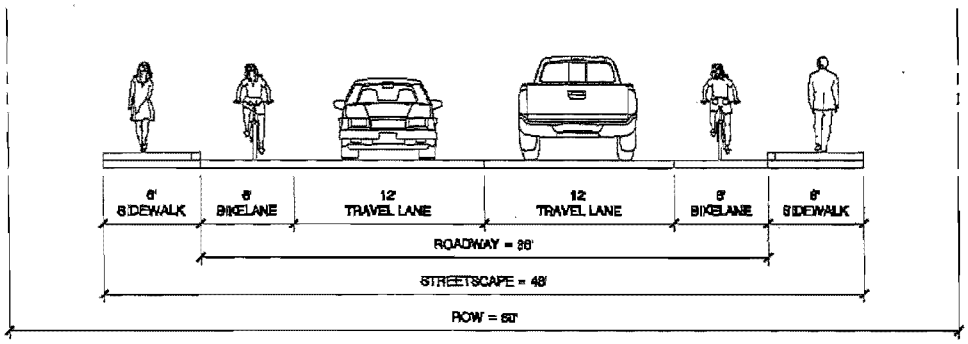
Purpose: Provides grid-network connectivity to future north-south bypass (RE-05).

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-09	**Whitman Street extension south to Ash Creek Drive extension**

Description: Extend Whitman Street south to Ash Creek Drive extension.

Location: south of OR 51.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

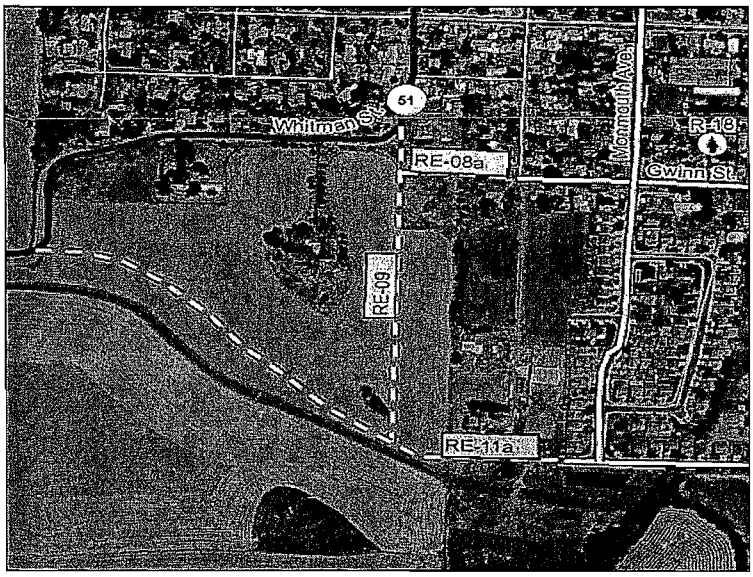
Estimated Construction and Engineering Cost: $1,200,000

Approximate Lineal Feet: 1,400

Cost per Lineal Foot: $857

Purpose: Provides grid-network connectivity to Ash Creek Drive.

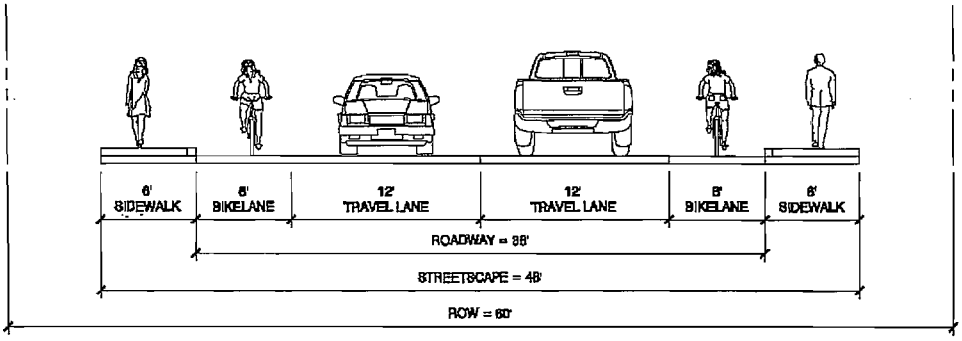
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: RE-10	**Ecols Street extension**

Description: Extend Ecols Street south from Gwinn Street to planned Ash Creek Drive extension.

Location: south of Gwinn Street/Ecols Street intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $1,200,000

Approximate Lineal Feet: 1,230

Cost per Lineal Foot: $976

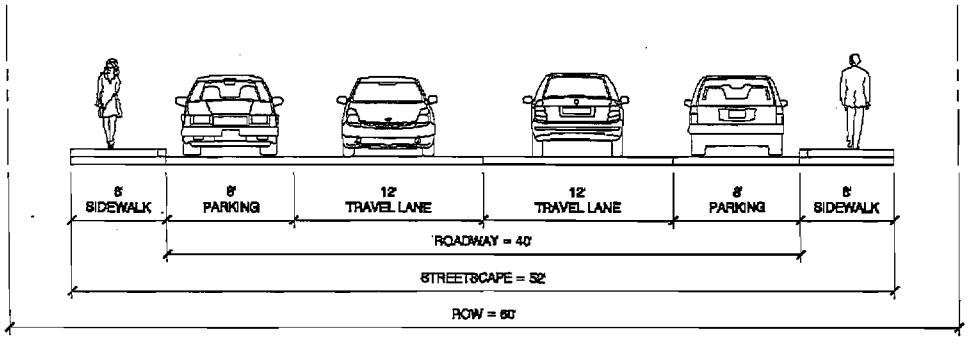
Purpose: Provides grid-network connectivity to Ash Creek Drive.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: RE-11a	**Ash Creek Drive extension, west**

Description: Extend Ash Creek Drive from Monmouth Avenue to OR 51.

Location: west of Monmouth Avenue.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

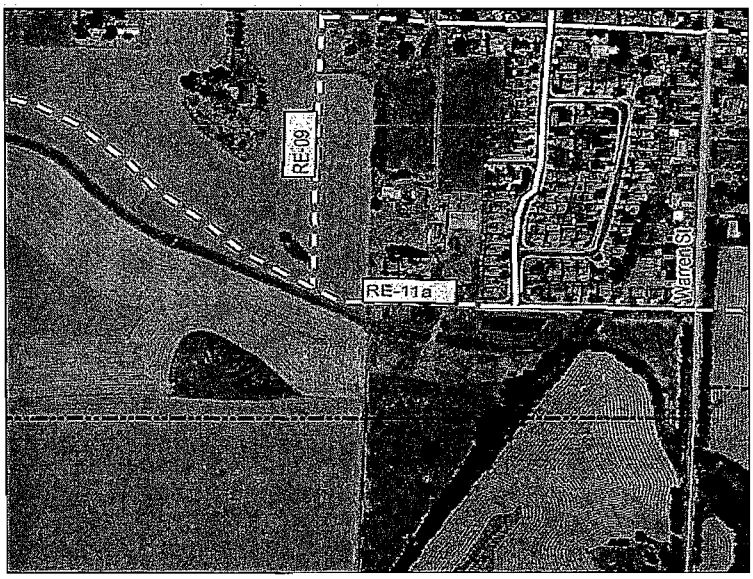
Estimated Construction and Engineering Cost: $1,900,000

Approximate Lineal Feet: 2,170

Cost per Lineal Foot: $876

Purpose: Provides southern east-west connection and parallel route to OR 51. Would require acquisition of Major Arterial right-of-way for long term vision expansion option.

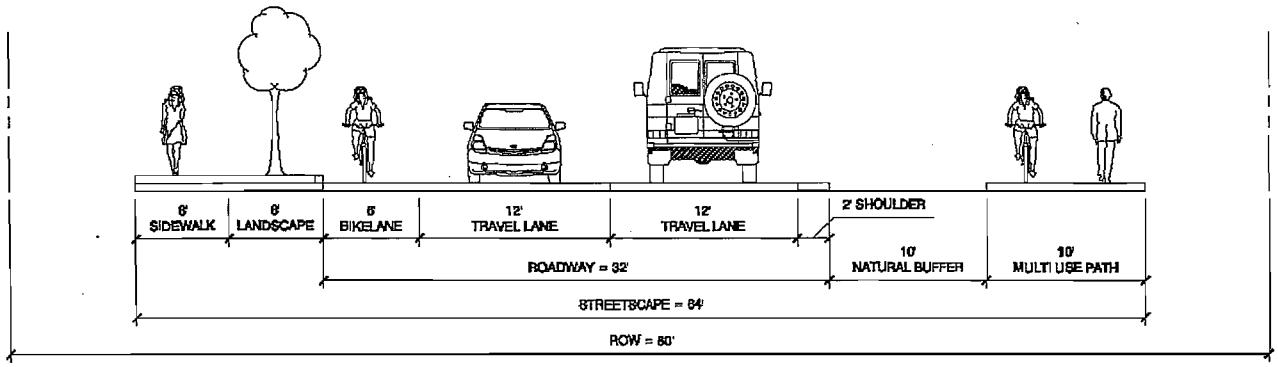
Project Vicinity Map:



Related Projects:

P-03

Typical Cross-Section:



ASH CREEK DRIVE (MAJOR COLLECTOR)

Project #: RE-11b	**Ash Creek Drive extension, central**

Description: Extend Ash Creek Drive from Warren Street to OR 99W.

Location: east of Warren Street/Ash Creek Drive intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

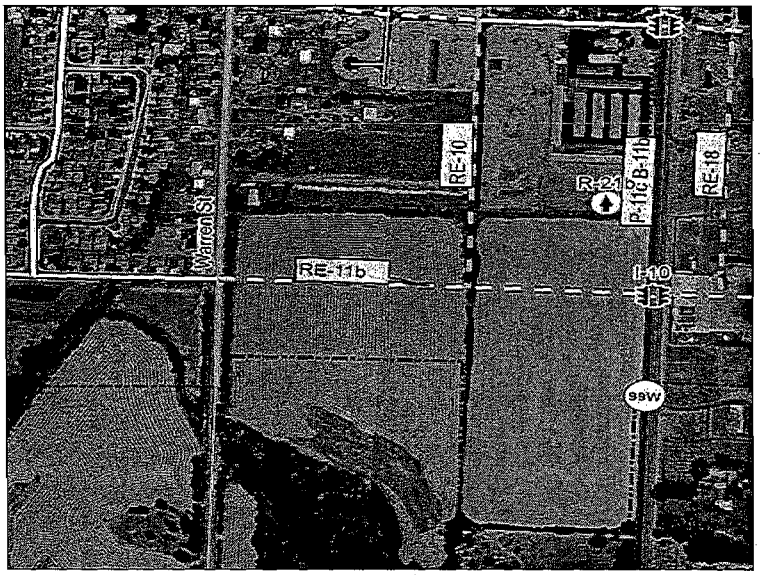
Estimated Construction and Engineering Cost: $1,300,000

Approximate Lineal Feet: 1,470

Cost per Lineal Foot: $884

Purpose: Provides southern east-west connection and parallel route to OR 51. Would require acquisition of Major Arterial right-of-way for long term vision expansion option.

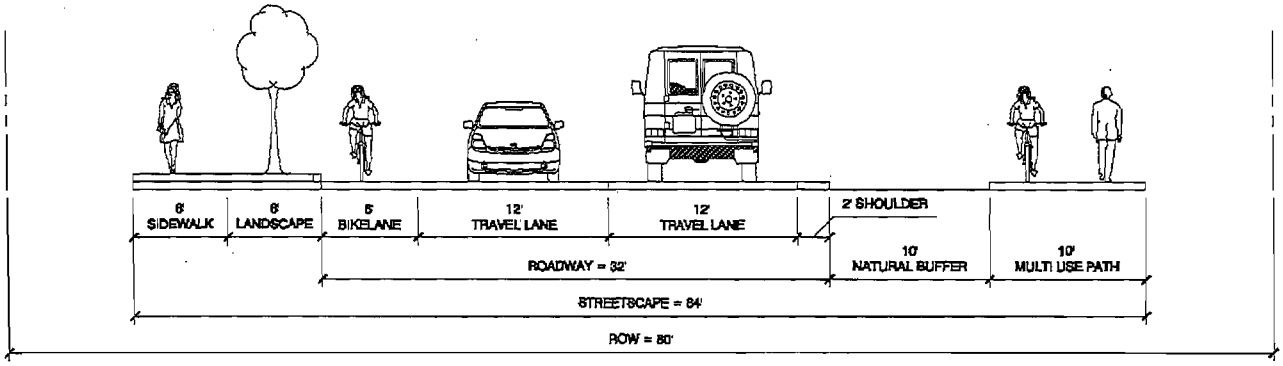
Project Vicinity Map:



Related Projects:

P-03

Typical Cross-Section:



ASH CREEK DRIVE (MAJOR COLLECTOR)

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: RE-11c	**Ash Creek Drive extension, east**

Description: Construct east-west collector (Ash Creek Drive) between Talmadge Road and OR 99W.

Location: west of 99W/Planned Ash Creek Drive intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $4,000,000

Approximate Lineal Feet: 4,580

Cost per Lineal Foot: $873

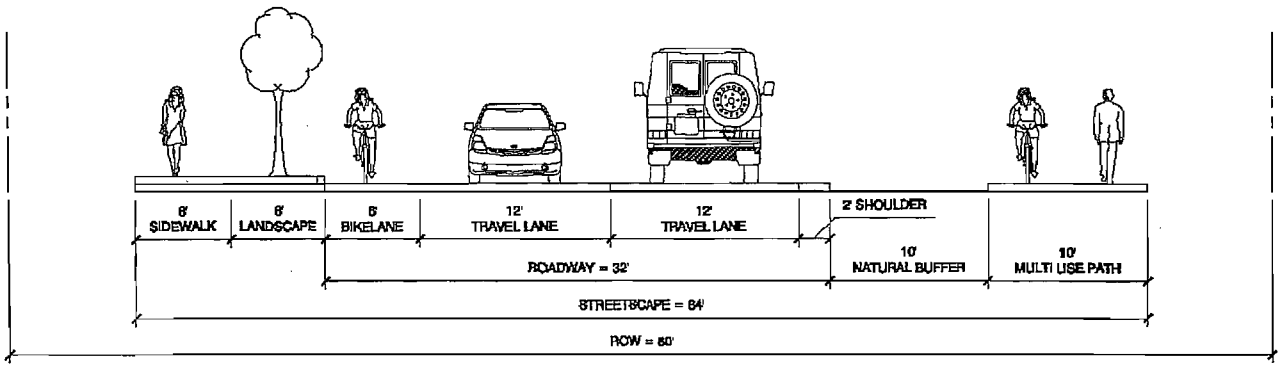
Purpose: Provides southern east-west connection and parallel route to OR 51. Would require acquisition of Major Arterial right-of-way for long term vision expansion option.

Project Vicinity Map:

Related Projects:

P-03

Typical Cross-Section:



ASH CREEK DRIVE (MAJOR COLLECTOR)

Project #: RE-12	**Craven Street extension**

Description: Extend Craven Street north from Church Street to Hoffman Road.

Location: Church to Hoffman.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $2,900,000

Approximate Lineal Feet: 3,260

Cost per Lineal Foot: $890

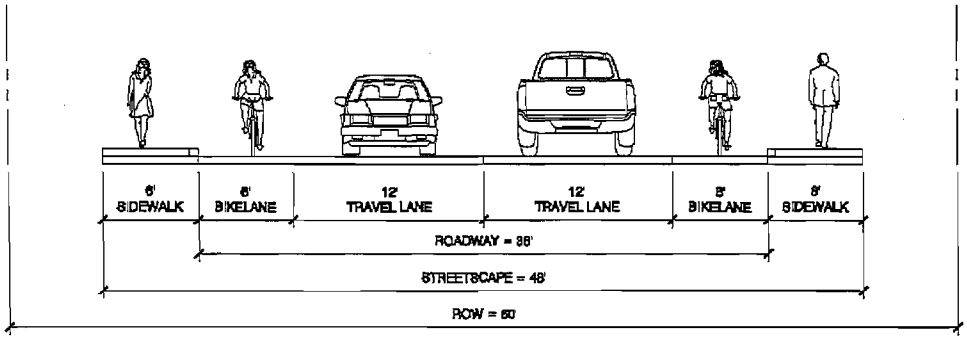
Purpose: Important north-south alternative to 99W. This project may require significant wetland mitigations.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-15	**Margaret Street extension**

Description: Extend Margaret Street to Hogan Road.

Location: Margaret Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Local Street	60 feet	Long Term 2021-2030

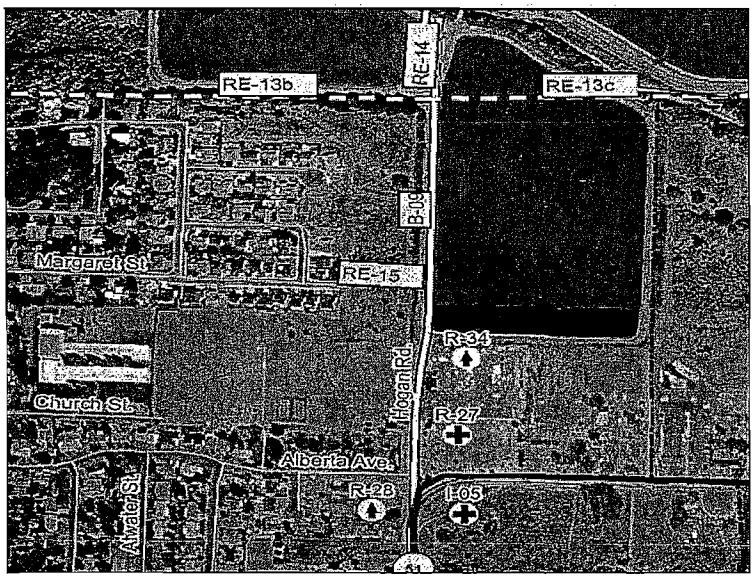
Estimated Construction and Engineering Cost: $270,000

Approximate Lineal Feet: 310

Cost per Lineal Foot: $871

Purpose: Provides grid-network connectivity between OR 99W, Hogan Road, and OR 51. This project may require significant wetland mitigations.

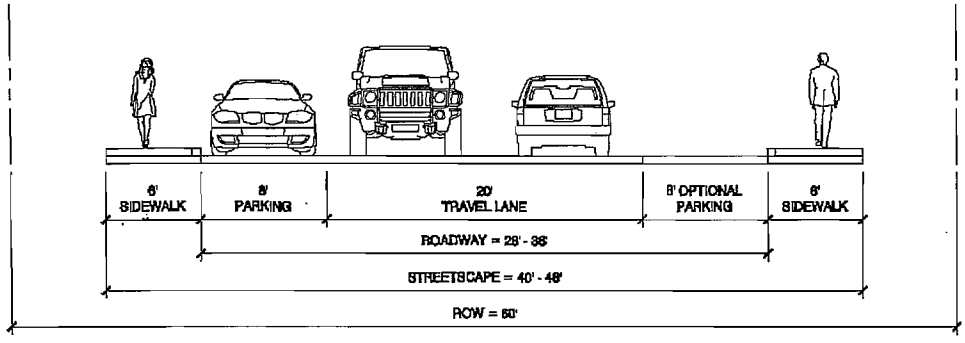
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



LOCAL STREET

Project #: RE-19	**Edwards Road extension**

Description: Extend Edwards Road south to the urban growth boundary.

Location: south of Edwards Road/Gwinn Street intersection.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $860,000

Approximate Lineal Feet: 890

Cost per Lineal Foot: $966

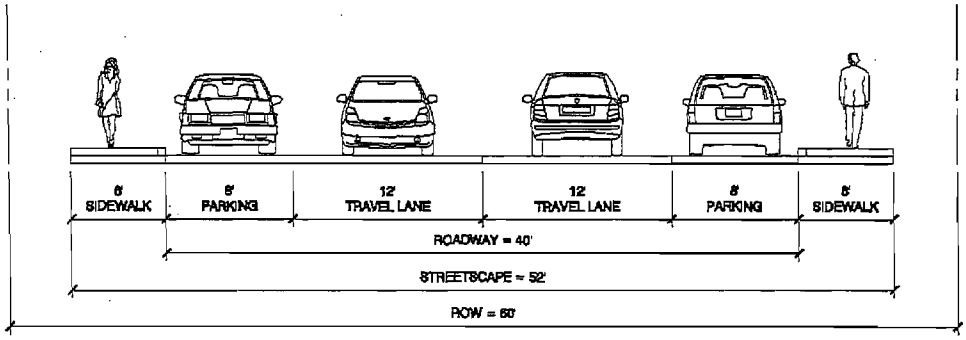
Purpose: Provides additional grid-network connectivity to a future east-west connector.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Project #: RE-23	**Suzana Street extension**

Description: Extend Suzana Street to OR 99W.

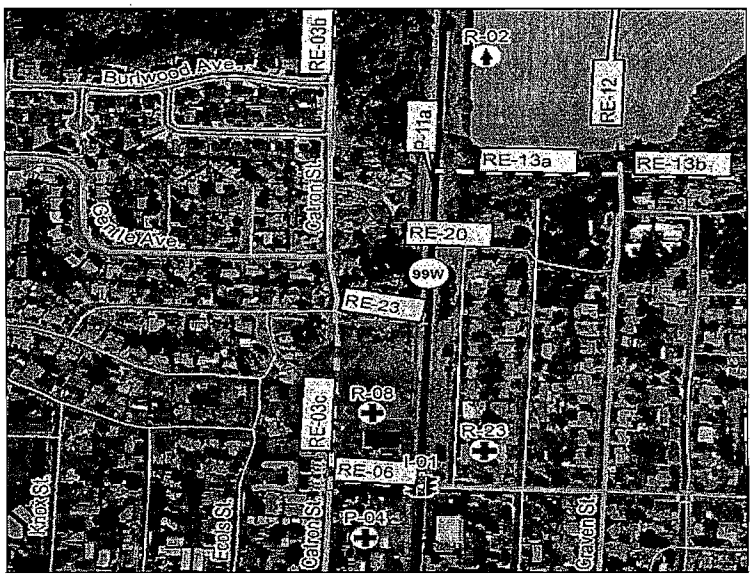
Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Local Street	60 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $260,000
Approximate Lineal Feet: 300
Cost per Lineal Foot: $867

Purpose: This alternative would provide additional access into the northwest Monmouth neighborhoods.

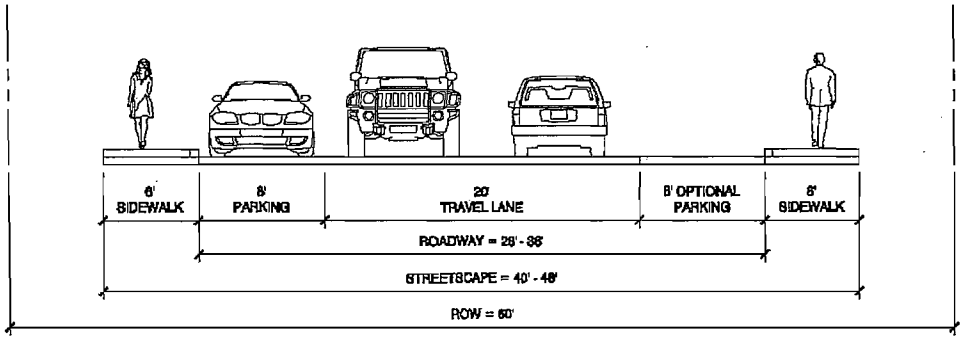
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



LOCAL STREET

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: RE-24	**Northwestern east-west Major Collector "C"**

Description: Construct east-west connector from Monmouth Avenue to future north south minor arterial.

Location: OR 99W north of Church Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Collector	60-80 feet	Long Term 2021-2030

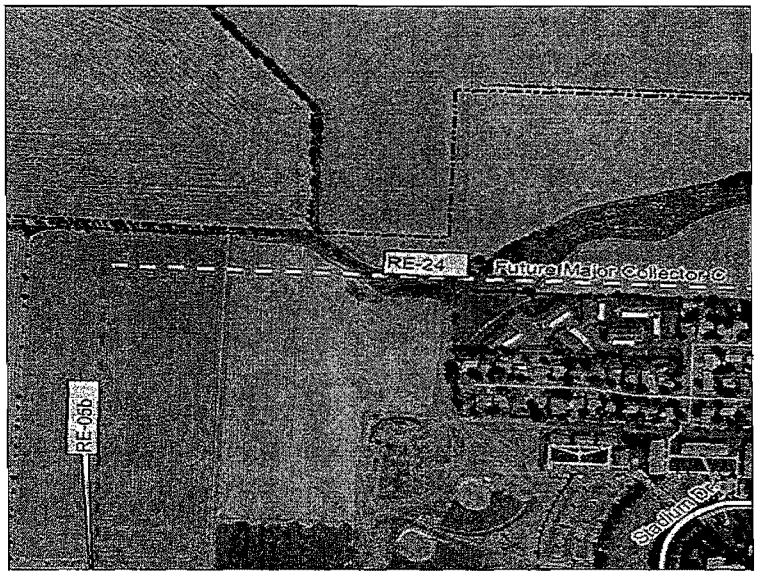
Estimated Construction and Engineering Cost: $2,500,000

Approximate Lineal Feet: 2,790

Cost per Lineal Foot: $896

Purpose: Provides future needed connectivity from northwest neighborhoods to the west city limit.

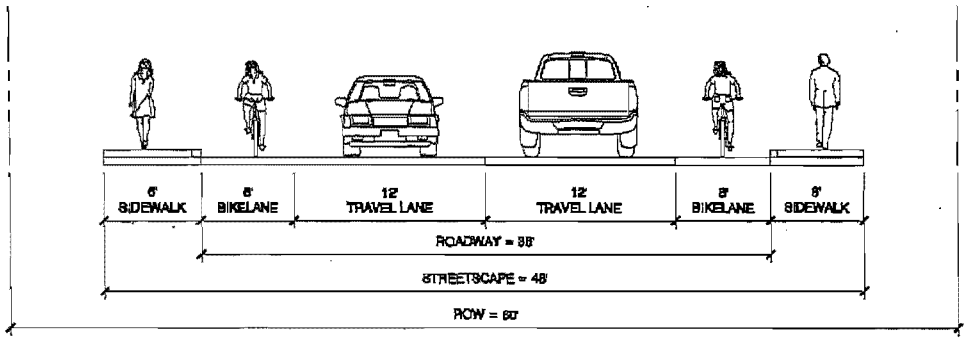
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MAJOR COLLECTOR

Project #: RE-25	**Jackson Street extension**

Description: Construct Jackson Street between Killen Court and Talmadge Road.

Location: OR 99W north of Church Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Collector	60 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $2,100,000

Approximate Lineal Feet: 2,200

Cost per Lineal Foot: $955

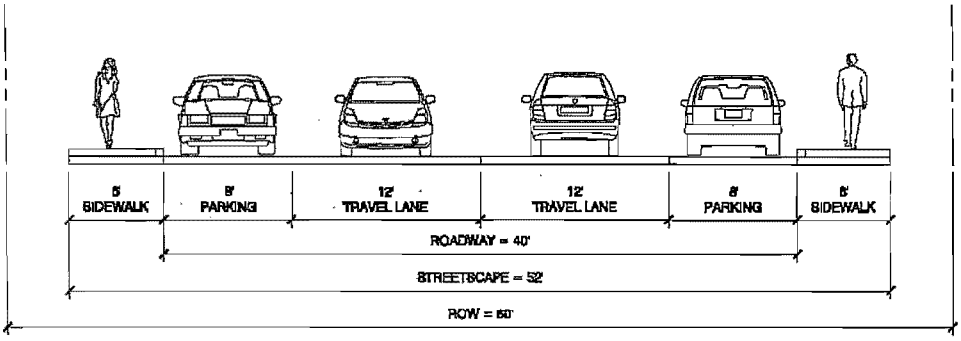
Purpose: This project would provide a continuous east-west connection through Monmouth and connect with a future planned roadway in the Independence TSP.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



MINOR COLLECTOR

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: RE-26	**Warren Street Campus Bypass**

Description: Construct Warren Street between Powell and E. Campus Bypass.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Local Street	60 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $560,000

Approximate Lineal Feet: 630

Cost per Lineal Foot: $889

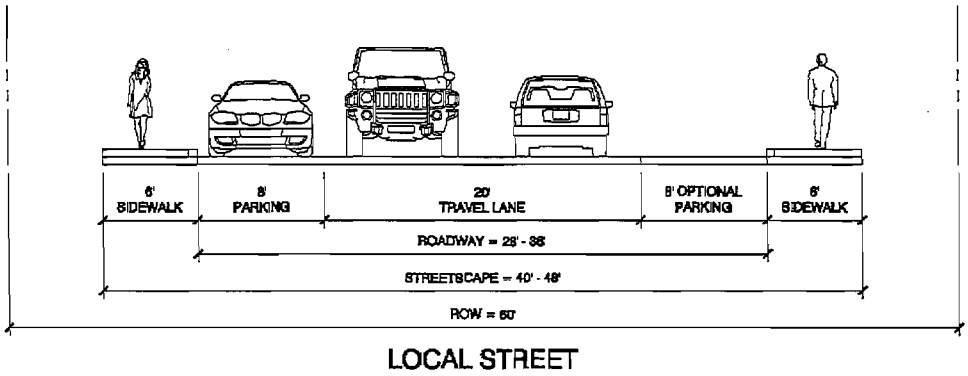
Purpose: This project is idententified in the WOU Master Plan to promote alternative routes outside of the campus core.

Project Vicinity Map:

Related Projects:

n/a

Typical Cross-Section:



LOCAL STREET

Project #: P-01a	**Hoffman Road sidewalks**

Description: Construct sidewalks along the south side of Hoffman Road between west city limits and 99W.

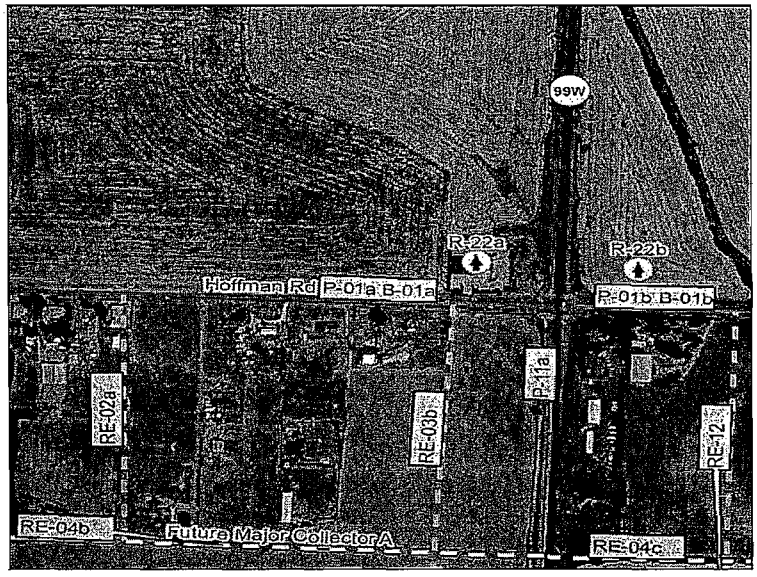
Location: Hoffman Road between west city limits and 99W.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Arterial	70 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $160,000
Approximate Lineal Feet: 2,300
Cost per Lineal Foot: $70

Purpose: Cross section standards for all public streets include sidewalks.

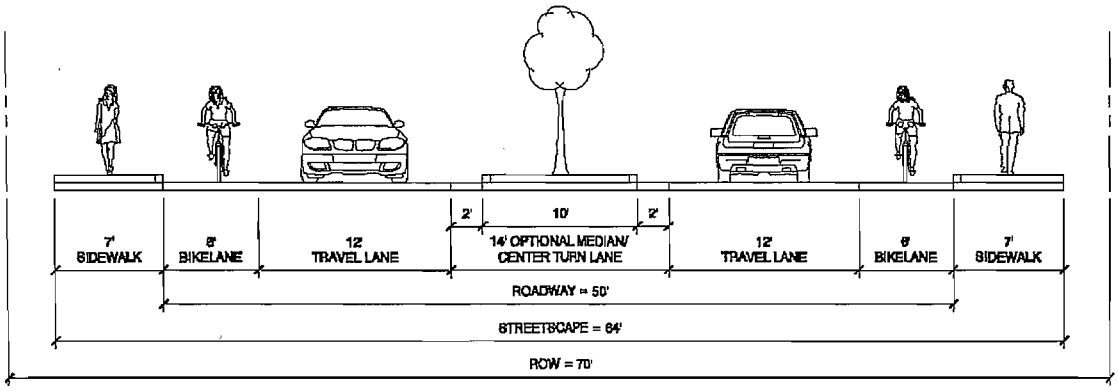
Project Vicinity Map:



Related Projects:

R-22, B-01a

Typical Cross-Section:



MINOR ARTERIAL

Project #: P-03	**Ash Creek Trail**

Description: Include the planned development of the Ash Creek Trail System in transportation plan.

Location: northeast Monmouth near retention ponds.

Functional Classification:	**Required ROW:**	**Time Frame:**
n/a	n/a	Long Term 2021-2030

Estimated Construction and Engineering Cost: $2,800,000

Approximate Lineal Feet: n/a

Cost per Lineal Foot: n/a

Purpose: Provides a multi-use path for recreational uses, and serves pedestrian and bicycle travel along the perimeter of Monmouth with connection into Independence.

Project Vicinity Map:

Related Projects:

RE-11a, RE-11b, RE-11c

SEE FIGURE 7-7

Typical Cross-Section:

NOT APPLICABLE

Project #: P-11b	**OR 99W sidewalks between Clay and Madrona**

Description: Construct sidewalks along 99W between Clay Street and Madrona Street.

Location: 99W between Clay Street and Madrona Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

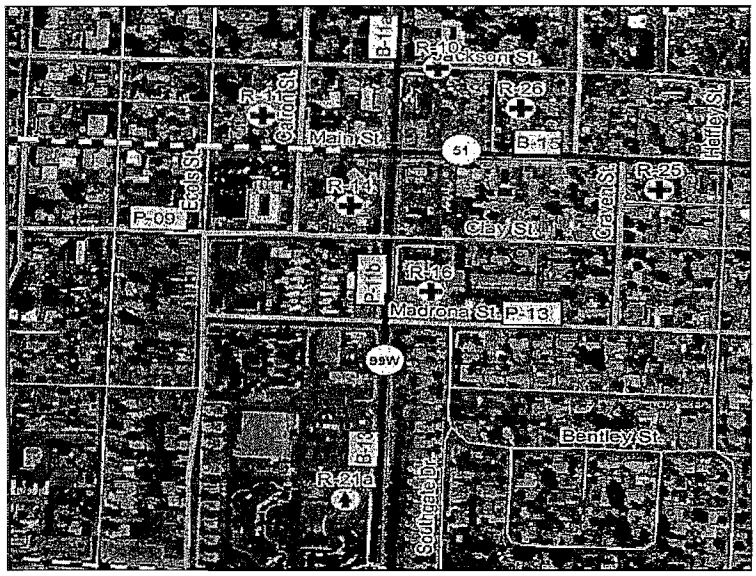
Estimated Construction and Engineering Cost: $25,000

Approximate Lineal Feet: 350

Cost per Lineal Foot: $71

Purpose: Provides safe pedestrian facilities along OR 99W.

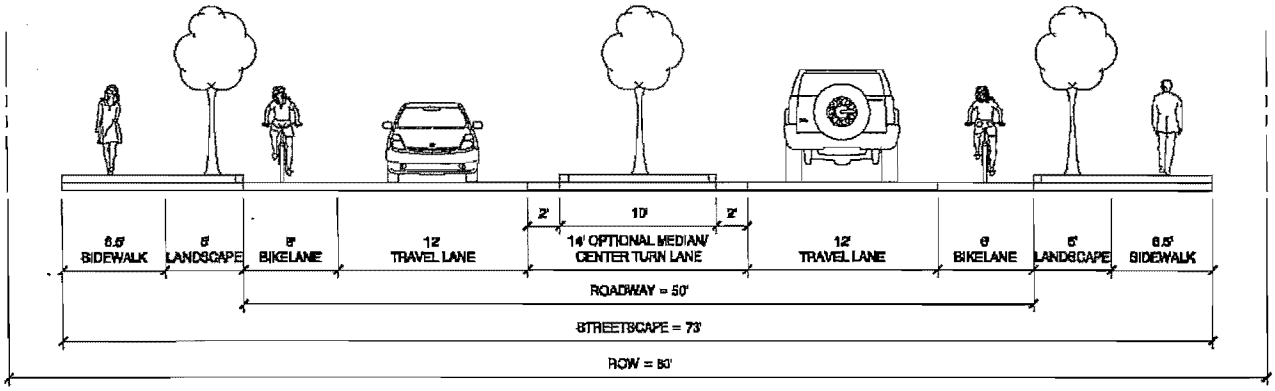
Project Vicinity Map:



Related Projects:

n/a

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: P-11c	**OR 99W sidewalks south of Madrona Street**

Description: Construct sidewalks along 99W between Madrona Street and south city limit.

Location: 99W between Clay Street and Madrona Street.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $350,000
Approximate Lineal Feet: 2,860
Cost per Lineal Foot: $122

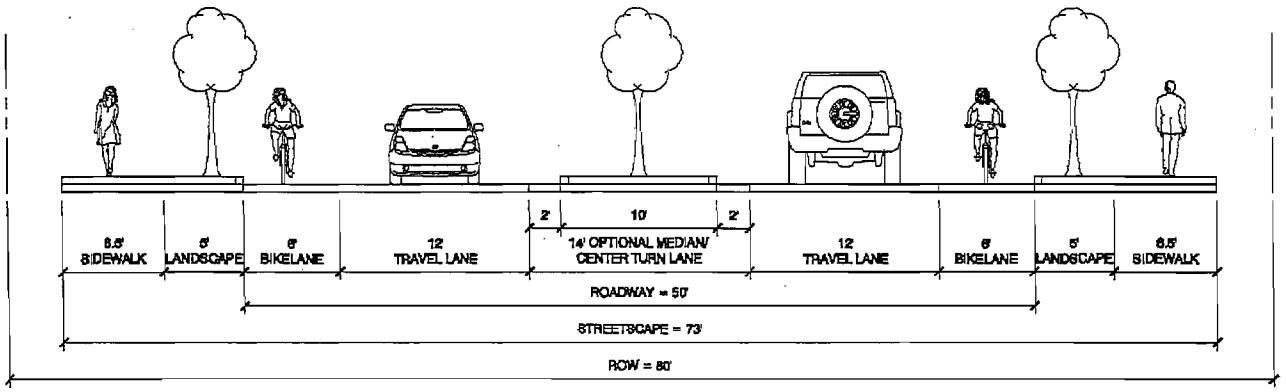
Purpose: Provides safe pedestrian facilities along OR 99W.

Project Vicinity Map:

Related Projects:

R-21a, R-21b

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

Project #: B-01a	**Hoffman Road bike lanes**

Description: Construct bike lanes along south side of Hoffman Road between west city limits and OR 99W.

Location: Hoffman Road between west city limits and OR 99W.

Functional Classification:	**Required ROW:**	**Time Frame:**
Minor Arterial	70 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $300,000

Approximate Lineal Feet: 2,370

Cost per Lineal Foot: $127

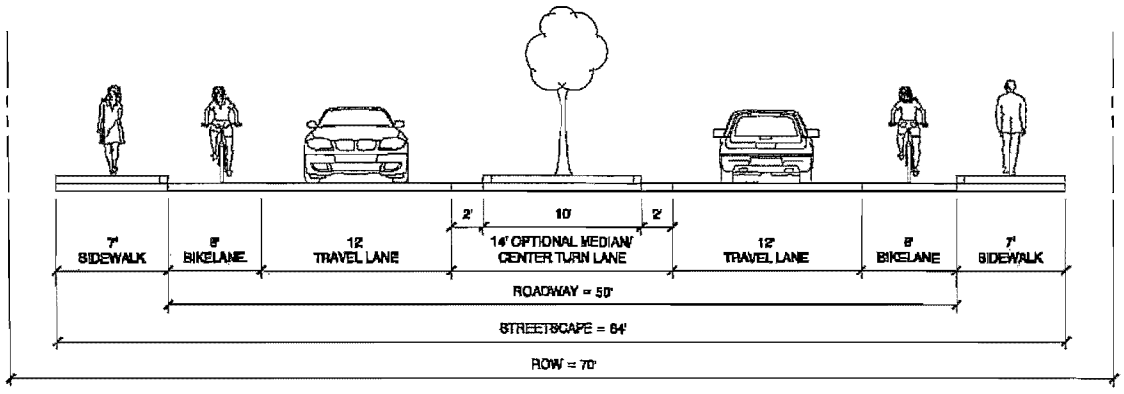
Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

Project Vicinity Map:

Related Projects:

R-22, P-01a

Typical Cross-Section:



MINOR ARTERIAL

Project #: B-11a	**OR 99W north bike lanes**

Description: Construct bike lanes along OR 99W between Church Street and Clay Street.

Location: See project description.

Functional Classification:	**Required ROW:**	**Time Frame:**
Major Arterial	70-80 feet	Long Term 2021-2030

Estimated Construction and Engineering Cost: $210,000

Approximate Lineal Feet: 1,550

Cost per Lineal Foot: $135

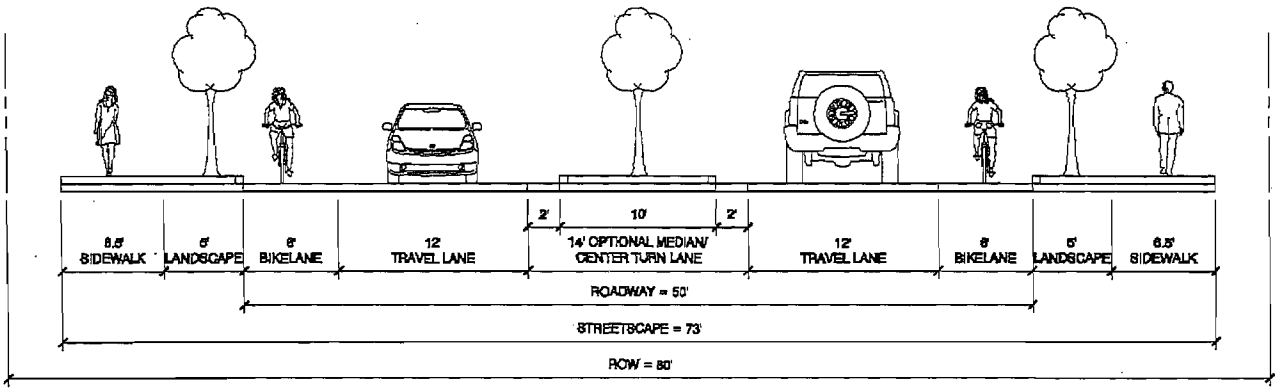
Purpose: Bike lanes are included in the roadway functional classification design standards for this roadway.

Project Vicinity Map:

Related Projects:

R-09, R-10

Typical Cross-Section:



MAJOR ARTERIAL

Projects on state highways are subject to ODOT design standards and access management rules.

EXHIBIT B
Amendments to the Monmouth Zoning and Development Ordinance.

Proposed new language is shown underlined. Language proposed for deletion is shown ~~struck-through~~.

Proposed amendments to Chapter 96: Development Standards, adding sections 96.405 through 96.425 – Transportation Improvements:

TRANSPORTATION IMPROVEMENTS

96.405 Purpose The purpose of this section is to provide standards and requirements for transportation improvements and to ensure that such improvements are consistent with the Monmouth Transportation System Plan and Oregon's Transportation Planning Rule (TPR) (Oregon Administrative Rules (OAR) Chapter 660, Division 12).

96.410 Transportation Improvement Standards.

A. General. The location, width, and grade of streets, bikeways and pedestrian facilities shall be considered in their relation to existing and planned streets, bikeways and pedestrian facilities, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. All streets, bikeways, and pedestrian facilities shall connect to other such facilities within the development and to existing and planned streets, bikeways, and pedestrian facilities outside the development. Where location is not shown in the Monmouth Transportation System Plan or another development plan, the arrangement of streets in a subdivision shall either:

1. Provide for the continuation or appropriate projection of existing and planned streets, bikeways and pedestrian facilities in surrounding areas; or

2. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets, bikeways and pedestrian facilities impractical.

B. Widths of street rights-of-way and paving design for streets shall be not less than those set forth in the table below, except that for a street abutting land not in the subdivision or partition area, a lesser width may be allowed as a variance where the applicant presents a satisfactory plan as to when such street will be expanded to the required width.

C. The width of street rights-of-way provided in the table below shall be the minimum widths of rights-of-way for streets existing along and adjacent to any boundary of the subdivision or partition which is the natural or planned continuation of the alignment of the existing or proposed streets, and the applicant shall dedicate additional rights of way, as determined by the Public Works Director in accordance with such table, for any such adjacent street, proposed for access to the subdivision, where the existing width of rights of way for such street is less than the minimum in said table. Off-site improvements, such as pavement construction or re-construction of existing street(s) proposed for access to the subdivision, which are inadequate or in failing condition, may be required. Off-site transportation improvements will include bicycle and pedestrian improvements, as identified in the adopted City of Monmouth Transportation System Plan.

D. The standard cross section for local streets includes on-street parking on both sides of the street, with a total paved cross section of 36 feet. The Public Works Director will permit development of a local street with a paved cross section of 28 feet if it can be shown that the traffic volume is not anticipated to meet or exceed 400 vehicles per day (average daily link volume) and where the street design limits parking to one side of the street only.

E. Street Standards.

Street Cross-Section Standards (TSP Table 7-2)

Classification	Right-of-Way	Streetscape	Travel Lanes	Bike Lanes	On-Street Parking	Sidewalks	Landscaping
Major Arterial[1]	80 feet	73 feet	2 travel + center turn lane or median	6 feet	No	6.5 feet	5 feet
Minor Arterial	70 feet	64 feet	2 travel + center turn lane or median	6 feet	No[2]	7 feet	No
Ash Creek Drive	80 feet	64 feet	2	Yes[3]	No[2]	6 feet[3]	6 feet[3]
Downtown STA[1]	70 feet	68 feet	2	5 feet	8 feet	10 feet	Tree well
Major Collector	60 feet	48 feet	2	6 feet	No[2]	6 feet	No
Minor Collector	60 feet	52 feet[4]	2	No	8 feet	6 feet	No
Local Street	60 feet	40-48 feet	2, unstriped	No	8 feet[5]	6 feet	No
Local Street PUD	60 feet	40-58 feet[5]	2, unstriped	No	8 feet[5]	6 feet	5 feet

[1] Design of all state highways are subject to the design standards and guidelines in the ODOT Highway Design Manual
[2] On-street parking can be provided on al city streets at he discretion of the Public Works Director.
[3] The Ash Creek Drive cross-section includes sidewalk and bike lane on the north side and a multi-use path on the south side, separated from the roadway by a 10foot wide natural buffer.
[4] Curb extensions are encouraged on minor collectors to encourage appropriate travel speeds.
[5] For local streets, parking can be eliminated on one side to meet "skinny" street standards.

F. Slope Easements. Slope easements shall be dedicated in accordance with the specifications adopted by the City Council.

G. Reserve Strips or Block. The Planning Commission may require the land divider to create a reserve block controlling the access to a street, said block to be placed under the jurisdiction of the City Council:

1. To prevent access to abutting land at the end of a street and to ensure the proper extension of the street pattern and the orderly development of land lying beyond the street.

2. To prevent access to the side of a street on the side where additional width is required to meet the right-of-way standards provided in the above table.

3. To prevent access to land abutting a street of the partition or subdivision, but not within the partition or subdivision itself.

4. To prevent access to land unsuitable for building development.

H. Alignment. As far as is practical, streets shall be in alignment with existing streets by continuations of the centerlines thereof. Staggered street alignment resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 125 feet.

I. Future Extension of Streets. Where the subdivision or partition is adjacent to developable land larger than two (2) acres in size with a frontage of more than 200 feet, streets, bikeways and pedestrian facilities shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without a turnaround. Reserve strips or blocks may be required to preserve the objectives of street extensions. For purposes of this section, "developable land" is land that is vacant or underutilized and can be serviced with water and sewer.

J. Intersections of Streets.

1. Angles. Streets shall intersect one another at right angle as is practicable considering topography of the area and previous adjacent layout. Where not practicable, the right-of-way and street paving within the acute angle shall have a minimum of 30 feet centerline radius where such angle is not less than 60 degrees. In the case of streets intersecting at an angle of less than 60 degrees, then of such minimum as the Public Works Director designee may determine in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Offsets. Intersections shall be so designed that no offset dangerous to the traveling public is created as a result of staggering of intersections; and in no case shall there be an offset of less than 125 feet centerline to centerline.

K. Topography. The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

L. Existing Streets. Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of subdivision.

M. Half Streets. Half streets, while generally not acceptable, may be approved if at least 33 feet wide, where essential to the reasonable development of the subdivision, when in conformity with the other requirements of these regulations, and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is platted within such tract, reserve strips and street plugs may be required to preserve the objectives of half streets.

N. Cul-de-sac. There shall be no cul-de-sacs more than 200 feet long or serving more than 20 single-family dwellings. Each cul-de-sac shall have a circular end with a minimum diameter of right-of-way width and paving as shown in the table in Sections 97.005 to 97.430. The use of cul-de-sacs shall be discouraged and may only be approved upon a showing by the applicant of unusual or unique circumstances justifying the cul-de-sac. For purposes of this section, "unusual or unique circumstances" exist when one (1) of the following conditions prevent a required street connection:

1. Slopes are equal to or greater than twelve (12) percent;

2. A wetland or other water body is present that cannot be bridged or crossed; or

3. Existing development on adjacent property prevents a street connection.

O. Street Names. Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for streets that are not in alignment with existing streets are subject to approval by the Planning Commission and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the City.

P. Grades and Curves. Grades shall not exceed six (6) percent on arterials, ten (10) percent on collector streets, or 12 percent on all other streets. Centerline radii on curves shall not be less than 300 feet on arterials or 230 feet on all other streets and shall be to an even 10 feet. Where existing conditions, particularly the topography, made it otherwise impractical to provide buildable lots, the Planning Commission may accept steeper grades and sharper curves. In flat areas, allowance shall be made for finished street grades having a minimum slope, preferably, or at least 0.33 percent.

Q. Streets Adjacent to Railroad Rights-of-Way. Wherever the proposed subdivision contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the land between the streets and the railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

R. Marginal Access Streets. Where a subdivision abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.

S. Alleys. Alleys shall be provided in commercial and industrial districts, unless other provisions for access to off-street parking and loading facilities are approved by the Planning Commission. The corner of alley intersections shall have a radius of not less than twelve (12) feet.

1. Dedication. The Planning Commission may require adequate and proper alleys to be dedicated to the public by the land divider of such design and in such location as necessary to provide for the access needs of the subdivision or partition in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Width. Width of right-of-way and paving design for alleys shall be not less than twenty (20) feet. Slope easements shall be dedicated in accordance with specifications adopted by the City Council.

3. Corner Cut-Offs. Where two (2) alleys intersect, 10 feet corner cut-offs shall be provided.

4. Grades and Curves. Grades shall not exceed twelve (12) percent on alleys, and centerline radii on curves shall be not less than 100 feet.

5. Other Requirements. All provisions and requirements with respect to streets in Sections 97.005 to 97.430 shall apply to alleys the same in all respects as if the word "street" or "streets" therein appeared as the word "alley" or "alleys" respectively.

T. Access Management. New access to arterials and collectors shall be limited. Shared or consolidated access shall be required for development or land divisions adjacent to these facilities, pursuant to this section, unless demonstrated to be unfeasible.

1. Access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the City of Monmouth Transportation System Plan. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access management is a primary concern on these roads. Local streets and alleys provide access to individual properties. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

2. Traffic Impact Analysis Requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also, 97.415 Traffic Impact Analysis.)

3. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

4. Access Options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards for road construction). These methods are "options" to the developer/subdivider.

Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.

Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.

Option 3. Access is from a public street adjacent to the development parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in Subsection 5, below.

5. Access Spacing. All proposed development shall have access to a public right-of-way. Spacing requirements for access points and intersections on arterials and collector streets shall be as shown in the following three (3) tables:

OR 99W and OR 51 Access Spacing Standards (TSP Table 7-3)

Posted Speed	Spacing Standards[1]	Spacing Standards for STA
OR 99W – Regional Highway		
50 mph	830 feet	N/A
40 & 45 mph	750 feet	N/A
30 & 35 mph	425 feet	N/A
≤ 25 mph	350 feet	N/A
OR 51 – District Highway		
50 mph	550 feet	N/A
40 & 45 mph	500 feet	N/A
30 & 35 mph	350 feet	175 feet or mid-block[3]
≤ 25 mph	350 feet	175 feet or mid-block[3]

Note: Spacing standards obtained from the Oregon Highway Plan (OHP). Consult the OHP for updates and addenda.
[1] Measurement of the approach road spacing is from the center on the same side of the roadway.
[3] Per the OHP, driveways are discouraged in STAs. However, "where driveways are allowed and where land use patterns permit, the minimum access management spacing for driveways is 175 feet or mid-block if the current block is less than 350 feet".

Minimum Intersection Spacing Standards (TSP Table 7-4)

Functional Classification	Public Street	Private Access Drive (feet)
Local Street	150 feet	50 feet
Minor Collector	300 feet	50 feet
Major Collector	300 feet	100 feet
Ash Creek Drive	300 feet	150 feet
Minor Arterial	350 feet or block length	200 feet or mid-block
Major Arterial[1]	350 feet or block length	350 feet or block length

[1] Access standards identified in the Oregon Highway Plan supersede this table on all state highways.

Private Access Driveway Width Standards (TSP Table 7-5)

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

6. The distance between access points shall be measured from the centerline of the proposed driveway or roadway to the centerline of the nearest adjacent roadway or driveway.

7. Projects proposed on arterials shall include a frontage or service road and shall take access from the frontage road rather than the arterial. Frontage road design

shall conform to ODOT standards. This access requirement may be met through the use of interconnecting parking lots that abut the arterial.

8. Alternative Designs. Where unique site characteristics, such as natural features or spacing of existing driveways and roadways, cause the local (non-highway) access requirements to be physically unfeasible, alternate designs may be approved.

9. Subdivisions Fronting Onto an Arterial Street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

10. Double-Frontage Lots. When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street.

11. Number of Access Points. For single-family (detached and attached), two-family, and three-family housing types, one street access point is permitted per lot, when alley access cannot otherwise be provided; except that two access points may be permitted for two-family and three-family housing on corner lots (i.e., no more than one access per street), subject to the access spacing standards in Subsection 6, above. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with Subsection 12 below, in order to maintain the required access spacing, and minimize the number of access points.

12. Shared Driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:

a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future, as the adjacent parcel develops. "Developable" means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.

c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

U. Bicycle Requirements. Bike lanes shall be provided during the construction, reconstruction, or relocation of arterial and collector streets. Design and construction of bikeways, or other public paths shall conform to the requirements of the American Association of State Highway and Transportation Officials (AASHTO) as revised and adopted in the "Oregon Bicycle and Pedestrian Plan".

V. Pedestrian Requirements.

1. Sidewalks shall be constructed along all arterial, collector, and local streets.

2. The design and construction of sidewalks and other public paths shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", Americans With Disabilities Act (ADA) requirements, and City of Monmouth standards.

W. Accessways or Multi-use Paths. Where required:

1. Accessways or multi-use paths shall be located to provide a reasonably direct connection between likely pedestrian and cyclist destinations. A reasonably direct connection is a route, which minimizes out-of-direction travel for most of the people likely to use the multi-use path considering terrain, safety, and likely destinations.

2. The design and construction of accessways shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", ADA requirements, and City of Monmouth standards.

X. Lighting. Illumination of all sidewalks and bicycle paths will be provided in conjunction with all new development. Adequacy of the lighting plan will be consistent with AASHTO standards and approved by the Public Works Director.

96.415 Traffic Impact Analysis Standards

1. Purpose. The purpose of this section of the code is to implement Section 660-012-0045(2)(e) of the State Transportation Planning Rule that requires the City to adopt a process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with a land use or development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Analysis; and who is qualified to prepare the analysis.

2. Typical Average Daily Trips. The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE), shall be used as the standard by which to gauge average daily vehicle trips.

3. When Required. A Traffic Impact Analysis may be required by the Public Works Director with a land use or development application, when the application involves one or more of the following actions:

a. A change in zoning or a Comprehensive Plan Map designation;

b. Any proposed development or land use action that ODOT states may have operational or safety concerns along a state highway; or

c. The development will cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual, and information and studies provided by the local reviewing jurisdiction and/or ODOT:

i. An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the Public Works Director); or

ii. An increase in site traffic volume generation of 25 or more peak-hour trips; or

iii. An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 vehicles or more per day; or

iv. The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate, creating a safety hazard; or

v. The location of the access driveway does not meet the access spacing standard of the roadway on which the driveway is located; or

vi. A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or a local arterial or collector, or traffic crashes in the approach area.

4. Traffic Impact Analysis Requirements.

a. Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer in accordance with OAR 734-051-180. The City shall commission the traffic analysis and it will be paid for by the applicant.

b. Transportation Planning Rule Compliance. See Section 96.420 Transportation Planning Rule Compliance.

c. Pre-application Conference. The applicant will meet with the Public Works Director prior to submitting an application that requires a Traffic Impact Application. This meeting will determine the required elements of the TIA and the level of analysis expected.

5. Approval Criteria. When a Traffic Impact Analysis is required, approval of the development proposal requires satisfaction of the following criteria:

a. The Traffic Impact Analysis must be prepared by a professional engineer in accordance with OAR 734-051-180; and

b. If the proposed development will cause one or more of the effects in subsection 3, above, or other traffic hazard or negative impact to a transportation facility, the Traffic Impact Analysis must include mitigation measures that meet the City's Level-of-Service and satisfactory to the Public Works Director, and ODOT, when applicable; and

c. The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, must be designed to:

i. Have the least negative impact on all applicable transportation facilities;

ii. Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable;

iii. Make the most efficient use of land and public facilities as practicable;

iv. Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and

v. Otherwise comply with applicable requirements of the City of Monmouth Zoning Ordinance.

6. Study Area. The study area for the TIA shall include, at a minimum, all site-access points and intersections (signalized and unsignalized) adjacent to the proposed site. If the proposed site fronts an arterial or collector street; the study shall include all intersections along the site frontage and within the access spacing distances extending out from the boundary of the site frontage. Beyond the minimum study area, the transportation impact analysis shall evaluate all intersections that receive site-generated trips that comprise at least 10% or more of the total intersection volume. In addition to these requirements, the Public Works Director (or his/her designee) shall determine any additional intersections or roadway links that might be adversely affected as a result of the proposed development. The applicant and the Public Works Director (or his/her designee) must agree on these intersections prior to the start of the transportation impact analysis.

7. Conditions of Approval. As part of every land use action, the City of Monmouth, Polk County (if access to a County roadway is proposed), and ODOT (if access to a state roadway is proposed) may identify conditions of approval needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. The City may deny, approve, or approve the proposal with appropriate conditions. Conditions of Approval that should be evaluated as part of subdivision and site plan reviews include:

a. Crossover easement agreements for all adjoining parcels to facilitate future access between parcels.

b. Conditional access permits for new developments, which have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.

c. Right-of-way dedications for future planned roadway improvements.

d. Half-street improvements along site frontages that do not have full-buildout improvements in place at the time of development.

96.420. Transportation Planning Rule Compliance

A. Review of Applications for Effect on Transportation Facilities. When a land use or development application, whether initiated by the City or by a private interest, includes a proposed comprehensive plan amendment, zone change, or land use regulation change, the proposal shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060 (the Transportation Planning Rule – "TPR"). "Significant" means the proposal would:

1. Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

2. Change standards implementing a functional classification system; or

3. As measured at the end of the planning period identified in the adopted transportation system plan:

a. Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

b. Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or

c. Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.

B. Amendments That Affect Transportation Facilities. Amendments to the Comprehensive Plan, zoning, and land use regulations that significantly affect a transportation facility shall ensure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the TSP. This shall be accomplished by one or a combination of the following:

1. Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.

2. Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of Section -0060 of the TPR.

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

4. Amending the TSP to modify the planned function, capacity, or performance standards of the transportation facility.

C. Traffic Impact Analysis. A Traffic Impact Analysis may be required by the Public Works Director for a Comprehensive Plan amendment or change in zoning designation. (See Section 96.415 Traffic Impact Analysis (TIA)).

96.425 Criteria for Certain Transportation Facilities and Improvements

A. Construction, reconstruction, or widening of highways, roads, bridges or other transportation facilities that are (1) not designated in the adopted City of Monmouth Transportation System Plan ("TSP") or (2) not designed and constructed as part of an approved, active, development order are allowed in all zoning districts subject to the Conditional Use provisions of the Zoning Ordinance and satisfaction of all of the following criteria:

1. The project and its design are consistent with Monmouth's adopted TSP and consistent with the State Transportation Planning Rule, OAR 660-012 ("the TPR").

2. The project design is compatible with abutting land uses in regard to noise generation and public safety and is consistent with the applicable zoning and development standards and criteria for the abutting properties.

3. The project design minimizes environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities, and a site with fewer environmental impacts is not reasonably available.

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

5. The project includes provisions for bicycle and pedestrian access and circulation consistent with the comprehensive plan, the requirements of this ordinance, and the TSP.

B. State transportation system facility or improvement projects. The Oregon Department of Transportation ("ODOT") shall provide a narrative statement with the application demonstrating compliance with all of the criteria and standards in Section 90.550(A)(1-5). Where applicable, an Environmental Impact Statement or Environmental Assessment may be used to address one or more of these criteria.

C. Proposal inconsistent with TSP/TPR. If the City determines that the proposed use or activity or its design is inconsistent with the TSP or TPR, then the applicant shall apply

for and obtain a plan and/or zoning amendment prior to or in conjunction with conditional use permit approval. The applicant shall choose one of the following options:

1. If the City's determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall withdraw the conditional use application; or

2. If the City's determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall withdraw the conditional permit application, apply for a plan/zone amendment, and re-apply for a conditional use permit if and when the amendment is approved; or

3. If the City's determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall submit a plan/zoning amendment application for joint review and decision with the conditional use permit application, along with a written waiver of the ORS 227.178 120-day period within which to complete all local reviews and appeals once the application is deemed complete; or

4. If the City's determination of inconsistency is part of a final decision on the conditional use permit application, the applicant shall submit a new conditional use permit application, along with a plan/zoning amendment application for joint review and decision, as a condition of approval of the conditional use permit application.

Proposed amendments to Chapter 96 – Development Standards, adding Section 96.035:

96.035 Pedestrian Access and Circulation

A. Site Layout and Design. To ensure safe, direct, and convenient pedestrian circulation, all mixed-use, commercial, and office developments shall provide a continuous pedestrian system. Multi-family development that proposed ten (10) or more units in a single building, or that includes two or more buildings, shall also provide a continuous pedestrian system. The pedestrian system shall be based on the standards in subsections 1-4, below:

1. Continuous Walkway System. The pedestrian walkway system shall extend throughout the development site and connect to all future phases of development, and to existing or planned off-site adjacent trails, public parks, and open space areas to the greatest extent practicable. The developer may also be required to connect or stub walkway(s) to adjacent streets and to private property with a previously reserved public access easement for this purpose, in accordance with the provisions of Section 96.410 Transportation Improvements Standards.

2. Safe, Direct, and Convenient. Walkways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent streets, based on the following definitions:

a. Reasonably direct. A route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.

b. Safe and convenient. Routes that are reasonably free from hazards and provide a reasonably direct route of travel between destinations.

c. "Primary entrance" for commercial, mixed use, and office buildings is the main public entrance to the building. In the case where no public entrance exists, street connections shall be provided to the main employee entrance.

d. "Primary entrance" for residential buildings is the front door (i.e., facing the street). For multifamily buildings in which each unit does not have its own exterior entrance, the "primary entrance" may be a lobby, courtyard, or breezeway which serves as a common entrance for more than one dwelling.

3. Connections Within Development. Connections within developments shall be provided as required in subsections a-c, below:

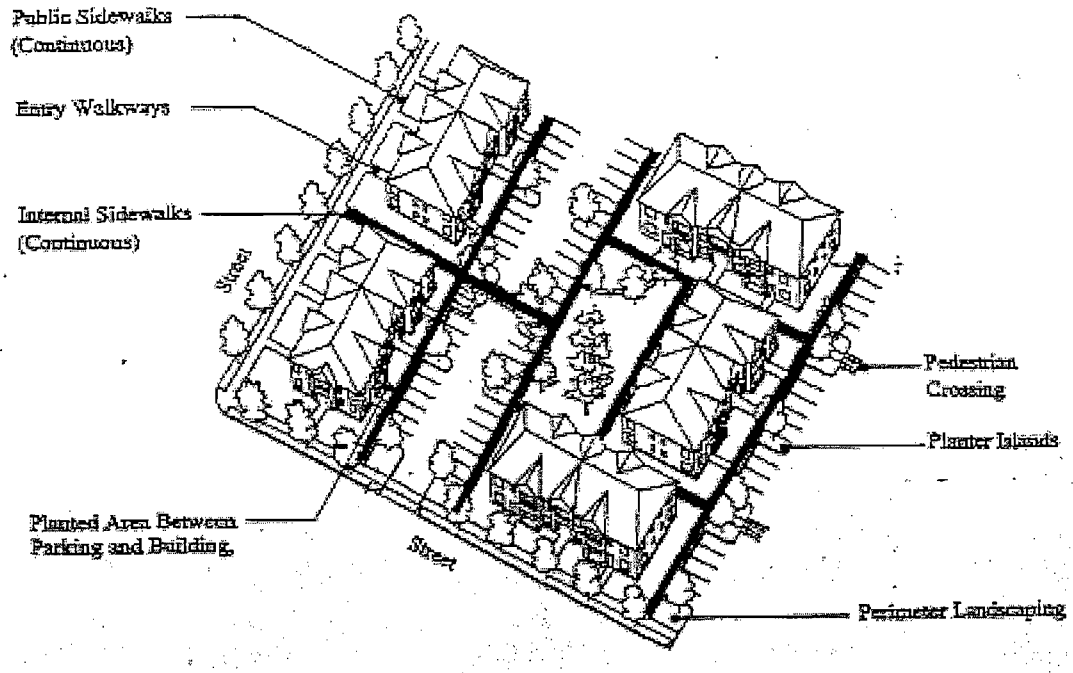
a. Walkways shall connect all building entrances to one another to the extent practicable, as generally shown in Figure 96.035(1);

b. Walkways shall connect all on-site parking areas, storage areas, recreational facilities and common areas, and shall connect off-site adjacent uses to the site to the extent practicable. Topographic or existing development constraints may be cause for not making certain walkway connections, as generally shown in Figure 96.035(1); and

c. Large parking areas shall be broken up so that no contiguous parking area exceeds three (3) acres. Parking areas may be broken up with plazas, large landscape areas with pedestrian access ways (*i.e.*, at least 20 feet total width), streets, or driveways with street-like features, Street-like features, for the purpose of this section, means a raised sidewalk of at least 4-feet in width, 6-inch curb, accessible curb ramps, street trees in planter strips or tree wells, and pedestrian-oriented lighting.

B. Walkway Design and Construction. Walkways, including those provided with pedestrian access ways, shall conform to all of the standards in subsections 1-4, as generally illustrated in Figure 96.035(2):

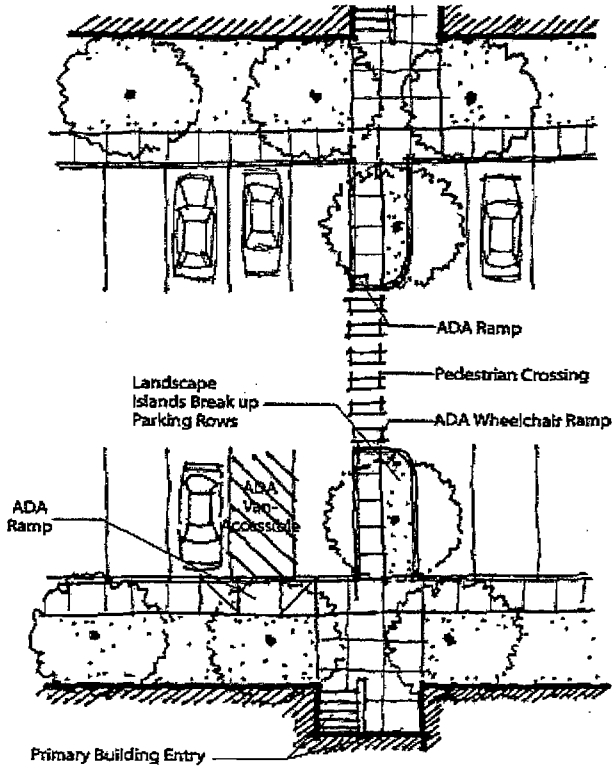
Figure 96.035(1) Pedestrian Pathway System (Typical)



1. Vehicle/Walkway Separation. Except for crosswalks (subsection 2), where a walkway abuts a driveway or street, it shall be raised 6 inches and curbed along the edge of the driveway/street. Alternatively, the City may approve a walkway abutting a driveway at the same grade as the driveway if the walkway is protected from all vehicle maneuvering areas. An example of such protection is a row of decorative metal or concrete bollards designed for withstand a vehicle's impact, with adequate minimum spacing between them to protect pedestrians.

2. Crosswalks. Where walkways cross a parking area, driveway, or street ("crosswalk"), they shall be clearly marked with contrasting paving materials (*e.g.*, light-color concrete inlay between asphalt), which may be part of a raised/hump crossing area. Painted or thermo-plastic striping and similar types of non-permanent applications may be approved for crosswalks not exceeding 24 feet in length.

Figure 96.035(2)
Pedestrian Walkway
Detail (Typical)



3. Walkway Width and Surface. Walkway and accessway surfaces shall be concrete, asphalt, brick/masonry pavers, or other durable surface, as approved by the Public Works Director, at least six (6) feet wide. Multi-use paths (i.e., for bicycles and pedestrians) shall be concrete or asphalt, at least 10 feet wide. (See also, Section 3.4.100 - Transportation Standards for public, multi-use pathway standard.)

4. Accessible routes. Walkways shall comply with applicable Americans with Disabilities Act (ADA) requirements. The ends of all raised walkways, where the walkway intersects a driveway or street shall provide ramps that are ADA accessible, and walkways shall provide direct routes to primary building entrances.

Proposed amendments to the Medium Density Residential (RM) Zone, adding Section 91.160:

91.160 Pedestrian Access and Circulation. Pedestrian access and circulation for multi-family uses, as allowed in the RM Zone, shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation," when more than 10 units are proposed within a development.

Proposed amendments to the High Density Residential (RH) Zone, adding Section 91.260:

91.260 Pedestrian Access and Circulation. Pedestrian access and circulation for multi-family uses, as allowed in the RH Zone, shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation," when more than 10 units are proposed within a development.

Proposed amendments to the Mixed Density Residential (MX) Zone, adding Section 91.405:

91.405 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the MX Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Proposed amendments to the Mixed Density Residential (MX) Zone, Section 91.340:

91.340 Conditional Uses.

A. Neighborhood Commercial Land Uses.

3. Location and Access. Neighborhood commercial developments shall have frontage onto a collector or arterial with available on-street parking **on adjacent minor collector or local streets,** and shall conform to the building orientation, ~~and~~ parking location**, and pedestrian access and circulation** standards in Sections 96.005 to 96.~~030~~035.

Proposed amendments to Chapter 92: Commercial Zones, adding pedestrian access requirements:

Commercial Office (CO) Zone

92.050 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CO Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Commercial Highway (CH) Zone

92.150 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CH Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Commercial Retail (CR) Zone

92.250 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CR Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Commercial Retail Transitional (CRT) Zone

92.375 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CRT Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Proposed amendments to Section 90.220:

90.220 General Provisions. In order to provide for citizen review of the planning process and the orderly keeping of records of actions relating to this Ordinance, the City shall ensure that the following measures are maintained and available for public review.

C. Citizen and Agency Involvement. The City shall provide opportunities for public and agency input in the planning process. To ensure that there is a coordinated effort to permit land use projects, when applicable, notice shall be sent to interested agencies such as City departments, police and fire departments, school district, utility companies, and city, county, and state agencies. Affected jurisdictions and agencies include Polk County, Mid-Willamette Valley COG, the Department of Environmental Quality, the Oregon Department of Transportation, the City of Independence, and other affected or interested local, state or federal agencies. The City shall give notice to: (1) the Oregon Department of Transportation (ODOT) regarding any proposed land use action within 250 feet of a State transportation facility. ~~and (2) the public works department of any jurisdictions (for example, Polk County), when any action by the City could potentially affect another jurisdiction's transportation facilities.~~

Proposed amendments to Section 90.310:

90.310 Zone Change and Plan Amendment by Petition. Any property owner may initiate a zone change or plan amendment for the property that he or she owns by submitting to the City Recorder a petition bearing the following:

I. A Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities

Proposed amendments to Section 90.325:

90.325 Standards for Zone Changes. No zone change shall be approved by the Planning Commission or enacted by the City Council unless it conforms to the Comprehensive Plan and meets the following standards:

B. Adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property. A Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities and demonstrate compliance with OAR 660-012-0060.

Proposed amendments to Section 90.330:

90.330 Standards for Plan Map Amendment.

B. Adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property. A Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities and demonstrate compliance with OAR 660-012-0060.

Proposed amendments to Section 90.515:

90.515 Conditions for Granting a Conditional Use. A conditional use may be granted only if the following conditions are found to exist:

A. The conditional use that is requested is listed as conditional use in the zone in which the subject property is located, or is subject to Section 96.425, Criteria for Certain Transportation Facilities and Improvements.

Proposed amendments to Chapter 97 – Subdivision and Partition Ordinance

Proposed amendments to Section 97.130:

97.130 Tentative Plat Information. The following information shall be shown on the tentative plat:

Z. Traffic Impact Analysis (TIA). Depending on the nature and scope of the proposed development, a Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities. ~~the City may require a traffic impact analysis report, prepared by a registered transportation engineer, including the following:~~

~~1. The total estimated vehicular, pedestrian, bicycle and other transit service trips to be generated from the proposed development;~~

~~2. The impact of the total estimated vehicular, pedestrian, bicycle and other transit service trips on the existing street, sidewalk, bicycle and other transit systems within the City; and~~

~~3. The estimated level of improvement necessary to mitigate the total impact from the proposed development as identified in item #2.~~

Proposed amendments to Section 97.235:

MANUFACTURED HOME SUBDIVISIONS

97.235 Development Standards.

D. Public Roadways. All public roadways, bikeways and pedestrian facilities within the manufactured home subdivision shall be improved to the standards of Section ~~97.275~~ 96.410.

F. ~~Bikeways~~ Pedestrian and Bicycle Facilities. ~~Bikeways consistent with the Independence-Monmouth Bicycle Master Plan and the Monmouth Transportation Plan~~ Pedestrian amenities and bicycle facilities shall be installed in accordance with ~~City~~ the standards of Section 96.410.

Proposed amendments to Section 97.255:

97.255 Improvement Requirements. The following improvements are summarily required in subdivisions and major partitions, and may be applied to minor partitions as conditions for approval and shall be installed at the expense of the subdivider:

D. Streets. The location, design, and construction of streets and accesses shall conform to the standards of Section 96.410. The applicant shall grade and improve streets in the subdivision and the extension of such streets to the paving line of existing streets with which such streets intersect in accordance with city specifications.

E. Pedestrian and Bicycle Facilities ~~Ways~~. The location, design, and construction of pedestrian amenities and bicycle facilities shall conform to the standards of Section 96.410. Sidewalks shown on the street sections shall be installed as located on those sections as a result of the subdivision or major partition.

Proposed amendments to Section 97.560:

97.560 Tentative Plan for PUD.

8. The following plans and diagrams may be required if the Planning Commission finds that the PUD creates special problems of traffic, parking, landscaping or economics:

a. An off-street parking and loading plan;

b. A circulation diagram indicating proposed movement of vehicles, goods and pedestrians within the PUD and to and from the surrounding

neighborhood, including any features and traffic regulation devices needed to facilitate traffic circulation;

c. A landscaping and tree plan;

d. An economic feasibility report or market analysis; and

e. Special studies prepared by qualified professionals to determine potential traffic, geologic, noise, environmental, natural resource, or other impacts, and required mitigation;

f. A Traffic Impact Analysis, if required pursuant to Section 96.415; and

g. A roadway system design that is consistent with the street design standards for a Local Street PUD in the City of Monmouth Transportation System Plan.

Section 97.275 would be deleted:

~~**97.275 Transportation Facilities.**~~

~~A. General. The location, width, and grade of streets, bikeways and pedestrian facilities shall be considered in their relation to existing and planned streets, bikeways and pedestrian facilities, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. All streets, bikeways and pedestrian facilities shall connect to other said facilities within the development and to existing and planned streets, bikeways, and pedestrian facilities outside the development. Where location is not shown in the Monmouth Transportation System Plan or other a development plan, the arrangement of streets in a subdivision shall either:~~

~~1. Provide for the continuation or appropriate projection of existing and planned streets, bikeways and pedestrian facilities in surrounding areas; or~~

~~2. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets, bikeways and pedestrian facilities impractical.~~

~~B. Widths of street rights-of-way and paving design for streets shall be not less than those set forth in the table below, except that for a street abutting land not in the subdivision or partition area, a lesser width may be allowed as a variance where the applicant presents a satisfactory plan as to when such street will be expanded to the required width.~~

~~C. The width of street rights-of-way provided in the table below shall be the minimum widths of rights-of-way for streets existing along and adjacent to any boundary of the subdivision or partition which is the natural or planned continuation of the alignment of the existing or proposed streets, and the applicant shall dedicate additional rights of way, as determined by the City Engineer or designate in accordance with such table, for any such adjacent street, proposed for access to the subdivision, where the existing width of rights of way for such street is less than the minimum in said table. Off-site improvements, such as pavement construction or re-construction of existing street(s) proposed for access to the subdivision, which are inadequate or in failing condition, may be required.~~

D. Where existing conditions, such as the topography or the size or shape of land parcels, make it otherwise impractical to provide buildable lots, the Planning Commission may accept a narrower right-of-way. If necessary, special slope easements may be required.

E. Street Standards.

Standards for New and Existing Streets

Street Classification	Access Spacing	Right-of-way Width	Curb to Curb Width	Sidewalk Width[1]	Bike lane Width[2]	On-Street Parking	Planting Strip*	Travel Lanes[3]
Arterial	250 ft.[4]	84 ft.	60 ft.	6 - 10 ft.[5]	2 @ 6 ft. each	8 ft. bays	7 - 8 ft.[6]	2 @ 10 ft.
Collector	-	66 ft.	36 ft.		N/A[2]		7 - 8 ft.[6]	2 @ 10 ft.
Residential		"	"	5 - 8 ft.[5]	"	7 ft. lanes	"	"
Commercial		"	"	6 - 10 ft.[5]	"	8 ft. lanes	"	"
Industrial other than Arterials		72 ft.	36 ft.	6 - 10 ft.[5]	optional	7 ft. lanes	7 - 8 ft.[6]	2 @ 10 ft.
Local	-	60 ft.	30 ft.	5.0 ft.	N/A	2, 7 ft. lanes	7 - 8 ft.	11 - 14 ft. queuingt
Circular ends of Cul-de-sacs	-	114 feet	80 ft. diam.	5.0 ft.	N/A	N/A	optional	N/A
Alleys	-	16 - 20 ft.	12 - 16 ft. paved width, 2 - 4 ft. strips on both sides	N/A	N/A	N/A	none	none
Public Accessways		10 - 18 ft.	6 - 10 ft. paved width, 2 - 4 ft. strips on both sides	N/A	N/A	N/A	none	none

1. All sidewalk widths include curbs.
2. Striped bicycle lane required on arterials (both sides) and collectors (one or both sides) where speeds are higher than 25 mph and where traffic volumes exceed 3,000 vehicles per day.
3. Minimum width.
4. Measured from centerline to center line.
5. Eight (8) foot sidewalks shall be provided on Highway 99W within the City limits for all contiguous commercial properties.
6. Hardscape planting strip with tree wells shall be used in commercial and mixed use development areas (where on-street parking is required).

Arterial Options:

1. On-street parking: One side or both sides, eight (8) foot minimum width or

2. Bikeways: Both sides, six (6) foot minimum width, or
3. On-street parking on one side, eight (8) foot minimum, and bike lanes on both sides, six (6) foot minimum.

Collector Options:
1. Residential: On-street parking: One side or both sides, seven (7) foot minimum width,
2. Commercial: On-street parking: One side or both sides, eight (8) foot minimum width.

Local Street Options:
1. On-street parking: One side or both sides, seven (7) foot minimum width.
2. Moving cars must occasionally yield between parked cars before moving forward (permits development of narrow streets, encourages vehicles to move slower, and allows for periodic areas where a 20-foot wide clear area is available for parking of fire apparatus).

Please note: The above options shall be coordinated with the Comprehensive Master Bicycle Plan and the Street Plan within the Transportation System Plan. The Planning Commission assesses the types of improvements at the time of development.

F. Slope Easements. Slope easements shall be dedicated in accordance with the specifications adopted by the City Council.

G. Reserve Strips or Block. The Planning Commission may require the land divider to create a reserve block controlling the access to a street, said block to be placed under the jurisdiction of the City Council:

1. To prevent access to abutting land at the end of a street to assure the proper extension of the street pattern and the orderly development of land lying beyond the street.

2. To prevent access to the side of a street on the side where additional width is required to meet the right-of-way standards provided in the above table.

3. To prevent access to land abutting a street of the partition or subdivision, but not within the partition or subdivision itself.

4. To prevent access to land unsuitable for building development.

H. Alignment. as far as is practical, streets shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall wherever practical leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 125 feet.

I. Future Extension of Streets. Where the subdivision or partition is adjacent to developable land larger than two (2) acres in size with a frontage of more than 200 feet, streets, bikeways and pedestrian facilities shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without a turnaround. Reserve strips or blocks may be required to preserve the objectives of street extensions. For purposes of this section, "developable land" is land that is vacant or underutilized and can be serviced with water and sewer.

J. Intersections of Streets.

1. Angles. Streets shall intersect one another at right angle as is practicable considering topography of the area and previous adjacent layout. Where not practicable, the right-of-way and street paving within the acute angle shall have a minimum of 30 feet centerline radius where such angle is not less than 60 degrees. In the case of streets intersecting at an angle of less than 60 degrees, then of such minimum as the City Manager or his designate may determine in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Offsets. Intersections shall be so designed that no offset dangerous to the traveling public is created as a result of staggering of intersections; and in no case shall there be an offset of less than 125 feet centerline to centerline.

K. Topography. The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

L. Existing Streets. Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of subdivision.

M. Half Streets. Half streets, while generally not acceptable, may be approved if at least 33 feet wide, where essential to the reasonable development of the subdivision, when in conformity with the other requirements of these regulations, and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is platted within such tract, reserve strips and street plugs may be required to preserve the objectives of half streets.

N. Cul-de-sac. There shall be no cul-de-sacs more than 200 feet long or serving more than (twenty) 20 single family dwellings. Each cul-de-sac shall have a circular end with a minimum diameter of right-of-way width and paving as shown in the table in Sections 97.005 to 97.430. The use of cul-de-sacs shall be discouraged and may only be approved upon a showing by the applicant of unusual or unique circumstances justifying the cul-de-sac. For purposes of this section, "unusual or unique circumstances" exist when one (1) of the following conditions prevent a required street connection:

1. Slopes are equal to or greater than twelve (12) percent;

2. A wetland or other water body is present which cannot be bridged or crossed; or

3. Existing development on adjacent property prevents a street connection.

O. Street Names. Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for streets that are not in alignment with existing streets are subject to approval by the Planning Commission and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the City.

P. Grades and Curves. Grades shall not exceed six (6) percent on arterials, ten (10) percent on collector streets, or 12 percent on all other streets. Centerline radii on curves shall not be less than 300 feet on arterials, or 230 feet on all other streets and shall be to an even ten (10) feet. Where existing conditions, particularly the topography, made it otherwise impractical to provide buildable lots, the Planning Commission may accept steeper grades and sharper

curves. In flat areas, allowance shall be made for finished street grades having a minimum slope, preferably, or at least 0.33 percent.

Q. Streets Adjacent to Railroad Rights-of-Way. Wherever the proposed subdivision contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the land between the streets and the railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

R. Marginal Access Streets. Where a subdivision abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.

S. Alleys. Alleys shall be provided in commercial and industrial districts, unless other provisions for access to off-street parking and loading facilities are approved by the Planning Commission. The corner of alley intersections shall have a radius of not less than twelve (12) feet.

1. Dedication. The Planning Commission may require adequate and proper alleys to be dedicated to the public by the land divider of such design and in such location as necessary to provide for the access needs of the subdivision or partition in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Width. Width of right-of-way and paving design for alleys shall be not less than twenty (20) feet. Slope easements shall be dedicated in accordance with specifications adopted by the City Council.

3. Corner Cut-Offs. Where two (2) alleys intersect, ten (10) feet corner cut-offs shall be provided.

4. Grades and Curves. Grades shall not exceed twelve (12) percent on alleys, and centerline radii on curves shall be not less than 100 feet.

5. Other Requirements. All provisions and requirements with respect to streets in Sections 97.005 to 97.430 shall apply to alleys the same in all respects as if the word "street" or "streets" therein appeared as the word "alley" or "alleys" respectively.

T. Access Management. New access to arterials and collectors shall be limited. Shared or consolidated access shall be required for development or land divisions adjacent to these facilities unless demonstrated to be unfeasible.

1. Number of Access Points. All proposed development shall have access to a public right-of-way. Spacing requirements for access points and intersections on arterials and collector streets shall be as shown in the following two (2) tables:

Access Management Requirements (State Highways)

			Intersection				
			Public Road		Private Drive		Signal
Functional Class	ODOT Category*	ODOT LOI**	Type	Spacing	Type	Spacing	Spacing
Arterial Hwy 99W	5	Regional	At Grade	¼ mile	Lt./Rt. Turns	300 feet	¼ mile
Arterial Hwy. 51	6	District	At Grade	500 feet	Lt./Rt. Turns	150 feet	¼ mile

* ODOT Category refers to Highway Access Management Categories established by the Oregon Department of Transportation to classify access management needs for state highways.

** ODOT LOI refers to the "Level of Importance" classification system established by the Oregon Department of Transportation to prioritize highway improvement needs and define operational objectives for state highways.

Access Management Requirements (City Streets)

Functional Class	Minimum Speed Posted	Minimum Spacing Between Driveways and/or Private Streets	Minimum Spacing Between Intersections
Major Arterial	35-50	250 feet	¼ mile
Minor Arterial	35-50	250 feet	250 feet
Collector	25-40	100-150 feet	250 feet

2. The distance between access points shall be measured from the centerline of the proposed driveway or roadway to the centerline of the nearest adjacent roadway or driveway.

3. Frontage on Service Roads and Common Drives.

a. Projects proposed on arterials shall include a frontage or service road and shall take access from the frontage road rather than the arterial. Frontage road design shall conform to ODOT standards. This access requirement may be met through the use of interconnecting parking lots that abut the arterial.

b. Adjacent uses may share a common driveway provided that appropriate access easements are granted between and among property owners.

4. Alternative Designs. Where natural features or spacing of existing driveways and roadways cause the foregoing access requirements to be physically unfeasible, alternate designs may be approved.

5. Access to Residential Lots. All lots in a proposed residential subdivision shall have frontage on and access from a local or collector street.

U. Bicycle Requirements. Bike lanes shall be provided during the construction, reconstruction, or relocation of arterial and collector streets. Design and construction of bikeways, or other public paths shall conform to the requirements of the American Association of State Highway and Transportation Officials (AASHTO) as revised and adopted in the "Oregon Bicycle and Pedestrian Plan".

~~V. Pedestrian Requirements.~~

~~1. Sidewalk shall be constructed along all arterial, collector, and local service streets.~~

~~2. The design and construction of sidewalks and other public paths shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", Americans With Disabilities Act (ADA) requirements, and City of Monmouth standards.~~

~~W. Accessways or Multi-use Paths. Where required:~~

~~1. Accessways or multi-use paths shall be located to provide a reasonably direct connection between likely pedestrian and cyclist destinations. A reasonably direct connection is a route, which minimizes out-of-direction travel for most of the people likely to use the multi-use path considering terrain, safety, and likely destinations.~~

~~2. The design and construction of accessways shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", ADA requirements, and City of Monmouth standards.~~

~~X. Lighting. Illumination of all sidewalks and bicycle paths will be provided in conjunction with all new development. Adequacy of the lighting plan will be consistent with AASHTO standards and approved by the Public Works Director.~~

EXHIBIT B
Amendments to the Monmouth Zoning and Development Ordinance.

Proposed new language is shown underlined. Language proposed for deletion is shown ~~struck-through~~.

Proposed amendments to Chapter 96: Development Standards, adding sections 96.405 through 96.425 – Transportation Improvements:

TRANSPORTATION IMPROVEMENTS

96.405 Purpose The purpose of this section is to provide standards and requirements for transportation improvements and to ensure that such improvements are consistent with the Monmouth Transportation System Plan and Oregon's Transportation Planning Rule (TPR) (Oregon Administrative Rules (OAR) Chapter 660, Division 12).

96.410 Transportation Improvement Standards.

A. General. The location, width, and grade of streets, bikeways and pedestrian facilities shall be considered in their relation to existing and planned streets, bikeways and pedestrian facilities, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. All streets, bikeways, and pedestrian facilities shall connect to other such facilities within the development and to existing and planned streets, bikeways, and pedestrian facilities outside the development. Where location is not shown in the Monmouth Transportation System Plan or another development plan, the arrangement of streets in a subdivision shall either:

1. Provide for the continuation or appropriate projection of existing and planned streets, bikeways and pedestrian facilities in surrounding areas; or

2. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets, bikeways and pedestrian facilities impractical.

B. Widths of street rights-of-way and paving design for streets shall be not less than those set forth in the table below, except that for a street abutting land not in the subdivision or partition area, a lesser width may be allowed as a variance where the applicant presents a satisfactory plan as to when such street will be expanded to the required width.

C. The width of street rights-of-way provided in the table below shall be the minimum widths of rights-of-way for streets existing along and adjacent to any boundary of the subdivision or partition which is the natural or planned continuation of the alignment of the existing or proposed streets, and the applicant shall dedicate additional rights of way, as determined by the Public Works Director in accordance with such table, for any such adjacent street, proposed for access to the subdivision, where the existing width of rights of way for such street is less than the minimum in said table. Off-site improvements, such as pavement construction or re-construction of existing street(s) proposed for access to the subdivision, which are inadequate or in failing condition, may be required. Off-site transportation improvements will include bicycle and pedestrian improvements, as identified in the adopted City of Monmouth Transportation System Plan.

D. The standard cross section for local streets includes on-street parking on both sides of the street, with a total paved cross section of 36 feet. The Public Works Director will permit development of a local street with a paved cross section of 28 feet if it can be shown that the traffic volume is not anticipated to meet or exceed 400 vehicles per day (average daily link volume) and where the street design limits parking to one side of the street only.

E. Street Standards.

Street Cross-Section Standards (TSP Table 7-2)

Classification	Right-of-Way	Streetscape	Travel Lanes	Bike Lanes	On-Street Parking	Sidewalks	Landscaping
Major Arterial[1]	80 feet	73 feet	2 travel + center turn lane or median	6 feet	No	6.5 feet	5 feet
Minor Arterial	70 feet	64 feet	2 travel + center turn lane or median	6 feet	No[2]	7 feet	No
Ash Creek Drive	80 feet	64 feet	2	Yes[3]	No[2]	6 feet[3]	6 feet[3]
Downtown STA[1]	70 feet	68 feet	2	5 feet	8 feet	10 feet	Tree well
Major Collector	60 feet	48 feet	2	6 feet	No[2]	6 feet	No
Minor Collector	60 feet	52 feet[4]	2	No	8 feet	6 feet	No
Local Street	60 feet	40-48 feet	2, unstriped	No	8 feet[5]	6 feet	No
Local Street PUD	60 feet	40-58 feet[5]	2, unstriped	No	8 feet[5]	6 feet	5 feet

[1] Design of all state highways are subject to the design standards and guidelines in the ODOT Highway Design Manual
[2] On-street parking can be provided on al city streets at he discretion of the Public Works Director.
[3] The Ash Creek Drive cross-section includes sidewalk and bike lane on the north side and a multi-use path on the south side, separated from the roadway by a 10foot wide natural buffer.
[4] Curb extensions are encouraged on minor collectors to encourage appropriate travel speeds.
[5] For local streets, parking can be eliminated on one side to meet "skinny" street standards.

F. Slope Easements. Slope easements shall be dedicated in accordance with the specifications adopted by the City Council.

G. Reserve Strips or Block. The Planning Commission may require the land divider to create a reserve block controlling the access to a street, said block to be placed under the jurisdiction of the City Council:

1. To prevent access to abutting land at the end of a street and to ensure the proper extension of the street pattern and the orderly development of land lying beyond the street.

2. To prevent access to the side of a street on the side where additional width is required to meet the right-of-way standards provided in the above table.

3. To prevent access to land abutting a street of the partition or subdivision, but not within the partition or subdivision itself.

4. To prevent access to land unsuitable for building development.

H. Alignment. As far as is practical, streets shall be in alignment with existing streets by continuations of the centerlines thereof. Staggered street alignment resulting in "T" intersections shall, wherever practical, leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 125 feet.

I. Future Extension of Streets. Where the subdivision or partition is adjacent to developable land larger than two (2) acres in size with a frontage of more than 200 feet, streets, bikeways and pedestrian facilities shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without a turnaround. Reserve strips or blocks may be required to preserve the objectives of street extensions. For purposes of this section, "developable land" is land that is vacant or underutilized and can be serviced with water and sewer.

J. Intersections of Streets.

1. Angles. Streets shall intersect one another at right angle as is practicable considering topography of the area and previous adjacent layout. Where not practicable, the right-of-way and street paving within the acute angle shall have a minimum of 30 feet centerline radius where such angle is not less than 60 degrees. In the case of streets intersecting at an angle of less than 60 degrees, then of such minimum as the Public Works Director designee may determine in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Offsets. Intersections shall be so designed that no offset dangerous to the traveling public is created as a result of staggering of intersections; and in no case shall there be an offset of less than 125 feet centerline to centerline.

K. Topography. The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

L. Existing Streets. Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of subdivision.

M. Half Streets. Half streets, while generally not acceptable, may be approved if at least 33 feet wide, where essential to the reasonable development of the subdivision, when in conformity with the other requirements of these regulations, and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is platted within such tract, reserve strips and street plugs may be required to preserve the objectives of half streets.

N. Cul-de-sac. There shall be no cul-de-sacs more than 200 feet long or serving more than 20 single-family dwellings. Each cul-de-sac shall have a circular end with a minimum diameter of right-of-way width and paving as shown in the table in Sections 97.005 to 97.430. The use of cul-de-sacs shall be discouraged and may only be approved upon a showing by the applicant of unusual or unique circumstances justifying the cul-de-sac. For purposes of this section, "unusual or unique circumstances" exist when one (1) of the following conditions prevent a required street connection:

1. Slopes are equal to or greater than twelve (12) percent;

2. A wetland or other water body is present that cannot be bridged or crossed; or

3. Existing development on adjacent property prevents a street connection.

O. Street Names. Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for streets that are not in alignment with existing streets are subject to approval by the Planning Commission and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the City.

P. Grades and Curves. Grades shall not exceed six (6) percent on arterials, ten (10) percent on collector streets, or 12 percent on all other streets. Centerline radii on curves shall not be less than 300 feet on arterials or 230 feet on all other streets and shall be to an even 10 feet. Where existing conditions, particularly the topography, made it otherwise impractical to provide buildable lots, the Planning Commission may accept steeper grades and sharper curves. In flat areas, allowance shall be made for finished street grades having a minimum slope, preferably, or at least 0.33 percent.

Q. Streets Adjacent to Railroad Rights-of-Way. Wherever the proposed subdivision contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the land between the streets and the railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

R. Marginal Access Streets. Where a subdivision abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.

S. Alleys. Alleys shall be provided in commercial and industrial districts, unless other provisions for access to off-street parking and loading facilities are approved by the Planning Commission. The corner of alley intersections shall have a radius of not less than twelve (12) feet.

1. Dedication. The Planning Commission may require adequate and proper alleys to be dedicated to the public by the land divider of such design and in such location as necessary to provide for the access needs of the subdivision or partition in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Width. Width of right-of-way and paving design for alleys shall be not less than twenty (20) feet. Slope easements shall be dedicated in accordance with specifications adopted by the City Council.

3. Corner Cut-Offs. Where two (2) alleys intersect, 10 feet corner cut-offs shall be provided.

4. Grades and Curves. Grades shall not exceed twelve (12) percent on alleys, and centerline radii on curves shall be not less than 100 feet.

5. Other Requirements. All provisions and requirements with respect to streets in Sections 97.005 to 97.430 shall apply to alleys the same in all respects as if the word "street" or "streets" therein appeared as the word "alley" or "alleys" respectively.

T. Access Management. New access to arterials and collectors shall be limited. Shared or consolidated access shall be required for development or land divisions adjacent to these facilities, pursuant to this section, unless demonstrated to be unfeasible.

1. Access control standards apply to public, industrial, commercial and residential developments including land divisions. Access shall be managed to maintain an adequate level of service and to maintain the functional classification of roadways as required by the City of Monmouth Transportation System Plan. Major roadways, including arterials and collectors, serve as the primary system for moving people and goods within and through the city. Access management is a primary concern on these roads. Local streets and alleys provide access to individual properties. If vehicular access and circulation are not properly designed, these roadways will be unable to accommodate the needs of development and serve their transportation function.

2. Traffic Impact Analysis Requirements. The City or other agency with access jurisdiction may require a traffic study prepared by a qualified professional to determine access, circulation and other transportation requirements. (See also, 97.415 Traffic Impact Analysis.)

3. The City or other agency with access permit jurisdiction may require the closing or consolidation of existing curb cuts or other vehicle access points, recording of reciprocal access easements (i.e., for shared driveways), development of a frontage street, installation of traffic control devices, and/or other mitigation as a condition of granting an access permit, to ensure the safe and efficient operation of the street and highway system. Access to and from off-street parking areas shall not permit backing onto a public street.

4. Access Options. When vehicle access is required for development (i.e., for off-street parking, delivery, service, drive-through facilities, etc.), access shall be provided by one of the following methods (planned access shall be consistent with adopted public works standards for road construction). These methods are "options" to the developer/subdivider.

Option 1. Access is from an existing or proposed alley or mid-block lane. If a property has access to an alley or lane, direct access to a public street is not permitted.

Option 2. Access is from a private street or driveway connected to an adjoining property that has direct access to a public street (i.e., "shared driveway"). A public access easement covering the driveway shall be recorded in this case to assure access to the closest public street for all users of the private street/drive.

Option 3. Access is from a public street adjacent to the development parcel. If practicable, the owner/developer may be required to close or consolidate an existing access point as a condition of approving a new access. Street accesses shall comply with the access spacing standards in Subsection 5, below.

5. Access Spacing. All proposed development shall have access to a public right-of-way. Spacing requirements for access points and intersections on arterials and collector streets shall be as shown in the following three (3) tables:

OR 99W and OR 51 Access Spacing Standards (TSP Table 7-3)

Posted Speed	Spacing Standards[1]	Spacing Standards for STA
OR 99W – Regional Highway		
50 mph	830 feet	N/A
40 & 45 mph	750 feet	N/A
30 & 35 mph	425 feet	N/A
≤ 25 mph	350 feet	N/A
OR 51 – District Highway		
50 mph	550 feet	N/A
40 & 45 mph	500 feet	N/A
30 & 35 mph	350 feet	175 feet or mid-block[3]
≤ 25 mph	350 feet	175 feet or mid-block[3]

Note: Spacing standards obtained from the Oregon Highway Plan (OHP). Consult the OHP for updates and addenda.
[1] Measurement of the approach road spacing is from the center on the same side of the roadway.
[3] Per the OHP, driveways are discouraged in STAs. However, "where driveways are allowed and where land use patterns permit, the minimum access management spacing for driveways is 175 feet or mid-block if the current block is less than 350 feet".

Minimum Intersection Spacing Standards (TSP Table 7-4)

Functional Classification	Public Street	Private Access Drive (feet)
Local Street	150 feet	50 feet
Minor Collector	300 feet	50 feet
Major Collector	300 feet	100 feet
Ash Creek Drive	300 feet	150 feet
Minor Arterial	350 feet or block length	200 feet or mid-block
Major Arterial[1]	350 feet or block length	350 feet or block length
[1] Access standards identified in the Oregon Highway Plan supersede this table on all state highways.		

Private Access Driveway Width Standards (TSP Table 7-5)

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

6. The distance between access points shall be measured from the centerline of the proposed driveway or roadway to the centerline of the nearest adjacent roadway or driveway.

7. Projects proposed on arterials shall include a frontage or service road and shall take access from the frontage road rather than the arterial. Frontage road design

shall conform to ODOT standards. This access requirement may be met through the use of interconnecting parking lots that abut the arterial.

8. Alternative Designs. Where unique site characteristics, such as natural features or spacing of existing driveways and roadways, cause the local (non-highway) access requirements to be physically unfeasible, alternate designs may be approved.

9. Subdivisions Fronting Onto an Arterial Street. New residential land divisions fronting onto an arterial street shall be required to provide alleys or secondary (local or collector) streets for access to individual lots. When alleys or secondary streets cannot be constructed due to topographic or other physical constraints, access may be provided by consolidating driveways for clusters of two or more lots (e.g., includes flag lots and mid-block lanes).

10. Double-Frontage Lots. When a lot has frontage onto two or more streets, access shall be provided first from the street with the lowest classification. For example, access shall be provided from a local street before a collector or arterial street.

11. Number of Access Points. For single-family (detached and attached), two-family, and three-family housing types, one street access point is permitted per lot, when alley access cannot otherwise be provided; except that two access points may be permitted for two-family and three-family housing on corner lots (i.e., no more than one access per street), subject to the access spacing standards in Subsection 6, above. The number of street access points for multiple family, commercial, industrial, and public/institutional developments shall be minimized to protect the function, safety and operation of the street(s) and sidewalk(s) for all users. Shared access may be required, in conformance with Subsection 12 below, in order to maintain the required access spacing, and minimize the number of access points.

12. Shared Driveways. The number of driveway and private street intersections with public streets shall be minimized by the use of shared driveways with adjoining lots where feasible. The City shall require shared driveways as a condition of land division or site design review, as applicable, for traffic safety and access management purposes in accordance with the following standards:

a. Shared driveways and frontage streets may be required to consolidate access onto a collector or arterial street. When shared driveways or frontage streets are required, they shall be stubbed to adjacent developable parcels to indicate future extension. "Stub" means that a driveway or street temporarily ends at the property line, but may be extended in the future, as the adjacent parcel develops. "Developable" means that a parcel is either vacant or it is likely to receive additional development (i.e., due to infill or redevelopment potential).

b. Access easements (i.e., for the benefit of affected properties) shall be recorded for all shared driveways, including pathways, at the time of final plat approval or as a condition of site development approval.

c. Exception. Shared driveways are not required when existing development patterns or physical constraints (e.g., topography, parcel configuration, and similar conditions) prevent extending the street/driveway in the future.

U. Bicycle Requirements. Bike lanes shall be provided during the construction, reconstruction, or relocation of arterial and collector streets. Design and construction of bikeways, or other public paths shall conform to the requirements of the American Association of State Highway and Transportation Officials (AASHTO) as revised and adopted in the "Oregon Bicycle and Pedestrian Plan".

V. Pedestrian Requirements.

1. Sidewalks shall be constructed along all arterial, collector, and local streets.

2. The design and construction of sidewalks and other public paths shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", Americans With Disabilities Act (ADA) requirements, and City of Monmouth standards.

W. Accessways or Multi-use Paths. Where required:

1. Accessways or multi-use paths shall be located to provide a reasonably direct connection between likely pedestrian and cyclist destinations. A reasonably direct connection is a route, which minimizes out-of-direction travel for most of the people likely to use the multi-use path considering terrain, safety, and likely destinations.

2. The design and construction of accessways shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", ADA requirements, and City of Monmouth standards.

X. Lighting. Illumination of all sidewalks and bicycle paths will be provided in conjunction with all new development. Adequacy of the lighting plan will be consistent with AASHTO standards and approved by the Public Works Director.

96.415 Traffic Impact Analysis Standards

1. Purpose. The purpose of this section of the code is to implement Section 660-012-0045(2)(e) of the State Transportation Planning Rule that requires the City to adopt a process to apply conditions to development proposals in order to minimize adverse impacts to and protect transportation facilities. This section establishes the standards for when a proposal must be reviewed for potential traffic impacts; when a Traffic Impact Analysis must be submitted with a land use or development application in order to determine whether conditions are needed to minimize impacts to and protect transportation facilities; what must be in a Traffic Impact Analysis; and who is qualified to prepare the analysis.

2. Typical Average Daily Trips. The latest edition of the Trip Generation manual, published by the Institute of Transportation Engineers (ITE), shall be used as the standard by which to gauge average daily vehicle trips.

3. When Required. A Traffic Impact Analysis may be required by the Public Works Director with a land use or development application, when the application involves one or more of the following actions:

a. A change in zoning or a Comprehensive Plan Map designation;

b. Any proposed development or land use action that ODOT states may have operational or safety concerns along a state highway; or

c. The development will cause one or more of the following effects, which can be determined by field counts, site observation, traffic impact analysis or study, field measurements, crash history, Institute of Transportation Engineers Trip Generation manual, and information and studies provided by the local reviewing jurisdiction and/or ODOT:

i. An increase in site traffic volume generation by 250 Average Daily Trips (ADT) or more (or as required by the Public Works Director); or

ii. An increase in site traffic volume generation of 25 or more peak-hour trips; or

iii. An increase in use of adjacent streets by vehicles exceeding the 20,000 pound gross vehicle weights by 10 vehicles or more per day; or

iv. The location of the access driveway does not meet minimum intersection sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate, creating a safety hazard; or

v. The location of the access driveway does not meet the access spacing standard of the roadway on which the driveway is located; or

vi. A change in internal traffic patterns that may cause safety problems, such as back up onto the highway or a local arterial or collector, or traffic crashes in the approach area.

4. Traffic Impact Analysis Requirements.

a. Preparation. A Traffic Impact Analysis shall be prepared by a professional engineer in accordance with OAR 734-051-180. The City shall commission the traffic analysis and it will be paid for by the applicant.

b. Transportation Planning Rule Compliance. See Section 96.420 Transportation Planning Rule Compliance.

c. Pre-application Conference. The applicant will meet with the Public Works Director prior to submitting an application that requires a Traffic Impact Application. This meeting will determine the required elements of the TIA and the level of analysis expected.

5. Approval Criteria. When a Traffic Impact Analysis is required, approval of the development proposal requires satisfaction of the following criteria:

a. The Traffic Impact Analysis must be prepared by a professional engineer in accordance with OAR 734-051-180; and

b. If the proposed development will cause one or more of the effects in subsection 3, above, or other traffic hazard or negative impact to a transportation facility, the Traffic Impact Analysis must include mitigation measures that meet the City's Level-of-Service and satisfactory to the Public Works Director, and ODOT, when applicable; and

c. The proposed site design and traffic and circulation design and facilities, for all transportation modes, including any mitigation measures, must be designed to:

i. Have the least negative impact on all applicable transportation facilities;

ii. Accommodate and encourage non-motor vehicular modes of transportation to the extent practicable;

iii. Make the most efficient use of land and public facilities as practicable;

iv. Provide the most direct, safe and convenient routes practicable between on-site destinations, and between on-site and off-site destinations; and

v. Otherwise comply with applicable requirements of the City of Monmouth Zoning Ordinance.

6. Study Area. The study area for the TIA shall include, at a minimum, all site-access points and intersections (signalized and unsignalized) adjacent to the proposed site. If the proposed site fronts an arterial or collector street; the study shall include all intersections along the site frontage and within the access spacing distances extending out from the boundary of the site frontage. Beyond the minimum study area, the transportation impact analysis shall evaluate all intersections that receive site-generated trips that comprise at least 10% or more of the total intersection volume. In addition to these requirements, the Public Works Director (or his/her designee) shall determine any additional intersections or roadway links that might be adversely affected as a result of the proposed development. The applicant and the Public Works Director (or his/her designee) must agree on these intersections prior to the start of the transportation impact analysis.

7. Conditions of Approval. As part of every land use action, the City of Monmouth, Polk County (if access to a County roadway is proposed), and ODOT (if access to a state roadway is proposed) may identify conditions of approval needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. The City may deny, approve, or approve the proposal with appropriate conditions. Conditions of Approval that should be evaluated as part of subdivision and site plan reviews include:

a. Crossover easement agreements for all adjoining parcels to facilitate future access between parcels.

b. Conditional access permits for new developments, which have proposed access points that do not meet the designated access spacing policy and/or have the ability to align with opposing access driveways.

c. Right-of-way dedications for future planned roadway improvements.

d. Half-street improvements along site frontages that do not have full-buildout improvements in place at the time of development.

96.420. Transportation Planning Rule Compliance

A. Review of Applications for Effect on Transportation Facilities. When a land use or development application, whether initiated by the City or by a private interest, includes a proposed comprehensive plan amendment, zone change, or land use regulation change, the proposal shall be reviewed to determine whether it significantly affects a transportation facility, in accordance with Oregon Administrative Rule (OAR) 660-012-0060 (the Transportation Planning Rule – "TPR"). "Significant" means the proposal would:

1. Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);

2. Change standards implementing a functional classification system; or

3. As measured at the end of the planning period identified in the adopted transportation system plan:

a. Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

b. Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or

c. Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.

B. Amendments That Affect Transportation Facilities. Amendments to the Comprehensive Plan, zoning, and land use regulations that significantly affect a transportation facility shall ensure that allowed land uses are consistent with the function, capacity, and level of service of the facility identified in the TSP. This shall be accomplished by one or a combination of the following:

1. Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.

2. Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of Section -0060 of the TPR.

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

4. Amending the TSP to modify the planned function, capacity, or performance standards of the transportation facility.

C. Traffic Impact Analysis. A Traffic Impact Analysis may be required by the Public Works Director for a Comprehensive Plan amendment or change in zoning designation. (See Section 96.415 Traffic Impact Analysis (TIA)).

96.425 Criteria for Certain Transportation Facilities and Improvements

A. Construction, reconstruction, or widening of highways, roads, bridges or other transportation facilities that are (1) not designated in the adopted City of Monmouth Transportation System Plan ("TSP") or (2) not designed and constructed as part of an approved, active, development order are allowed in all zoning districts subject to the Conditional Use provisions of the Zoning Ordinance and satisfaction of all of the following criteria:

1. The project and its design are consistent with Monmouth's adopted TSP and consistent with the State Transportation Planning Rule, OAR 660-012 ("the TPR").

2. The project design is compatible with abutting land uses in regard to noise generation and public safety and is consistent with the applicable zoning and development standards and criteria for the abutting properties.

3. The project design minimizes environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities, and a site with fewer environmental impacts is not reasonably available.

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

5. The project includes provisions for bicycle and pedestrian access and circulation consistent with the comprehensive plan, the requirements of this ordinance, and the TSP.

B. State transportation system facility or improvement projects. The Oregon Department of Transportation ("ODOT") shall provide a narrative statement with the application demonstrating compliance with all of the criteria and standards in Section 90.550(A)(1-5). Where applicable, an Environmental Impact Statement or Environmental Assessment may be used to address one or more of these criteria.

C. Proposal inconsistent with TSP/TPR. If the City determines that the proposed use or activity or its design is inconsistent with the TSP or TPR, then the applicant shall apply

for and obtain a plan and/or zoning amendment prior to or in conjunction with conditional use permit approval. The applicant shall choose one of the following options:

1. If the City's determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall withdraw the conditional use application; or

2. If the City's determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall withdraw the conditional permit application, apply for a plan/zone amendment, and re-apply for a conditional use permit if and when the amendment is approved; or

3. If the City's determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall submit a plan/zoning amendment application for joint review and decision with the conditional use permit application, along with a written waiver of the ORS 227.178 120-day period within which to complete all local reviews and appeals once the application is deemed complete; or

4. If the City's determination of inconsistency is part of a final decision on the conditional use permit application, the applicant shall submit a new conditional use permit application, along with a plan/zoning amendment application for joint review and decision, as a condition of approval of the conditional use permit application.

Proposed amendments to Chapter 96 – Development Standards, adding Section 96.035:

96.035 Pedestrian Access and Circulation

A. Site Layout and Design. To ensure safe, direct, and convenient pedestrian circulation, all mixed-use, commercial, and office developments shall provide a continuous pedestrian system. Multi-family development that proposed ten (10) or more units in a single building, or that includes two or more buildings, shall also provide a continuous pedestrian system. The pedestrian system shall be based on the standards in subsections 1-4, below:

1. Continuous Walkway System. The pedestrian walkway system shall extend throughout the development site and connect to all future phases of development, and to existing or planned off-site adjacent trails, public parks, and open space areas to the greatest extent practicable. The developer may also be required to connect or stub walkway(s) to adjacent streets and to private property with a previously reserved public access easement for this purpose, in accordance with the provisions of Section 96.410 Transportation Improvements Standards.

2. Safe, Direct, and Convenient. Walkways within developments shall provide safe, reasonably direct, and convenient connections between primary building entrances and all adjacent streets, based on the following definitions:

a. Reasonably direct. A route that does not deviate unnecessarily from a straight line or a route that does not involve a significant amount of out-of-direction travel for likely users.

b. Safe and convenient. Routes that are reasonably free from hazards and provide a reasonably direct route of travel between destinations.

c. "Primary entrance" for commercial, mixed use, and office buildings is the main public entrance to the building. In the case where no public entrance exists, street connections shall be provided to the main employee entrance.

d. "Primary entrance" for residential buildings is the front door (i.e., facing the street). For multifamily buildings in which each unit does not have its own exterior entrance, the "primary entrance" may be a lobby, courtyard, or breezeway which serves as a common entrance for more than one dwelling.

3. Connections Within Development. Connections within developments shall be provided as required in subsections a-c, below:

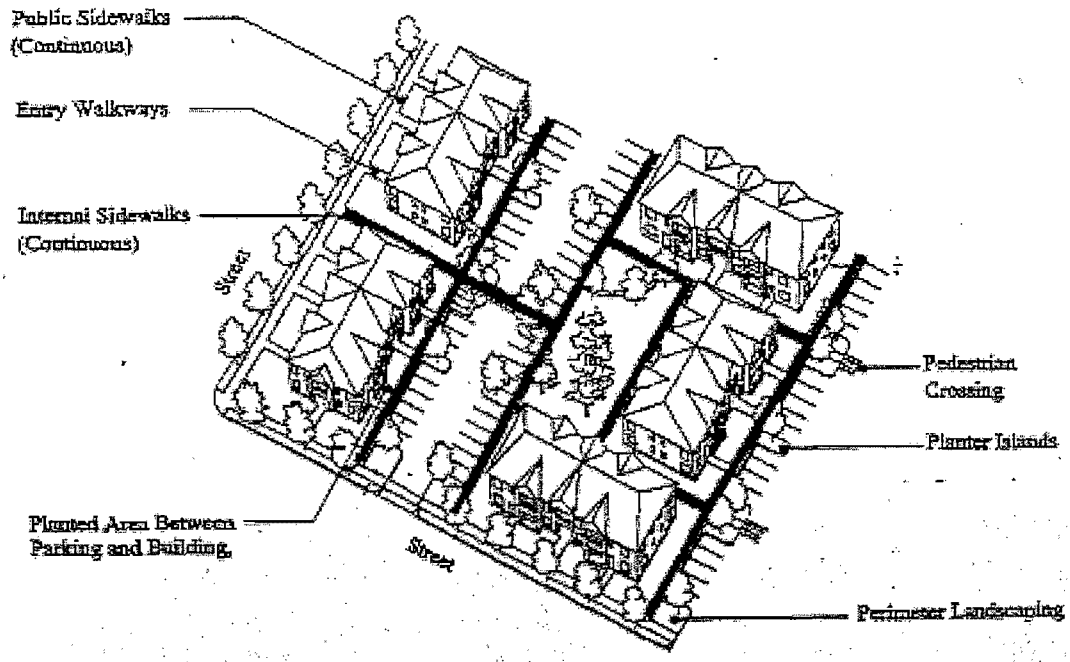
a. Walkways shall connect all building entrances to one another to the extent practicable, as generally shown in Figure 96.035(1);

b. Walkways shall connect all on-site parking areas, storage areas, recreational facilities and common areas, and shall connect off-site adjacent uses to the site to the extent practicable. Topographic or existing development constraints may be cause for not making certain walkway connections, as generally shown in Figure 96.035(1); and

c. Large parking areas shall be broken up so that no contiguous parking area exceeds three (3) acres. Parking areas may be broken up with plazas, large landscape areas with pedestrian access ways (*i.e.*, at least 20 feet total width), streets, or driveways with street-like features, Street-like features, for the purpose of this section, means a raised sidewalk of at least 4-feet in width, 6-inch curb, accessible curb ramps, street trees in planter strips or tree wells, and pedestrian-oriented lighting.

B. Walkway Design and Construction. Walkways, including those provided with pedestrian access ways, shall conform to all of the standards in subsections 1-4, as generally illustrated in Figure 96.035(2):

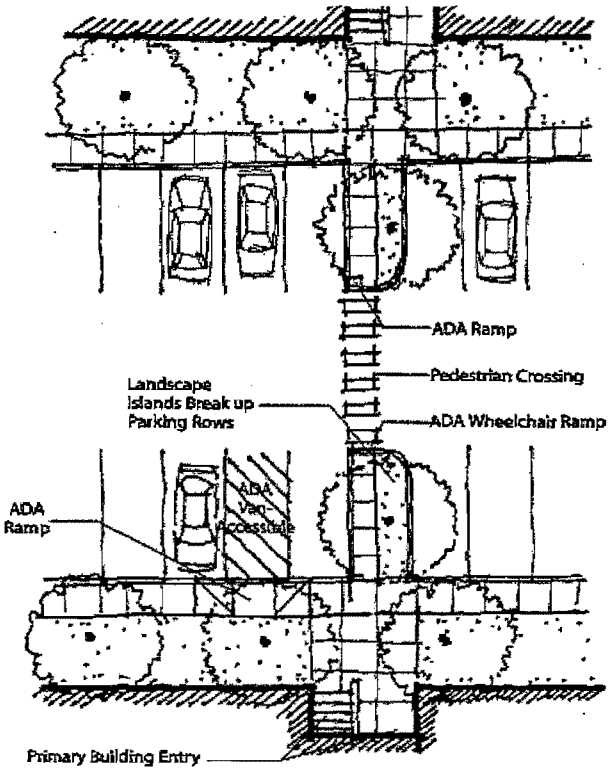
Figure 96.035(1) Pedestrian Pathway System (Typical)



1. Vehicle/Walkway Separation. Except for crosswalks (subsection 2), where a walkway abuts a driveway or street, it shall be raised 6 inches and curbed along the edge of the driveway/street. Alternatively, the City may approve a walkway abutting a driveway at the same grade as the driveway if the walkway is protected from all vehicle maneuvering areas. An example of such protection is a row of decorative metal or concrete bollards designed for withstand a vehicle's impact, with adequate minimum spacing between them to protect pedestrians.

2. Crosswalks. Where walkways cross a parking area, driveway, or street ("crosswalk"), they shall be clearly marked with contrasting paving materials (*e.g.*, light-color concrete inlay between asphalt), which may be part of a raised/hump crossing area. Painted or thermo-plastic striping and similar types of non-permanent applications may be approved for crosswalks not exceeding 24 feet in length.

Figure 96.035(2)
Pedestrian Walkway
Detail (Typical)



3. Walkway Width and Surface. Walkway and accessway surfaces shall be concrete, asphalt, brick/masonry pavers, or other durable surface, as approved by the Public Works Director, at least six (6) feet wide. Multi-use paths (i.e., for bicycles and pedestrians) shall be concrete or asphalt, at least 10 feet wide. (See also, Section 3.4.100 - Transportation Standards for public, multi-use pathway standard.)

4. Accessible routes. Walkways shall comply with applicable Americans with Disabilities Act (ADA) requirements. The ends of all raised walkways, where the walkway intersects a driveway or street shall provide ramps that are ADA accessible, and walkways shall provide direct routes to primary building entrances.

Proposed amendments to the Medium Density Residential (RM) Zone, adding Section 91.160:

91.160 Pedestrian Access and Circulation. Pedestrian access and circulation for multi-family uses, as allowed in the RM Zone, shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation," when more than 10 units are proposed within a development.

Proposed amendments to the High Density Residential (RH) Zone, adding Section 91.260:

91.260 Pedestrian Access and Circulation. Pedestrian access and circulation for multi-family uses, as allowed in the RH Zone, shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation," when more than 10 units are proposed within a development.

Proposed amendments to the Mixed Density Residential (MX) Zone, adding Section 91.405:

91.405 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the MX Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Proposed amendments to the Mixed Density Residential (MX) Zone, Section 91.340:

91.340 Conditional Uses.

A. Neighborhood Commercial Land Uses.

3. Location and Access. Neighborhood commercial developments shall have frontage onto a collector or arterial with available on-street parking **on adjacent minor collector or local streets,** and shall conform to the building orientation, ~~and~~ parking location**, and pedestrian access and circulation** standards in Sections 96.005 to 96.~~030~~035.

Proposed amendments to Chapter 92: Commercial Zones, adding pedestrian access requirements:

Commercial Office (CO) Zone

92.050 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CO Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Commercial Highway (CH) Zone

92.150 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CH Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Commercial Retail (CR) Zone

92.250 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CR Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Commercial Retail Transitional (CRT) Zone

92.375 Pedestrian Access and Circulation. Pedestrian access and circulation for uses and activities in the CRT Zone shall be provided in accordance with the requirements of Section 96.035, "Pedestrian Access and Circulation."

Proposed amendments to Section 90.220:

90.220 General Provisions. In order to provide for citizen review of the planning process and the orderly keeping of records of actions relating to this Ordinance, the City shall ensure that the following measures are maintained and available for public review.

C. Citizen and Agency Involvement. The City shall provide opportunities for public and agency input in the planning process. To ensure that there is a coordinated effort to permit land use projects, when applicable, notice shall be sent to interested agencies such as City departments, police and fire departments, school district, utility companies, and city, county, and state agencies. Affected jurisdictions and agencies include Polk County, Mid-Willamette Valley COG, the Department of Environmental Quality, the Oregon Department of Transportation, the City of Independence, and other affected or interested local, state or federal agencies. The City shall give notice to: (1) the Oregon Department of Transportation (ODOT) regarding any proposed land use action within 250 feet of a State transportation facility. ~~and (2) the public works department of any jurisdictions (for example, Polk County), when any action by the City could potentially affect another jurisdiction's transportation facilities.~~

Proposed amendments to Section 90.310:

90.310 Zone Change and Plan Amendment by Petition. Any property owner may initiate a zone change or plan amendment for the property that he or she owns by submitting to the City Recorder a petition bearing the following:

I. A Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities

Proposed amendments to Section 90.325:

90.325 Standards for Zone Changes. No zone change shall be approved by the Planning Commission or enacted by the City Council unless it conforms to the Comprehensive Plan and meets the following standards:

B. Adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property. A Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities and demonstrate compliance with OAR 660-012-0060.

Proposed amendments to Section 90.330:

90.330 Standards for Plan Map Amendment.

B. Adequate public facilities, services, and transportation networks are in place or are planned to be provided concurrently with the development of the property. A Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities and demonstrate compliance with OAR 660-012-0060.

Proposed amendments to Section 90.515:

90.515 Conditions for Granting a Conditional Use. A conditional use may be granted only if the following conditions are found to exist:

A. The conditional use that is requested is listed as conditional use in the zone in which the subject property is located, or is subject to Section 96.425, Criteria for Certain Transportation Facilities and Improvements.

Proposed amendments to Chapter 97 – Subdivision and Partition Ordinance

Proposed amendments to Section 97.130:

97.130 Tentative Plat Information. The following information shall be shown on the tentative plat:

Z. Traffic Impact Analysis (TIA). Depending on the nature and scope of the proposed development, a Traffic Impact Analysis, pursuant to Section 96.415, may be required by the Public Works Director to determine the adequacy of existing or planned transportation facilities. ~~the City may require a traffic impact analysis report, prepared by a registered transportation engineer, including the following:~~

~~1. The total estimated vehicular, pedestrian, bicycle and other transit service trips to be generated from the proposed development;~~

~~2. The impact of the total estimated vehicular, pedestrian, bicycle and other transit service trips on the existing street, sidewalk, bicycle and other transit systems within the City; and~~

~~3. The estimated level of improvement necessary to mitigate the total impact from the proposed development as identified in item #2.~~

Proposed amendments to Section 97.235:

MANUFACTURED HOME SUBDIVISIONS

97.235 Development Standards.

D. Public Roadways. All public roadways, bikeways and pedestrian facilities within the manufactured home subdivision shall be improved to the standards of Section ~~97.275~~ 96.410.

F. ~~Bikeways~~ Pedestrian and Bicycle Facilities. ~~Bikeways consistent with the Independence-Monmouth Bicycle Master Plan and the Monmouth Transportation Plan~~ Pedestrian amenities and bicycle facilities shall be installed in accordance with ~~City~~ the standards of Section 96.410.

Proposed amendments to Section 97.255:

97.255 Improvement Requirements. The following improvements are summarily required in subdivisions and major partitions, and may be applied to minor partitions as conditions for approval and shall be installed at the expense of the subdivider:

D. Streets. The location, design, and construction of streets and accesses shall conform to the standards of Section 96.410. The applicant shall grade and improve streets in the subdivision and the extension of such streets to the paving line of existing streets with which such streets intersect in accordance with city specifications.

E. Pedestrian and Bicycle Facilities ~~Ways~~. The location, design, and construction of pedestrian amenities and bicycle facilities shall conform to the standards of Section 96.410. Sidewalks shown on the street sections shall be installed as located on those sections as a result of the subdivision or major partition.

Proposed amendments to Section 97.560:

97.560 Tentative Plan for PUD.

8. The following plans and diagrams may be required if the Planning Commission finds that the PUD creates special problems of traffic, parking, landscaping or economics:

a. An off-street parking and loading plan;

b. A circulation diagram indicating proposed movement of vehicles, goods and pedestrians within the PUD and to and from the surrounding

neighborhood, including any features and traffic regulation devices needed to facilitate traffic circulation;

c. A landscaping and tree plan;

d. An economic feasibility report or market analysis; and

e. Special studies prepared by qualified professionals to determine potential traffic, geologic, noise, environmental, natural resource, or other impacts, and required mitigation;

f. A Traffic Impact Analysis, if required pursuant to Section 96.415; and

g. A roadway system design that is consistent with the street design standards for a Local Street PUD in the City of Monmouth Transportation System Plan.

Section 97.275 would be deleted:

~~**97.275 Transportation Facilities.**~~

~~A. General. The location, width, and grade of streets, bikeways and pedestrian facilities shall be considered in their relation to existing and planned streets, bikeways and pedestrian facilities, to topographical conditions, to public convenience and safety, and to the proposed use of the land to be served by the streets. All streets, bikeways and pedestrian facilities shall connect to other said facilities within the development and to existing and planned streets, bikeways, and pedestrian facilities outside the development. Where location is not shown in the Monmouth Transportation System Plan or other a development plan, the arrangement of streets in a subdivision shall either:~~

~~1. Provide for the continuation or appropriate projection of existing and planned streets, bikeways and pedestrian facilities in surrounding areas; or~~

~~2. Conform to a plan for the neighborhood approved or adopted by the Planning Commission to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets, bikeways and pedestrian facilities impractical.~~

~~B. Widths of street rights-of-way and paving design for streets shall be not less than those set forth in the table below, except that for a street abutting land not in the subdivision or partition area, a lesser width may be allowed as a variance where the applicant presents a satisfactory plan as to when such street will be expanded to the required width.~~

~~C. The width of street rights-of-way provided in the table below shall be the minimum widths of rights-of-way for streets existing along and adjacent to any boundary of the subdivision or partition which is the natural or planned continuation of the alignment of the existing or proposed streets, and the applicant shall dedicate additional rights of way, as determined by the City Engineer or designate in accordance with such table, for any such adjacent street, proposed for access to the subdivision, where the existing width of rights of way for such street is less than the minimum in said table. Off-site improvements, such as pavement construction or re-construction of existing street(s) proposed for access to the subdivision, which are inadequate or in failing condition, may be required.~~

D. Where existing conditions, such as the topography or the size or shape of land parcels, make it otherwise impractical to provide buildable lots, the Planning Commission may accept a narrower right-of-way. If necessary, special slope easements may be required.

E. Street Standards.

Standards for New and Existing Streets

Street Classification	Access Spacing	Right-of-way Width	Curb-to-Curb Width	Sidewalk Width[1]	Bike lane Width[2]	On-Street Parking	Planting Strip*	Travel Lanes[3]
Arterial	250 ft.[4]	84 ft.	60 ft.	6–10 ft.[5]	2 @ 6 ft. each	8 ft. bays	7–8 ft.[6]	2 @ 10 ft.
Collector	-	66 ft.	36 ft.		N/A[2]		7–8 ft.[6]	2 @ 10 ft.
Residential		"	"	5–8 ft.[5]	"	7 ft. lanes	"	"
Commercial		"	"	6–10 ft.[5]	"	8 ft. lanes	"	"
Industrial other than Arterials		72 ft.	36 ft.	6–10 ft.[5]	optional	7 ft. lanes	7–8 ft.[6]	2 @ 10 ft.
Local	-	60 ft.	30 ft.	5.0 ft.	N/A	2, 7 ft. lanes	7–8 ft.	11–14 ft. queuingt
Circular ends of Cul-de-sacs	-	114 feet	80 ft. diam.	5.0 ft.	N/A	N/A	optional	N/A.
Alleys	-	16–20 ft.	12–16 ft. paved width, 2–4 ft. strips on both sides	N/A	N/A	N/A	none	none
Public Accessways		10–18 ft.	6–10 ft. paved width, 2–4 ft. strips on both sides	N/A	N/A	N/A	none	none

1. All sidewalk widths include curbs.
2. Striped bicycle lane required on arterials (both sides) and collectors (one or both sides) where speeds are higher than 25 mph and where traffic volumes exceed 3,000 vehicles per day.
3. Minimum width.
4. Measured from centerline to center line.
5. Eight (8) foot sidewalks shall be provided on Highway 99W within the City limits for all contiguous commercial properties.
6. Hardscape planting strip with tree wells shall be used in commercial and mixed use development areas (where on-street parking is required).

Arterial Options:

1. On-street parking: One side or both sides, eight (8) foot minimum width or

2. Bikeways: Both sides, six (6) foot minimum width, or
3. On-street parking on one side, eight (8) foot minimum, and bike lanes on both sides, six (6) foot minimum.

Collector Options:
1. Residential: On-street parking: One side or both sides, seven (7) foot minimum width,
2. Commercial: On-street parking: One side or both sides, eight (8) foot minimum width.

Local Street Options:
1. On-street parking: One side or both sides, seven (7) foot minimum width.
2. Moving cars must occasionally yield between parked cars before moving forward (permits development of narrow streets, encourages vehicles to move slower, and allows for periodic areas where a 20-foot wide clear area is available for parking of fire apparatus).

Please note: The above options shall be coordinated with the Comprehensive Master Bicycle Plan and the Street Plan within the Transportation System Plan. The Planning Commission assesses the types of improvements at the time of development.

F. Slope Easements. Slope easements shall be dedicated in accordance with the specifications adopted by the City Council.

G. Reserve Strips or Block. The Planning Commission may require the land divider to create a reserve block controlling the access to a street, said block to be placed under the jurisdiction of the City Council:

1. To prevent access to abutting land at the end of a street to assure the proper extension of the street pattern and the orderly development of land lying beyond the street.

2. To prevent access to the side of a street on the side where additional width is required to meet the right-of-way standards provided in the above table.

3. To prevent access to land abutting a street of the partition or subdivision, but not within the partition or subdivision itself.

4. To prevent access to land unsuitable for building development.

H. Alignment. as far as is practical, streets shall be in alignment with existing streets by continuations of the center lines thereof. Staggered street alignment resulting in "T" intersections shall wherever practical leave a minimum distance of 200 feet between the center lines of streets having approximately the same direction and otherwise shall not be less than 125 feet.

I. Future Extension of Streets. Where the subdivision or partition is adjacent to developable land larger than two (2) acres in size with a frontage of more than 200 feet, streets, bikeways and pedestrian facilities shall be extended to the boundary of the subdivision and the resulting dead-end streets may be approved without a turnaround. Reserve strips or blocks may be required to preserve the objectives of street extensions. For purposes of this section, "developable land" is land that is vacant or underutilized and can be serviced with water and sewer.

J. Intersections of Streets.

1. Angles. Streets shall intersect one another at right angle as is practicable considering topography of the area and previous adjacent layout. Where not practicable, the right-of-way and street paving within the acute angle shall have a minimum of 30 feet centerline radius where such angle is not less than 60 degrees. In the case of streets intersecting at an angle of less than 60 degrees, then of such minimum as the City Manager or his designate may determine in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Offsets. Intersections shall be so designed that no offset dangerous to the traveling public is created as a result of staggering of intersections; and in no case shall there be an offset of less than 125 feet centerline to centerline.

K. Topography. The layout of streets shall give suitable recognition to surrounding topographical conditions in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

L. Existing Streets. Whenever existing streets adjacent to or within a tract are of inadequate width, additional right-of-way shall be provided at the time of subdivision.

M. Half Streets. Half streets, while generally not acceptable, may be approved if at least 33 feet wide, where essential to the reasonable development of the subdivision, when in conformity with the other requirements of these regulations, and when the Planning Commission finds it will be practical to require the dedication of the other half when the adjoining property is subdivided. Whenever a half street is platted within such tract, reserve strips and street plugs may be required to preserve the objectives of half streets.

N. Cul-de-sac. There shall be no cul-de-sacs more than 200 feet long or serving more than (twenty) 20 single-family dwellings. Each cul-de-sac shall have a circular end with a minimum diameter of right-of-way width and paving as shown in the table in Sections 97.005 to 97.430. The use of cul-de-sacs shall be discouraged and may only be approved upon a showing by the applicant of unusual or unique circumstances justifying the cul-de-sac. For purposes of this section, "unusual or unique circumstances" exist when one (1) of the following conditions prevent a required street connection:

1. Slopes are equal to or greater than twelve (12) percent;

2. A wetland or other water body is present which cannot be bridged or crossed; or

3. Existing development on adjacent property prevents a street connection.

O. Street Names. Streets that are in alignment with existing named streets shall bear the names of such existing streets. Names for streets that are not in alignment with existing streets are subject to approval by the Planning Commission and shall not unnecessarily duplicate or resemble the name of any existing or platted street in the City.

P. Grades and Curves. Grades shall not exceed six (6) percent on arterials, ten (10) percent on collector streets, or 12 percent on all other streets. Centerline radii on curves shall not be less than 300 feet on arterials, or 230 feet on all other streets and shall be to an even ten (10) feet. Where existing conditions, particularly the topography, made it otherwise impractical to provide buildable lots, the Planning Commission may accept steeper grades and sharper

curves. In flat areas, allowance shall be made for finished street grades having a minimum slope, preferably, or at least 0.33 percent.

Q. Streets Adjacent to Railroad Rights-of-Way. Wherever the proposed subdivision contains or is adjacent to a railroad right-of-way, provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for the appropriate use of the land between the streets and the railroad. The distance shall be determined with due consideration at cross streets of the minimum distance required for approach grades to a future grade separation and to provide sufficient depth to allow screen planting along the railroad right-of-way.

R. Marginal Access Streets. Where a subdivision abuts or contains an existing or proposed arterial street, the Planning Commission may require marginal access streets, reverse frontage lots with suitable depth, screen planting contained in a non-access reservation along the rear or side property line, or other treatment necessary for adequate protection of residential properties and to afford separation of through and local traffic.

S. Alleys. Alleys shall be provided in commercial and industrial districts, unless other provisions for access to off-street parking and loading facilities are approved by the Planning Commission. The corner of alley intersections shall have a radius of not less than twelve (12) feet.

1. Dedication. The Planning Commission may require adequate and proper alleys to be dedicated to the public by the land divider of such design and in such location as necessary to provide for the access needs of the subdivision or partition in accordance with the purpose of Section 97.010 of Sections 97.005 to 97.430.

2. Width. Width of right-of-way and paving design for alleys shall be not less than twenty (20) feet. Slope easements shall be dedicated in accordance with specifications adopted by the City Council.

3. Corner Cut-Offs. Where two (2) alleys intersect, ten (10) feet corner cut-offs shall be provided.

4. Grades and Curves. Grades shall not exceed twelve (12) percent on alleys, and centerline radii on curves shall be not less than 100 feet.

5. Other Requirements. All provisions and requirements with respect to streets in Sections 97.005 to 97.430 shall apply to alleys the same in all respects as if the word "street" or "streets" therein appeared as the word "alley" or "alleys" respectively.

T. Access Management. New access to arterials and collectors shall be limited. Shared or consolidated access shall be required for development or land divisions adjacent to these facilities unless demonstrated to be unfeasible.

1. Number of Access Points. All proposed development shall have access to a public right-of-way. Spacing requirements for access points and intersections on arterials and collector streets shall be as shown in the following two (2) tables:

Access Management Requirements (State Highways)

			Intersection				
			Public Road		Private Drive		Signal
Functional Class	ODOT Category*	ODOT LOI**	Type	Spacing	Type	Spacing	Spacing
Arterial Hwy 99W	5	Regional	At Grade	¼ mile	Lt./Rt. Turns	300 feet	¼ mile
Arterial Hwy. 51	6	District	At Grade	500 feet	Lt./Rt. Turns	150 feet	¼ mile

* ODOT Category refers to Highway Access Management Categories established by the Oregon Department of Transportation to classify access management needs for state highways.

** ODOT LOI refers to the "Level of Importance" classification system established by the Oregon Department of Transportation to prioritize highway improvement needs and define operational objectives for state highways.

Access Management Requirements (City Streets)

Functional Class	Minimum Speed Posted	Minimum Spacing Between Driveways and/or Private Streets	Minimum Spacing Between Intersections
Major Arterial	35-50	250 feet	¼ mile
Minor Arterial	35-50	250 feet	250 feet
Collector	25-40	100-150 feet	250 feet

2. The distance between access points shall be measured from the centerline of the proposed driveway or roadway to the centerline of the nearest adjacent roadway or driveway.

3. Frontage on Service Roads and Common Drives.

a. Projects proposed on arterials shall include a frontage or service road and shall take access from the frontage road rather than the arterial. Frontage road design shall conform to ODOT standards. This access requirement may be met through the use of interconnecting parking lots that abut the arterial.

b. Adjacent uses may share a common driveway provided that appropriate access easements are granted between and among property owners.

4. Alternative Designs. Where natural features or spacing of existing driveways and roadways cause the foregoing access requirements to be physically unfeasible, alternate designs may be approved.

5. Access to Residential Lots. All lots in a proposed residential subdivision shall have frontage on and access from a local or collector street.

U. Bicycle Requirements. Bike lanes shall be provided during the construction, reconstruction, or relocation of arterial and collector streets. Design and construction of bikeways, or other public paths shall conform to the requirements of the American Association of State Highway and Transportation Officials (AASHTO) as revised and adopted in the "Oregon Bicycle and Pedestrian Plan".

~~V. Pedestrian Requirements.~~

~~1. Sidewalk shall be constructed along all arterial, collector, and local service streets.~~

~~2. The design and construction of sidewalks and other public paths shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", Americans With Disabilities Act (ADA) requirements, and City of Monmouth standards.~~

~~W. Accessways or Multi-use Paths. Where required:~~

~~1. Accessways or multi-use paths shall be located to provide a reasonably direct connection between likely pedestrian and cyclist destinations. A reasonably direct connection is a route, which minimizes out-of-direction travel for most of the people likely to use the multi-use path considering terrain, safety, and likely destinations.~~

~~2. The design and construction of accessways shall conform to the requirements of the "Oregon Bicycle and Pedestrian Plan", ADA requirements, and City of Monmouth standards.~~

~~X. Lighting. Illumination of all sidewalks and bicycle paths will be provided in conjunction with all new development. Adequacy of the lighting plan will be consistent with AASHTO standards and approved by the Public Works Director.~~

ONMOUTH
AIN STREET
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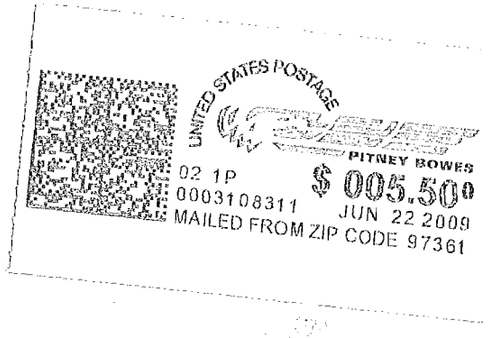

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