



# Transportation System Plan



## Chapter 4 Street System Plan



## 4 Street System Plan

McMinnville's streets and state highways provide the core system of circulation, access and connectivity for most all travelers within and through the city. These streets and highways facilitate the movement of freight, pedestrians, bicyclists, motorists, and transit passengers.

McMinnville's transportation goal (see Chapter 2) seeks efficiency and safety in the movement of *people* and goods. *Complete streets* are for all users, not just car and truck drivers. A well-defined street system then provides: (a) a pleasant and safe walking environment; (b) an easy-to-use transit system; (c) efficient bike routes; (d) effective incentives for carpools and vanpools; and, (f) a network of streets that moves people and goods efficiently throughout the City.

A street system that is inadequate or poorly maintained can retard the growth of a city and decrease the livability of the community.

The purpose of this chapter of the McMinnville TSP is to outline the characteristics of the existing street system and identify programs and projects that will be needed to preserve and enhance the street infrastructure. The following sections highlight McMinnville's Street System Plan of the TSP:

- Planning Principles,
- Street Physical Characteristics,
- Traffic Safety,



West Second Street

- Traffic Volumes and Level of Service,
- Street Maintenance,
- Bridge Conditions,
- Transportation System Management, and
- Future Capital Street Projects.

### Street System Policies

In the formation of the McMinnville TSP, additional policies are identified as essential to the Plan's success. This section outlines a series of supplemental policies intended to help guide the Street System Plan. These are intended to complement the policies already included and summarized in Chapter 2 of the TSP.

#### Growth Management

- **Mobility standards** will be used to evaluate the transportation impacts of long term growth. The City should adopt the intersection mobility standards as noted in Chapter 2.
- **Conditions of Approval** - in accordance with the City's TSP and capital improvements plan (CIP), and based on the level of impact generated by a proposed development, conditions of approval applicable to a development application should include:
  - Improvement of on-site transportation facilities,
  - Improvement of off-site transportation facilities (as conditions of development approval), including those that create safety concerns, or those that increase a facility's operations beyond the City's mobility standards, and
  - Transportation Demand Management strategies.
- **Multi-modal Improvements** - to manage growth, improvements to transportation facilities may include both motorized and non-motorized facilities improvements, constructed in accordance with the City's minimum design standards.

- **Transportation SDCs** - the City should update its transportation systems development charge (SDC) to address growth-related traffic impacts.

### *Circulation*

- **Residential Street Network** - a safe and convenient network of residential streets should serve neighborhoods. When assessing the adequacy of local traffic circulation, the following considerations are of high priority:
  - Pedestrian circulation,
  - Enhancement of emergency vehicle access,
  - Reduction of emergency vehicle response times,
  - Reduction of speeds in neighborhoods, and
  - Mitigation of other neighborhood concerns such as safety, noise and aesthetics.
- **Limit Cul-de-Sacs** - cul-de-sac streets in new development should only be allowed when connecting neighborhood streets are not feasible due to existing land uses, topography, or other natural and physical constraints.
- **Limit Physical Barriers** - the City should limit the placement of facilities or physical barriers (such as buildings, utilities, and surface water management facilities) to allow for the future construction of streets that facilitate the establishment of a safe and efficient traffic circulation network.
- **Establish Truck Routes** - to support the efficient and safe movement of goods and freight, the City should establish and identify truck routes to the city's major destinations. Such routes should be located along arterial roadways and should avoid potential impacts on neighborhood streets. (see Chapter 8 – Truck Route Plan)
- **Modal Balance** - the improvement of roadway circulation must not impair the safe and efficient movement of pedestrians and bicycle traffic.

- **Consolidate Access** - efforts should be made to consolidate access points to properties along major arterial, minor arterial, and collector roadways.

### *Street Width – Human Scale*

- Generally, a major arterial street should not be widened beyond two through lanes in each direction with auxiliary turn lanes as appropriate. Minor arterials and collector streets should not be widened beyond one through lane in each direction with auxiliary left-turn lanes as appropriate. Major arterial streets with more than five lanes and minor arterial and collector streets with more than three lanes are perceived as beyond the scale that is appropriate for McMinnville.

### *Neighborhood Traffic Management*

- **Implementation** - the City should adopt and implement its Neighborhood Traffic Calming Program (see Appendix I).
- **Encourage Safety Enhancements** - in conjunction with residential street improvements, the City should encourage traffic and pedestrian safety improvements that may include, but are not limited to, the following safety and livability enhancements:
  - Traffic circles,
  - Painted or raised crosswalks (see also recommended crosswalk designation in Chapter 4),
  - Landscaping barriers between roadway and non-motorized uses,
  - Landscaping that promotes a residential atmosphere,
  - Sidewalks and trails, and
  - Dedicated bicycle lanes.
- **Limit Neighborhood Cut-Through Traffic** - local residential streets should be designed to prevent or discourage their use as shortcuts for through traffic. Local traffic control measures should be coordinated with the affected neighborhood.

### *Access Management*

The City should continue to coordinate with ODOT in the administration of jointly adopted plans to manage access and highway improvements as noted in Chapter 2.

### *Impervious Surface Area*

- **Supplement Street Design Standards** - McMinnville's standards should be supplemented to achieve reductions in impermeable surfaces, consistent with safety and operating standards. Innovative design and materials should be utilized to reduce impermeable surfaces.

### *Environmental Preservation*

- **Low impact street** design, construction, and maintenance methods should be used first to avoid and second to minimize negative impacts related to water quality, air quality, and noise in neighborhoods.
- **Conservation** - streets should be located, designed, and improved in a manner that will conserve land, materials and energy. Impacts should be limited to the minimum necessary to achieve the transportation objective.
- **Clean Burning Fuels** - the City should support the use of clean burning and/or renewable fuels through regional organizations (see U.S. Environmental Protection Agency guides)<sup>1</sup>.

### *Aesthetics*

- The City should update and maintain its street design standards to increase aesthetics of the streets environment through landscaping and streetscape design.
- The City should consider the attendant cost of increased street aesthetics and maintenance.

### *Safety and Maintenance*

- **Pavement Maintenance Plan Implementation** - the City should develop and implement its pavement maintenance plan to best preserve the existing transportation infrastructure.

**Routine System Inspection** - the City should promote safety through continued and routine inspection and rehabilitation of existing signage, roadway striping, and street lighting; identifying and rectifying existing deficiencies as they are identified.

## Street Physical Characteristics

The physical characteristics of a McMinnville’s street system provide the basis for their intended function and the amount of traffic that can be safely and efficiently accommodated by them each day. The street physical characteristics should be directly related to the functional classification of the street and should be reflected in the design standards. The following street characteristics are described in this section:

- Travel Lanes
- Traffic Signals
- Speed Limits

Other important street physical characteristics, such as sidewalks and bike lanes will be discussed in the Pedestrian and Bicycle System Plan chapters of the TSP.

### Travel Lanes

The majority of streets in the City of McMinnville have one travel lane in each direction. *Major arterials* are state Highways 18 and 99W. Highway 99W has two lanes in each direction throughout the city, except for that section south of its intersection with Old Sheridan Road. Also, Highway 99W includes center left-turn lanes throughout the city, except for that section along the Adams Street/Baker Street one-way couplet. Highway 18 also has two lanes in each direction east of the Three-Mile Lane interchange, and only one lane in each direction west of the interchange.



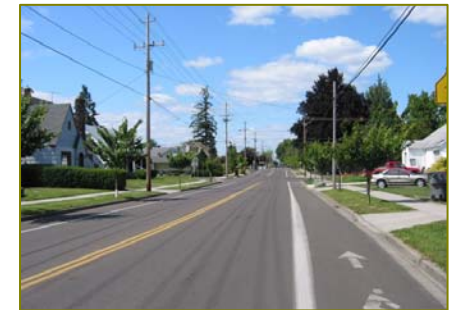
Highway 99W: Major Arterial

The City’s *minor arterials* include Baker Creek Road, Westside Road, Hill Road Lafayette Avenue, Old Sheridan Road and Booth Bend Road; all have one lane in each direction. Those minor arterials that have been improved to urban standards typically have a center left-turn lane.



Baker Creek Rd: Minor Arterial

Each of the City’s *major and minor collectors* has no more than one travel lane in each direction; some collector streets have center left-turn lanes.

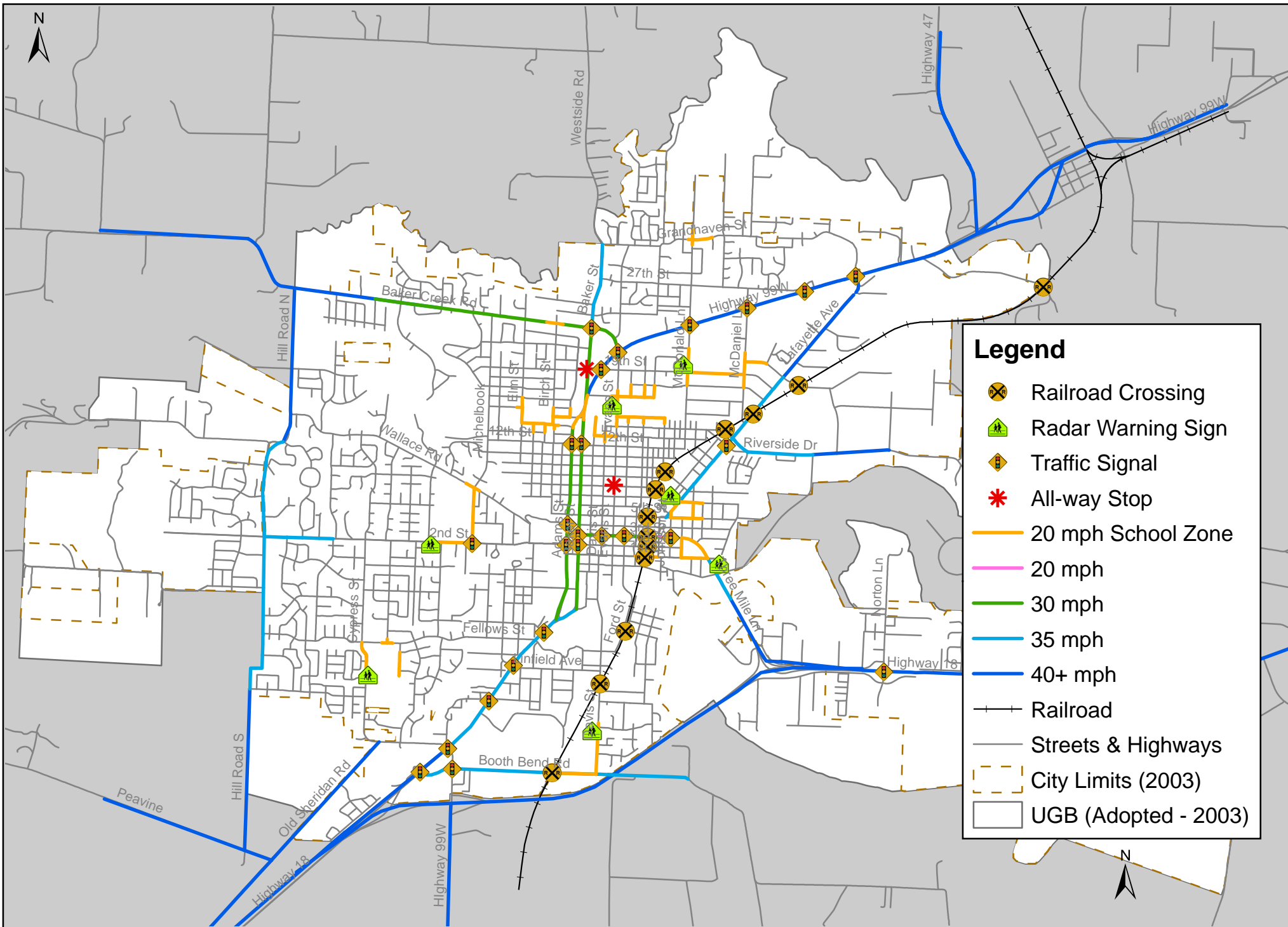


Evans Street: Minor Collector

### Traffic Signals

**Exhibit 4-1** shows the locations of traffic signals and railroad crossings within McMinnville. Also shown in the exhibit are the location of the flashing beacon signals and radar warning signs used in conjunction with school zones.

The City has 25 traffic signals that are largely located along major and minor arterials, especially in the commercially zoned areas of the City. Where traffic signals are not shown at intersections, other signage exists to control traffic, including all-way stops, two-way stops, and yield signs



ODOT owns, maintains and operates the traffic signals on state highways within McMinnville. In an inter-local agreement the City of McMinnville contracts with ODOT to maintain and operate traffic signals on the City's street system.



Traffic Signal on Hwy 99W at Lafayette

### Speed Limits

Posted speed limits within the city range from 55 mph on the state highways at the urban periphery to 25 mph on local streets. As shown in **Exhibit 4-1**, several streets within school zones are marked for 20 mph during school hours (7 am – 5 pm), as is Third Street in the downtown area. Collector streets such as Evans Street and Wallace Road typically are posted at 25 mph. Minor arterials are posted with speed limits ranging from 30-35 mph in the core area, and sometimes 40 mph at the urban periphery.

State highways have the highest speed limits, up to 55 mph along Highway 18 as it enters the city from the east and west. Highway 99W posted speed limits range from 30 mph to 55 mph.

### Traffic Safety

Traffic safety is an important factor in examining possible street and intersection improvements. For the City of McMinnville, traffic safety was evaluated for major state highway intersections over a five year period, from 2000 to 2005. Data was obtained from ODOT based only on information for those collisions reported to the City and State Highway Patrol. These data include pedestrian and bicycle crash information throughout the city and vehicle crash information for state highway facilities (major arterials) only. Vehicle crash data on McMinnville streets was unavailable for the TSP evaluation. The following safety data are discussed in this section:

- Fatalities
- ODOT Safety Priority Index System
- Pedestrian and Bicycle Accidents

### Fatalities

During the years 2000 to 2005, two traffic-related fatalities occurred within the city, both on Highway 99W: one near Doran Drive in east McMinnville, and the other at the intersection of Booth Bend Road. Neither of the two fatality crashes were related to underlying traffic control or street design issues.

### Safety Priority Index System (SPIS) Sites

ODOT's Traffic Management Section maintains a Safety Priority Index System (SPIS) to identify locations with safety problems due to the crash frequency, rate, and severity at the site. The SPIS takes into account crash data for the past three years and rates highway segments based on crash frequency, crash rate, and crash severity. A review of the current SPIS list showed that eight state highway segments within the McMinnville UGB fall within the top ten percent SPIS group; all eight segments are located on Highway 99W. These SPIS segments are summarized in **Exhibit 4-2**.



**Exhibit 4-2 Safety Priority Index – OR 99W: 2005-2007**

Key intersection(s)	Milepost	
	From	To
Wal-Mart Shopping Entrance	35.6	35.8
McDaniel Street	36.0	36.15
McDonald Lane	36.3	36.5
Baker Cr Rd - 19 <sup>th</sup> Street	36.6	36.8
14 <sup>th</sup> Street to 10 <sup>th</sup> Street	37.2	37.3
4 <sup>th</sup> Street to 1 <sup>st</sup> Street	37.7	37.9
Fellows Street	38.2	38.3
Booth Bend Rd - Hwy 18 Ramp	39.0	39.15

Data Source: ODOT SPIS Report, 2008.

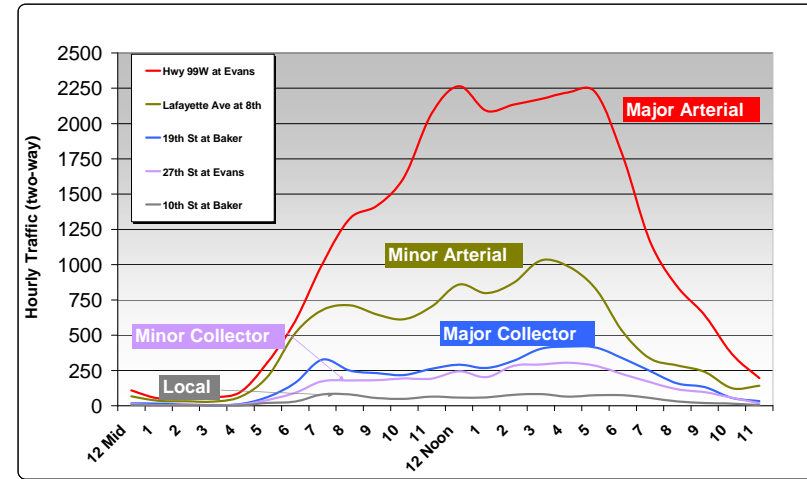
**Pedestrian and Bicycle Collisions**

Pedestrian and bicycle collisions have occurred at several locations within the city between 2000 and 2005. **Exhibit 4-3** illustrates the location of vehicle accidents along the state highways (2005-2007) and the location of pedestrian and bicycle crashes within McMinnville (2000-2005).

Non-motorized crashes are found in several locations: in some areas with missing sidewalk and bicycle facilities; and, in other areas along collector and arterial streets where non-motorized facilities are present but there are higher levels of mixed and crossing traffic. Specific crash rates were not calculated for every city street segment or intersection in McMinnville due to limited data. With limited data it is difficult to assess whether some McMinnville street segments are prone to higher crash rates. However, the *Complete Street*, bicycle system and pedestrian system improvements noted in this and following chapters of the TSP are partially defined to help reduce the incidence of vehicle and non-motorized crashes.

**Traffic Volumes**


Traffic volume varies throughout McMinnville depending on the time, location and street type. Existing weekday daily traffic volumes from selected streets are shown here to illustrate the variation in traffic. As shown, morning, mid-day and afternoon peak conditions are typical, more so pronounced on McMinnville’s arterial streets.




**2006 Weekday PM Peak Hour Traffic Volumes**


The *late-afternoon peak period* typically occurs between 4 and 6 PM. Within the PM peak period the highest hourly traffic volume usually occurs, referred to as the *PM peak hour*. For the purpose of the TSP, the PM peak hour is used to evaluate traffic operations and capacity at McMinnville’s major street intersections. PM peak hour turn-volume counts were collected manually at 47 intersections in March 2006, supplemented by another set of counts at 13 additional intersections in November 2006. These later counts were used to help supplement the ODOT Travel Demand Model development. A summary of existing PM peak hour traffic in McMinnville is included in **Exhibit 4-4**.

# Legend

 Pedestrian & Bicycle Crashes

## Number Vehicle Crashes / Intersection

 8 - 10


 11 - 13

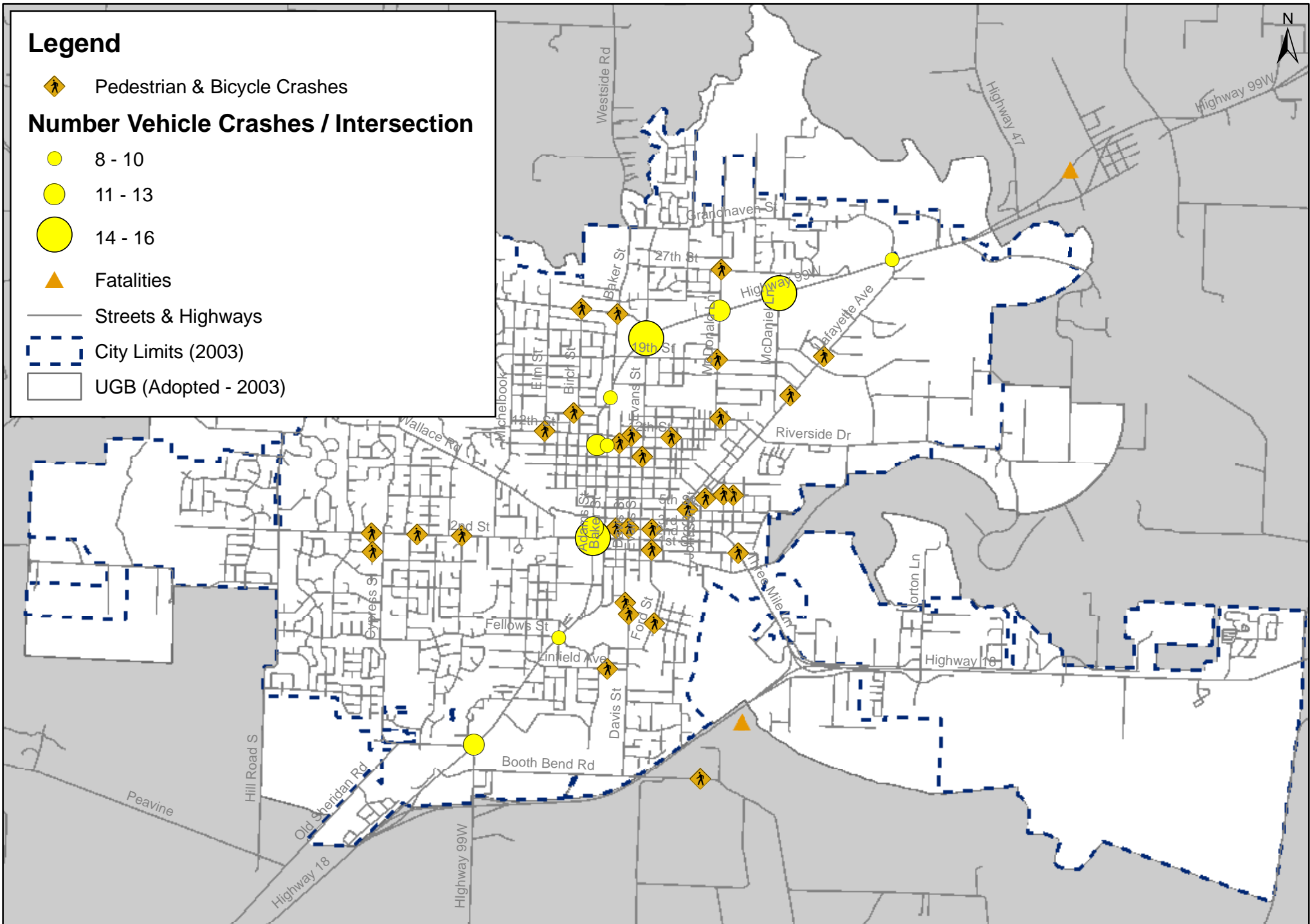
 14 - 16

 Fatalities

 Streets & Highways

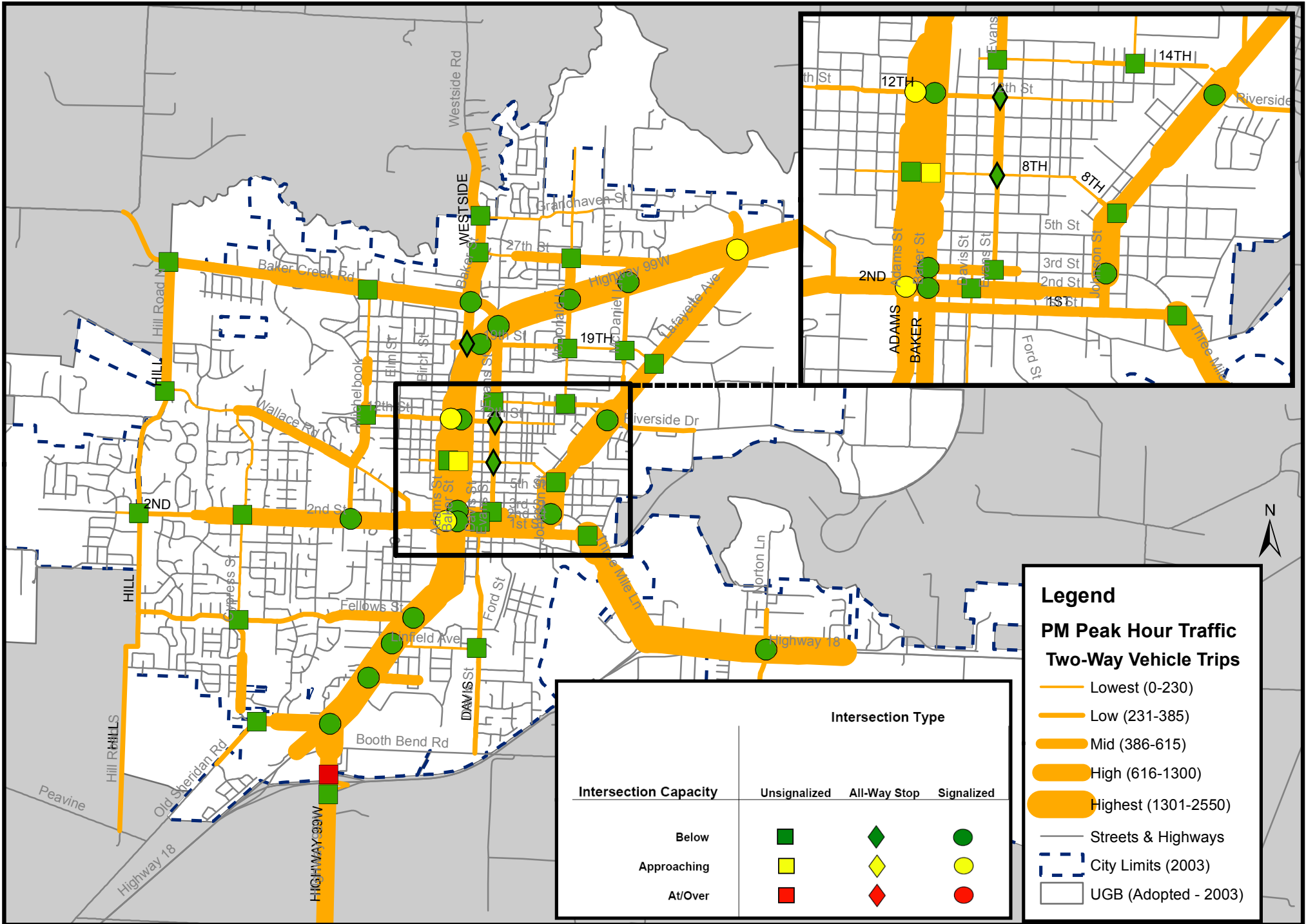
 City Limits (2003)

 UGB (Adopted - 2003)



Traffic Accident History: 2000-2005 (data source: ODOT)

McMinnville TSP



McMinnville's PM peak hour traffic volumes account for between 8 to 12 percent of the daily traffic along most major streets. Intuitively, the heaviest peak hour traffic occurs along state Highways 99W and 18. Significant peak hour traffic is also found on McMinnville's arterial streets, notably Lafayette Avenue, Baker Street, West Second Street and Old Sheridan Road.

Based on the mobility standards identified in Chapter 2, the volume-to-capacity (V/C) ratio was calculated for each of the major intersections (both signalized and unsignalized intersections) in McMinnville. The summary of these v/c calculations is also included in **Exhibit 4-4**.

As shown, most all of the study area intersections are operating better than the McMinnville and ODOT mobility standards. There are some exceptions: (1) traffic along the Adams/Baker Street corridor are approaching capacity thresholds, particularly at West Second Street, 8<sup>th</sup> Street and 12<sup>th</sup> Street, and (2) current peak hour traffic volumes exceed capacity at the intersection of Highway 99W and the Highway 18 westbound off-ramp.

**Appendix C** includes a more detailed summary of McMinnville's intersection performance measures.

### 2023 PM Peak Hour Traffic Volumes

As noted in Chapter 3, for consistency with the city's UGB evaluation, a twenty-year planning horizon of 2003-2023 serves as the basis for the TSP evaluation of future travel conditions. Year 2023 PM peak hour volumes were estimated based on the ODOT Travel Demand Model as summarized in Chapter 3.

By year 2023 traffic volumes increase on most corridors throughout the City, with some notable exceptions of heavier traffic growth on (1) Highway 18, between Norton Lane and Highway 99W; and on (2) Highway 99W and Old Sheridan Road in southwest McMinnville.

There are a few intersections that exceed the city and state mobility standards in year 2023. See Capital Street Projects section below for discussion of projects that mitigate future deficiencies.

**Appendix C** includes a detailed summary of future year (2023) performance measures at critical intersections within the McMinnville UGB.

## Maintenance

Maintenance is vitally important to the function, life-span, quality, and long-term user costs of streets, intersections, and other infrastructure components. Poorly maintained streets cost more to fix in the long run and degrade safety.

Poorly maintained traffic signs and signals can increase the frequency of crashes and increase delay. Maintenance costs cover such things as sign replacements, vegetation removal, pothole repair, crack seals, surface seals, or overlays, and street reconstruction.



Maintenance can also improve conditions for pedestrians and cyclists as cracks and upheavals in sidewalks are repaired and streets are swept and kept clear of debris. More pedestrians and/or cyclists are likely to use streets and sidewalks that are properly maintained, safe, and attractive thereby reducing vehicular traffic.

As noted in Chapter 3, however, the City is unable to fund its street preservation program at levels necessary to maintain desired system condition (good). To maintain and preserve the existing infrastructure in a cost-effective manner, the City will need to increase its funding of the street maintenance program.

## Bridge Conditions

Seventeen bridges serve McMinnville and the roads leading into the city. Thirteen of these bridges are located on state highways and are owned and maintained by ODOT. The other four bridges are owned and maintained by Yamhill County. Four of the state-owned bridges are located along OR 99W and the other eight are located along OR 18. The four county-owned bridges are located on:

- Old Sheridan Road - Cozine Creek
- Hill Road S – Cozine Creek
- Baker Creek Road\* – Baker Creek
- West Side Road\* – Baker Creek

[\*Note: The West Side Road and Baker Creek Road bridges were replaced in 2007.]

ODOT regularly rates the state and county bridges. Bridge ratings are based on three mutually exclusive elements: structural deficiency, functional obsolescence, and sufficiency (ability to meet service demand). See **Appendix C** for a complete description of ODOT’s bridge rating program and the most recent ratings for McMinnville area bridges.

One state highway bridge in the study area is rated *structurally deficient*:

- Three Mile Lane over the South Yamhill River



Yamhill River Bridge



Old Sheridan Road Bridge

Six state highway bridges area rated *functionally obsolete*:

- OR 99W over the North Yamhill River
- OR 99W over OR 18
- OR 18 over the Union Pacific Rail Road
- Booth Bend Road over OR 18
- OR 18 connection at milepost 44.06 (Bridge #08950)
- OR 18 spur at milepost 46.35 (Bridge #08951)

One county bridge has been identified as *functionally obsolete*:

- Old Sheridan Road over Cozine Creek

Equally important to the overall structural integrity of these bridges are the facilities to accommodate safe and efficient travel for bicyclists and pedestrians. Sidewalks on the Three Mile Lane bridge are insufficiently wide to accommodate two-way pedestrian traffic, and there is insufficient buffering between the raised sidewalk and nearby vehicular traffic. The bridge is also too narrow to accommodate bicycle lanes.

The Old Sheridan Road bridge over Cozine Creek lacks both sidewalks and bike lanes.

## Transportation System Management

Transportation System Management (TSM) programs are designed to increase the usefulness and efficiency of existing facilities and systems through low cost improvements. TSM programs fitting McMinnville's needs include: traffic signal timing and coordination projects and neighborhood traffic calming program. Each TSM measure or program is discussed in this section.

### Traffic Signal Timing and Coordination

Traffic signal systems must be retimed or upgraded periodically as growth occurs to ensure optimal operations at intersections, improve safety, meet city standards, and refresh or replace software.

In partial response to higher accident rates on Highway 99W at the McDonald Street and McDaniel Lane intersections, ODOT has programmed in its Statewide Transportation Improvement Program (STIP) for year 2010 the installation of median traffic separators and traffic signal interconnect equipment to better coordinate the two existing traffic signals. The City of McMinnville is also underway with re-designing the 3<sup>rd</sup> Street/Johnson Street traffic signal to better accommodate emerging traffic trends.

The City should coordinate with ODOT and encourage State assistance in the expansion of ODOT's new signal interconnect system for Highway 99W in the following sections:

- **One-way couplet** section along Adams and Baker Streets, between 2<sup>nd</sup> Street and 12<sup>th</sup> Street; *integrated with the City's downtown street signals on 3<sup>rd</sup> Street and new signals proposed on 5<sup>th</sup> Street (at Adams, Baker and Lafayette) and 2<sup>nd</sup> Street (at Davis)*
- **South McMinnville** – between new signal at the Highway 18 off-ramp to Fellows Drive

The City and ODOT should conduct further assessment to determine if these signal systems best work independently or as a single system.

The signal system upgrades and re-timings will help reduce traffic delay, improve operations, and increase safety for motorists and pedestrians. Reduced delay will also save motorists time, reduce fuel consumption, and reduce pollution and harmful particulate matter. Improvements to the communication equipment will aid traffic operations and vehicle detection.



Traffic Signal at 3<sup>rd</sup> & Johnson

The City of McMinnville should continue to coordinate with ODOT and review signals and signal timing plans and put in place a plan whereby signals are evaluated on a regular basis.

### Intersection & Signal Improvements

Some of McMinnville's street corridors require minor improvements with new traffic signal control to help reduce congestion and vehicle emissions and increase safety. Intersection improvements can help reduce traffic delay at major cross-streets and relieve street system queuing and vehicle emissions, and improve pedestrian access.

Based on continued city-wide traffic growth, new traffic signals are either already warranted or likely to meet future warrants at the following intersections:

- Lafayette / Orchard (planned for completion in 2009)
- 5<sup>th</sup> Street at Adams (2010) and Baker (2010)
- 2<sup>nd</sup> Street / Davis Street (2013)
- Baker Creek Rd at Michelbook (2023) and Hill Rd (2023)
- Wallace Rd / Hill Rd (2023)
- West 2<sup>nd</sup> Street at Hill Rd (2023) and Cypress (2023)

- Old Sheridan Rd / Cypress (2023)
- 5<sup>th</sup> Street at Lafayette (2010) and Evans Street (2023)

See **Appendix C** for Traffic Signal Warrant Analyses.

### Energy-Efficient Traffic Signals

In all new traffic signal construction or signal replacement, McMinnville should consider use of energy-efficient light emitting diode (LED) traffic signals. While the original costs of LED signals are slightly more than traditional incandescent halogen signals, LED signals (1) are brighter, (2) last longer, hence have lower maintenance costs, and (3) require lower energy use, hence have lower energy costs. The City’s downtown signals should be replaced, and are also subject to design upgrades consistent with the Third Street Streetscape Plan recommendations (see Chapter 5). McMinnville should also coordinate with ODOT to ensure LED fixtures are included on all ODOT projects.

### Central Traffic Signal System Control

A central traffic signal system control program will better enable the State and City to remotely monitor changing traffic conditions and adjust the signal control system to reduce traffic delay and emissions. McMinnville should coordinate with ODOT and install a central traffic signal system control program that links the State’s existing signals along Highway 99W with new and existing signals in downtown McMinnville and along Adams and Baker Streets. The central system will require a new systems computer, interconnecting communications hardware, observation cameras, and new traffic signal controller hardware and software. The installation of new fiber-optic communications can be coordinated as TSP street project improvements are constructed (e.g. 5<sup>th</sup> Street and Adams-Baker Street reconstruction, and 3<sup>rd</sup> Street streetscape improvements) - see Capital Improvements section below.

### Neighborhood Traffic Calming Program

McMinnville drafted its Neighborhood Traffic Calming Program (NTCP) in 2006<sup>2</sup>. The Program outlines policies and procedures by

which problem areas are studied and possible neighborhood traffic calming measures are identified and applied as warranted by the findings of the study. This program is primarily focused on neighborhood/local streets rather than arterials or collector streets.

The City’s draft NTMP includes three major types of traffic calming devices:

- Vertical Deflection - techniques include speed humps, and are the most commonly used method of traffic calming. Vertical devices cause drivers to slow down by altering the surface of the roadway, making high-speed travel unpleasant.
- Horizontal Deflection - devices protrude into the street from the curb or the median, forcing drivers to alter their paths. In addition to slowing drivers, horizontal traffic calming can increase the visibility of pedestrians and keep drivers attentive.
- Obstruction – used to restrict automobiles from making certain movements, and can sometimes be used to close a street segment entirely.



New Traffic Calming on Meadows Dr

These devices can sometimes be combined to address a variety of neighborhood traffic problems. McMinnville’s NTCP will become an increasingly more important and popular program as traffic congestion increases on area arterial and collector



Desire for Traffic Calming

streets, which may cause diversion of some traffic onto neighborhood streets.

It is recommended that the draft NTCP be adopted as part of the TSP. See **Appendix I** for full documentation of the draft McMinnville NTCP.

## Capital Street Projects

McMinnville's Capital Improvement Plan (CIP) is based on the evaluation of existing and forecast traffic volumes and operations, safety, street functional classification and physical characteristics, and connectivity issues. The CIP includes a list of projects and programs to improve the overall safety and efficiency of McMinnville's transportation system and meet the demands placed on the system by future growth (see Exhibit 4-5). **Exhibit 4-6** illustrates the location of each of the proposed projects. The projects are organized into the following categories:

- Complete Street Projects
- Intersection and Signal Improvements
- Pedestrian/Bicycle System Improvements (see Chapters 5/6)
- ODOT Programming Coordination

Summaries of the major projects are described below, while detailed descriptions of each are provided in **Appendix D**. Also included in Appendix D are the planning-level unit cost assumptions used to quantify the TSP cost estimates.

### Complete Street Projects

Major street improvement projects were identified based on the need to support anticipated growth through the upgrade of rural roads to urban arterial and collector street standards set by the City of McMinnville. Termed "complete streets," these projects do not add vehicle travel lanes; rather they are redesigned to increase public safety and facilitate walking and bicycling along key routes by better separation of non-motorized and motorized travel. Key complete street improvement projects include Hill Road, Old Sheridan Road,

Booth Bend Road, Westside Road and Riverside Drive. See **Appendix D** for detailed summaries of each project.

### Hill Road

Hill Road is a minor arterial that connects west McMinnville with the primary east-west routes, each with linkages to central McMinnville. Hill Road remains a County facility. McMinnville School District is planning to site a new elementary school and high school along Hill Road. Today there are no sidewalks or bicycle lanes on Hill Road. Hill Road improvements are separated into two major sections, one north of West 2<sup>nd</sup> Street, and the other to the south.

#### North Hill Road

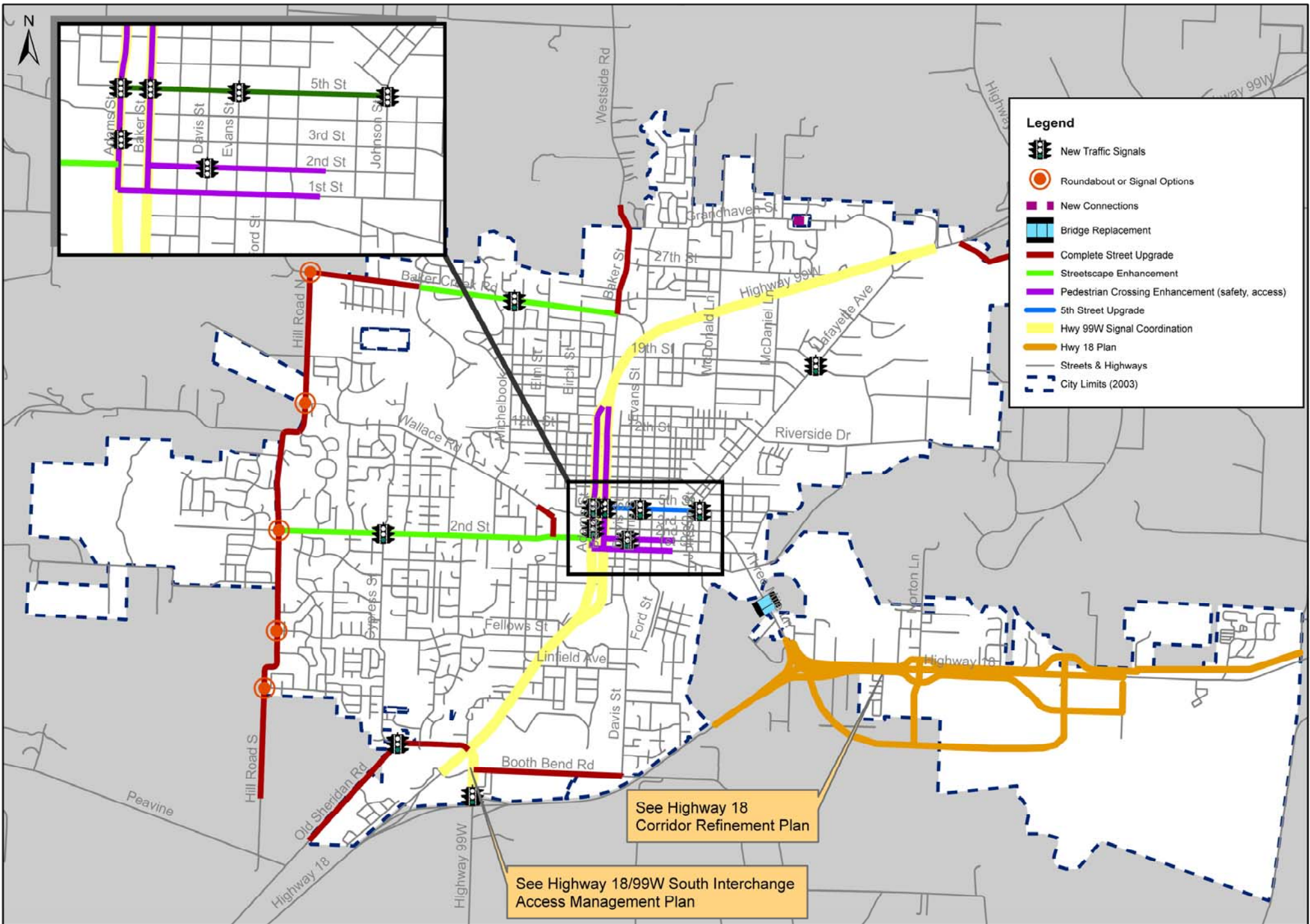
The intersection of Hill Road and Baker Creek Road acts as a transitional junction between higher speed rural traffic and urban traffic within the city. Just south of Wallace Road, there is a relatively sharp "s" curve at Hillside Road. The city and county have coordinated plans to flatten this section of Hill Road. With growth in future traffic additional traffic control will be warranted at the intersections of Hill Road at Baker Creek Road, Wallace Road and West Second Street.

The City should consider alternative intersection traffic control at these locations as part of its future corridor designs. Roundabouts will likely provide a better rural-to-urban transition design than a traditional traffic signal at these junctions by allowing more continuous moderation of vehicular speeds. A roundabout at Hill Road and Baker Creek Road can also serve as a gateway design treatment and entrance to McMinnville's current edge of urban development. Use of a series of roundabouts can also help minimize the need for extra right-of-way that is taken by the more traditional arterial street, which often requires a continuous, center left-turn lane. Conversely, roundabouts sometimes require more rights-of-way at street intersection points than signal-controlled intersections. Examination of final rights-of-way needs at these Hill Road intersections will be required through the preliminary engineering stage of project development.



**Exhibit 4-5 McMinnville Capital Improvement Plan Project List**

CAPITAL IMPROVEMENT PROJECTS					USER								COST	PARTNERSHIP															
Street	From	To	Traffic Signals		Need					Benefit				City															
			New	Modify / Replace	Safety	Capacity	Access	Operations	Freight	Auto	Pedestrian	Bicycle		Transit	General	SDC	Private	Grant	County	State									
<b>Complete Streets</b>																													
2nd Street	Adams	Cowls		2	+	+	+	+						\$1,097,000	*	*		*											
5th Street	Hwy 99W	Lafayette	4	1	+	+	+	+						\$1,203,500	*	*													
Baker Creek	North Baker	Hill Rd	1		+	+	+	+	+					\$414,000	*	*													
Booth Bend Road	Hwy 99W	School Site			+	+	+	+	+					\$2,850,000	*	*	*												
North Baker Street	24th Street	Burnett			+	+	+	+						\$801,800	*	*				*									
Hill Road - North	2nd Street	Baker Cr Rd			+	+	+	+						\$5,817,400	*	*				*									
Hill Road - South	Alexandria	2nd Street			+	+	+	+						\$3,675,000	*	*				*									
Old Sheridan Road	Cypress	Hwy 99W	1		+	+	+	+						\$2,371,400	*	*		*		*									
Riverside Drive	Hwy 99W	RR Crossing			+	+	+	+	+					\$2,911,100	*	*				*									
3rd Street Streetscape				1	+		+	+						\$2,325,000	*		*	*											
<b>Systems Management</b>																													
<b>Central Traffic Signal System Control</b>	<b>Hwy 99W &amp; central city</b>		<b>system</b>		+	+		+	+					\$640,400		*		*				*							
<b>Bicycle System</b>																													
Bike Lane Signing/Striping		System			+	+		+						\$237,500	*			*											
Bike "Sharrow" Signing/Striping		System			+	+		+						\$312,000	*			*											
<b>Pedestrian System</b>																													
1st and 2nd Street Pedestrian Crossings	1st	Johnson	1		+	+	+	+						\$996,500	*		*	*											
Curb Ramp Program		System			+	+	+	+						\$1,765,000	*		*	*											
New Priority Sidewalks		System			+	+	+	+						\$6,415,200	*		*	*											
<b>TOTAL COST</b>																													
<b>ODOT Program Coordination</b>																													
					<i>Current State Transportation Improvement Program?</i>																								
Hwy 99W/McDonald & McDaniel Signal Replacement				yes	+	+	+	+	+					funded								*							
Yamhill River Bridge Replacement				no	+	+	+	+	+					\$8,778,000								*							
Adams/Baker One-Way Couplet (Hwy 99W) Reconstruction				no	+	+	+	+	+					\$745,800				*				*							
Highway 18/99W South Interchange Access Management Plan				no	+	+	+	+	+					\$3,112,600		*	*					*							
Highway 18 Corridor Plan				no	+	+	+	+	+					\$25,500,000		*	*					*							



The roundabout corridor design option would include on-street bicycle lanes and sidewalks along both sides of Hill Road.

**Exhibits 4-7** and **4-8** compare the two typical corridor designs.

**South Hill Road**

For consistency, South Hill Road should be designed to match plans for North Hill Road. Based on the level of anticipated traffic growth and in the future, South Hill Road will also need to function as a transitioning link between rural and urban traffic speeds. The intersection of South Hill Road and Fellows Street will serve as a good entry point and placement of a complementary roundabout. In addition, the “S curve on Hill Road just south of Fellows Street should be fitted with traffic calming designs to improve safety but maintain appropriate urban arterial speeds (30-35 mph).



South Hill Road

**Old Sheridan Road**

Old Sheridan Road is an important east-west route linking SW McMinnville to Highway 99W. It presently lacks sidewalks in critical sections, especially across Cozine Creek, and lacks bike lanes that provide an important link for bicyclists traveling between Cypress Street and Highway 99W. This project includes the reconstruction of Old Sheridan Road to urban minor arterial standards, with bike lanes and sidewalks on both sides of the street, and a new traffic signal at Cypress Street. The project also includes the



Old Sheridan Road

replacement of the Cozine Creek bridge, which is in very poor condition (see below).

**Booth Bend Road**

On the south side of McMinnville, Booth Bend Road provides the key east-west connection linking Davis Street and Highway 99W. With the exception of that section located in front of Sue Buel elementary school, there are no sidewalks on Booth Bend Road. This project includes the reconstruction of Booth Bend Road to urban minor arterial standards, with bike lanes and sidewalks on both sides of the street. The project includes the replacement of the existing Union Pacific Rail Road crossing with standard traffic control and pedestrian facilities.



Booth Bend Road

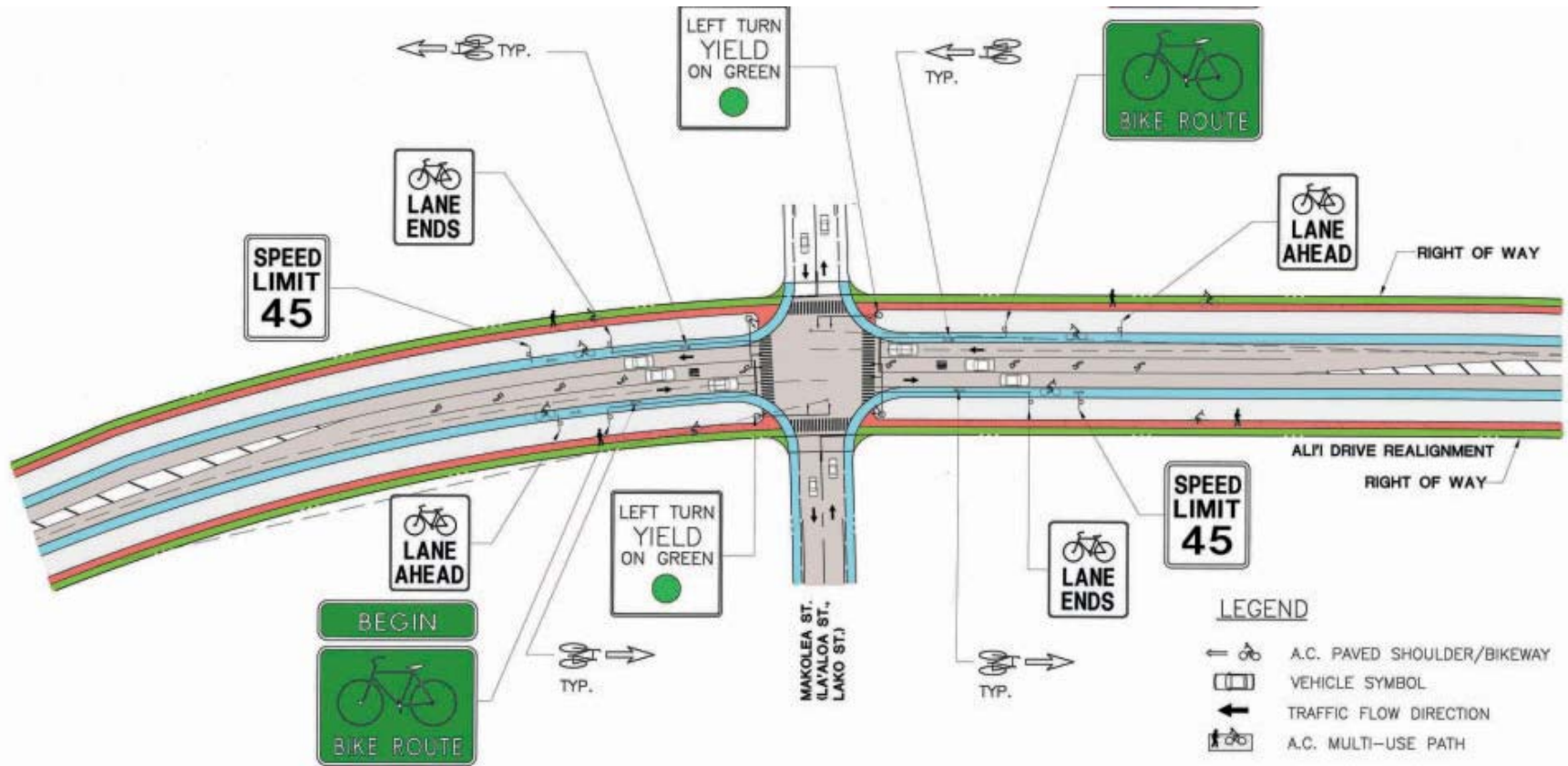
**North Baker Street**

North Baker Street is a key north-south corridor that links north McMinnville neighborhoods to the rest of the city and serves as a northern entry point to the city from Westside Road. It, too, lacks sidewalks and bike lanes. Future improvements to North Baker Street, north of 25<sup>th</sup> Street to Burnett Street,

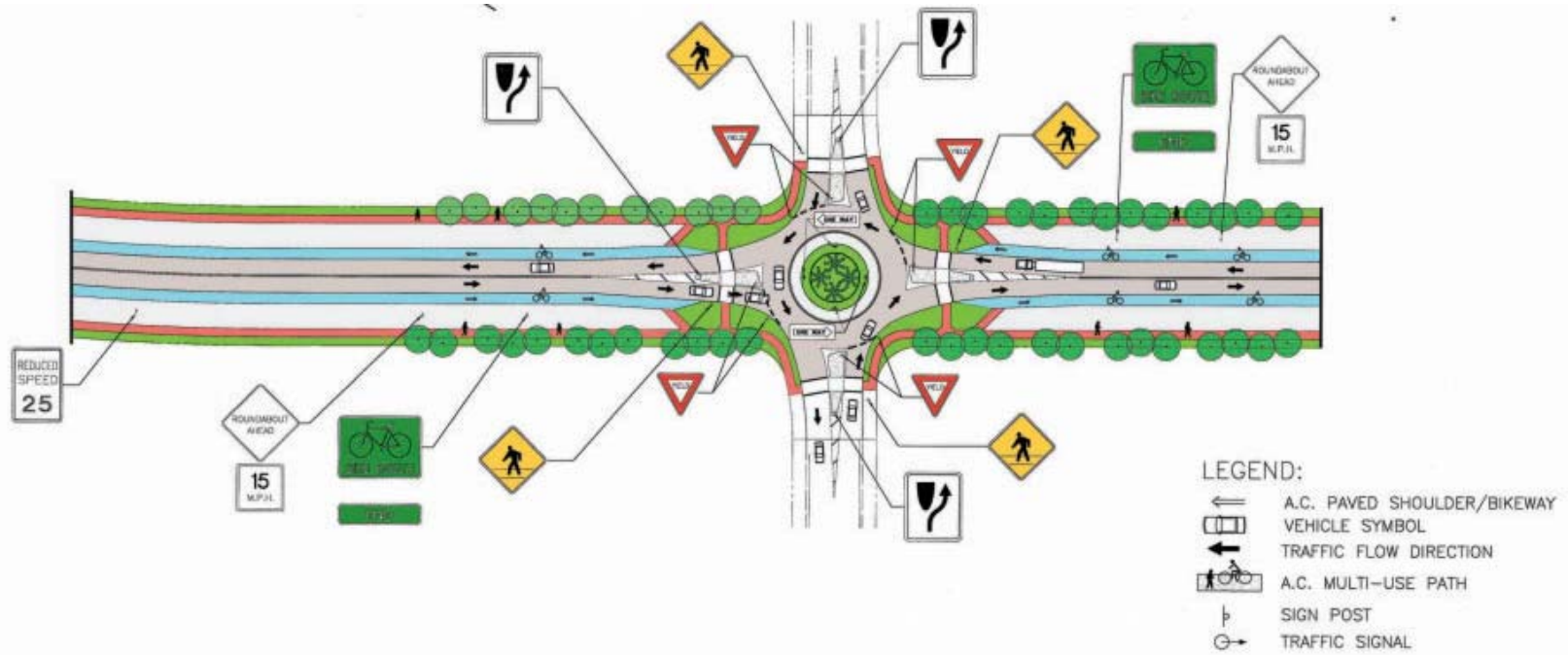


North Baker Street

Exhibit 4-7 Traditional Traffic Control Corridor



### Exhibit 4-8 Roundabout Control Corridor



should include on-street bike lanes and sidewalks to minor arterial street standards.

**Riverside Drive**

North of the Union Pacific Rail Road crossing, Riverside Drive is currently insufficient in depth and width to function safely and efficiently as an urban industrial connector to the McMinnville industrial area. This project includes reconstruction of Riverside Drive to industrial collector street standards, with bicycle lanes and sidewalks, replacement of the railroad crossing to State standard, and re-alignment to Highway 99W.

As part of a future design, the re-alignment of Riverside Drive with Highway 99W will need to consider the possibility of disconnecting the existing local access to Highway 99W, while considering the proximity to the Yamhill River bridgeheads, and the requirements for adequate left-turn lane refuge for southbound Highway 99W traffic turning left onto Riverside Drive.



Riverside Drive

As lands continue to develop in the north, west and south portions of McMinnville, these complete street improvement projects will be needed to provide important improvements to best separate motorized and non-motorized traffic (safety), and make important pedestrian and bicycle connections (capacity and circulation).

**ODOT Programming Coordination**

**Highway 18/99W Improvements - South McMinnville**

The City and ODOT have mutually developed and adopted the Highway 18/99W South Interchange Access Management Plan<sup>3</sup> for that section of Highway 99W south of the Old Sheridan Road intersection. The plan, as summarized in **Exhibit 4-9**, outlines access policy and project revisions for Highway 99W, and a series of short- and long-range highway and intersection improvements to be made in conjunction with development of the remaining portion of the Lowe's and Linfield commercial properties, and other adjacent properties.

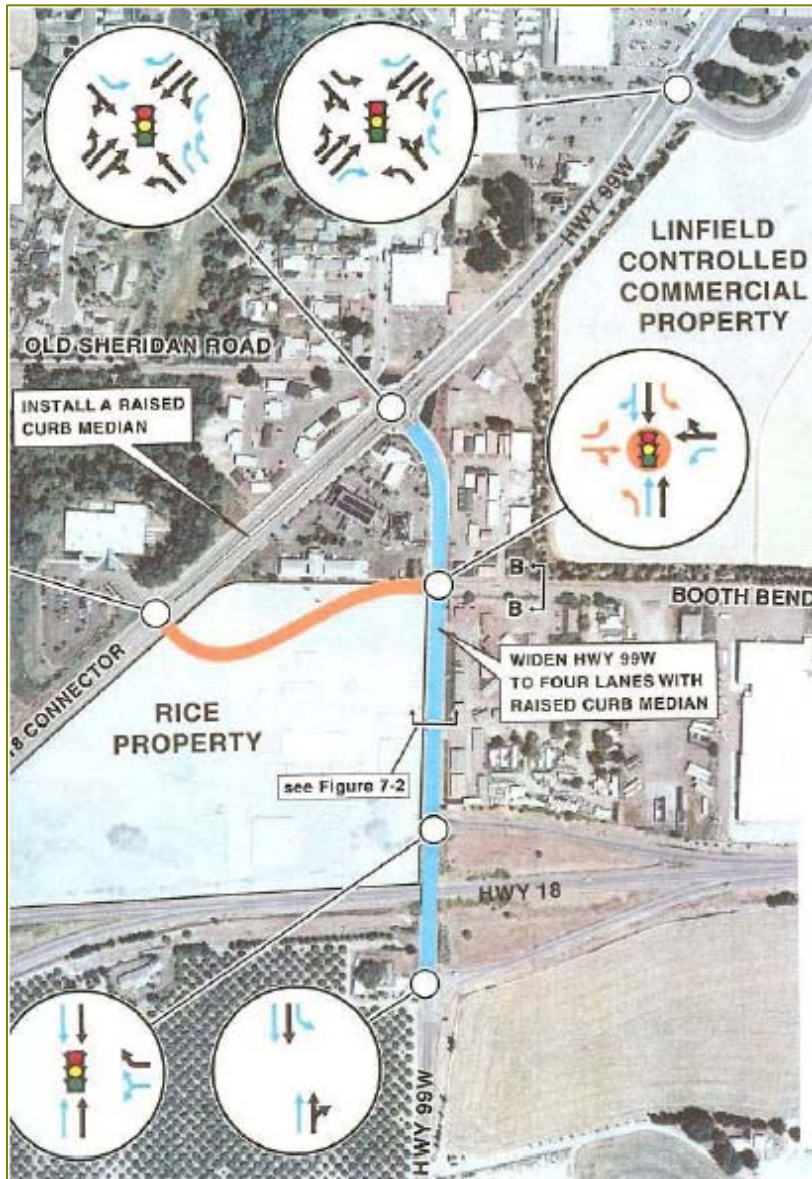
As shown here, long-term improvements to Highway 99W in this area include:

- Widening Highway 99W for additional travel lanes, bike lanes and sidewalks
- Modification to existing Highway 99W / Old Sheridan Road intersection to include additional turn lanes and signal replacement
- Modification to existing Highway 99W / Booth Bend Road to include additional turn lanes and signal replacement
- Replacement of the Highway 18 over-crossing, to accommodate separate southbound left-turn lanes, sidewalks and bike lanes
- New traffic signal at Highway 18 Westbound off-ramp



Highway 99W at Highway 18

### Exhibit 4-9 Highway 18/99W Plan



### Oregon Highway 18 (McMinnville) Corridor Refinement Plan

ODOT, the City of McMinnville and Yamhill County have mutually approved the *Highway 18 Corridor Refinement Plan*, which was completed in 1996. The Plan includes a series of traffic control and frontage roads improvements north and south of Highway 18, to include closing of the existing Norton Lane intersection, construction of a new interchange near the Evergreen Air Museum, and redesign of the current East McMinnville (Three Mile Lane) interchange for full, directional access.

Some frontage road improvements have been completed since the 1996 Plan was adopted. **Exhibit 4-10** illustrates the current state of the Plan. It is important to note, however, that the northernmost collector access road depicted in the Highway 18 Corridor Refinement Plan is not shown in the TSP due to the fact that it is located outside of McMinnville's current urban growth boundary. Under Oregon Administrative Rule (OAR 660-012), transportation facilities outside of urban growth boundaries are not permitted as part of a TSP unless a "reasons" exception to the applicable goal(s) has been approved by the City. In this case, McMinnville finds such action premature due to the lack of certainty as to the street corridor's location and design. An amendment to this plan, and a Goal 2 (Land Use) exception, would be part of any future proposal to add this element to the TSP and permit its construction and use for urban purposes.

To view the general alignment of this future improvement, please refer to the Highway 18 Corridor Refinement plan.

### Exhibit 4-10 Highway 18 Corridor Refinement Plan - Status





### **Bridge Replacements**

The Yamhill River Bridge on Three Mile Lane is one of the oldest and poorest rated bridges in the Willamette Valley, and it should be replaced as soon as possible. Three Mile Lane is a vital link between greater McMinnville and the Willamette Valley Medical Center and Highway 18. The Yamhill River Bridge is presently ill-fitted to accommodate bicycle and pedestrian travel.

The replacement of the Old Sheridan Road bridge over Cozine Creek is assumed as part of the Old Sheridan Road *Complete Street* improvement project (see above).

Other bridges in the McMinnville urban area are in sufficiently adequate condition for service throughout the planning horizon. However, ODOT's regular bridge inventory and rating system should be checked every two to four years to confirm and update these findings.

### **Streetscape Enhancements**

Streetscape enhancements are recommended for the Adams/Baker one-way couplet, Baker Creek Road, 3<sup>rd</sup> Street, 2<sup>nd</sup> Street and 1<sup>st</sup> Street in the Downtown McMinnville area. These are discussed in greater detail in the Pedestrian System Plan, see Chapter 5.

### **Planning-Level Cost Estimates**

The planning level costs estimates in the McMinnville TSP are in 2008 dollars and were prepared based on typical unit costs for other projects that were recently completed in the City. The cost estimates account for projected costs for right-of-way, typical City street standards, labor, design, and engineering costs. Adjustments were made to cost estimates where environmental issues, railroad or canal crossings, and structural or bridge construction were identified.

See **Appendix D** for planning-level cost estimates of the TSP.

The TSP Funding Plan and Capital Improvement Plan are discussed in Chapter 9.

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<sup>1</sup> U.S. Environmental Protection Agency website:

<http://epa.gov/otaq/renewablefuels/index.htm>

<sup>2</sup> McMinnville Neighborhood Traffic Calming Program, Kittelson & Associates, 2006.

<sup>3</sup> Highway 18/99W South Interchange Access management plan, Kittelson & Associates, Inc., 2002.