

# CITY OF MARYSVILLE TRANSPORTATION ELEMENT 2008

Prepared for:

City of Marysville

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# Introduction

The City of Marysville has grown significantly during the past several years and is forecast to continue to grow over the next several decades. Surrounding communities including the Cities of Arlington, Lake Stevens, Everett, and unincorporated Snohomish County are also experiencing substantial growth. Growth in an around Marysville includes both residential housing and new employment.

This recent and forecast growth continues to add pressure to the transportation system serving these communities. The City of Marysville updated the Transportation Element of its Comprehensive Plan to better plan for and accommodate these additional transportation needs. The Transportation Element identifies improvement projects and programs, and policies to guide the development of an integrated multi-modal transportation system. The Transportation Element builds off of prior planning efforts for the City and its urban growth area (UGA). The current Transportation Element extends the planning horizon to 2035 to provide a longer-range assessment of facility needs. The longer-range evaluation will assist the City and neighboring communities to preserve needed rights-of-way and to assure that improvements can meet future needs, or be efficiently phased over time.

The Transportation Element addresses streets and highways, truck routing, pedestrian and bicycle system needs, transit, and transportation demand management strategies to help the City meet these existing and future transportation demands.

The first section of the Transportation Element presents a summary of the existing transportation system facilities and issues. The Transportation Element then presents an overview of household and employment growth and a range of improvement alternatives that were evaluated. The core of the Transportation Element includes the various multi-modal systems plans and improvement projects and programs. Funding strategies are also presented, including use of fuel taxes, grants, transportation impact fees, and other City revenues. The final section presents the transportation-related goals, objectives, and policies to assist the City, other agencies, developers, and the general public in implementing the transportation system.

The Transportation Element of the Marysville Comprehensive Plan is based on and complies with the objectives and requirements of the Washington State *Growth Management Act* (GMA) [RCW 36.70A, 1990 and amendments]. The Transportation Element also is consistent and compatible with state, regional, Snohomish County, and adjacent local municipality transportation plans.



## A. Inventory of Existing Transportation Facilities and Conditions

Travel needs within the City of Marysville are met by a range of transportation facilities and services. These facilities and services provide for travel within the City and also connect Marysville with the rest of the region. Transportation facilities within the City also provide for travel through the community. The City's existing transportation system is comprised of freeways, highways, arterials, collectors, local roads, pedestrian and bicycle facilities, and transit routes and facilities. Rail lines also traverse the City and affect other travel modes. The following summarizes key elements of the existing transportation system serving the City. The inventory provides input for identifying and prioritizing the City's transportation improvement projects and programs presented later in the Transportation Element.

### Roadway System

The backbone of the City's transportation system is the street and highway system. The street and highway system provides mobility and access for a range of travel modes and users. Roadways are classified by their intended function and desired service. The City's roadway functional classification is presented in the Transportation System Plan section of the Transportation Element, based on existing and future transportation needs for the City.

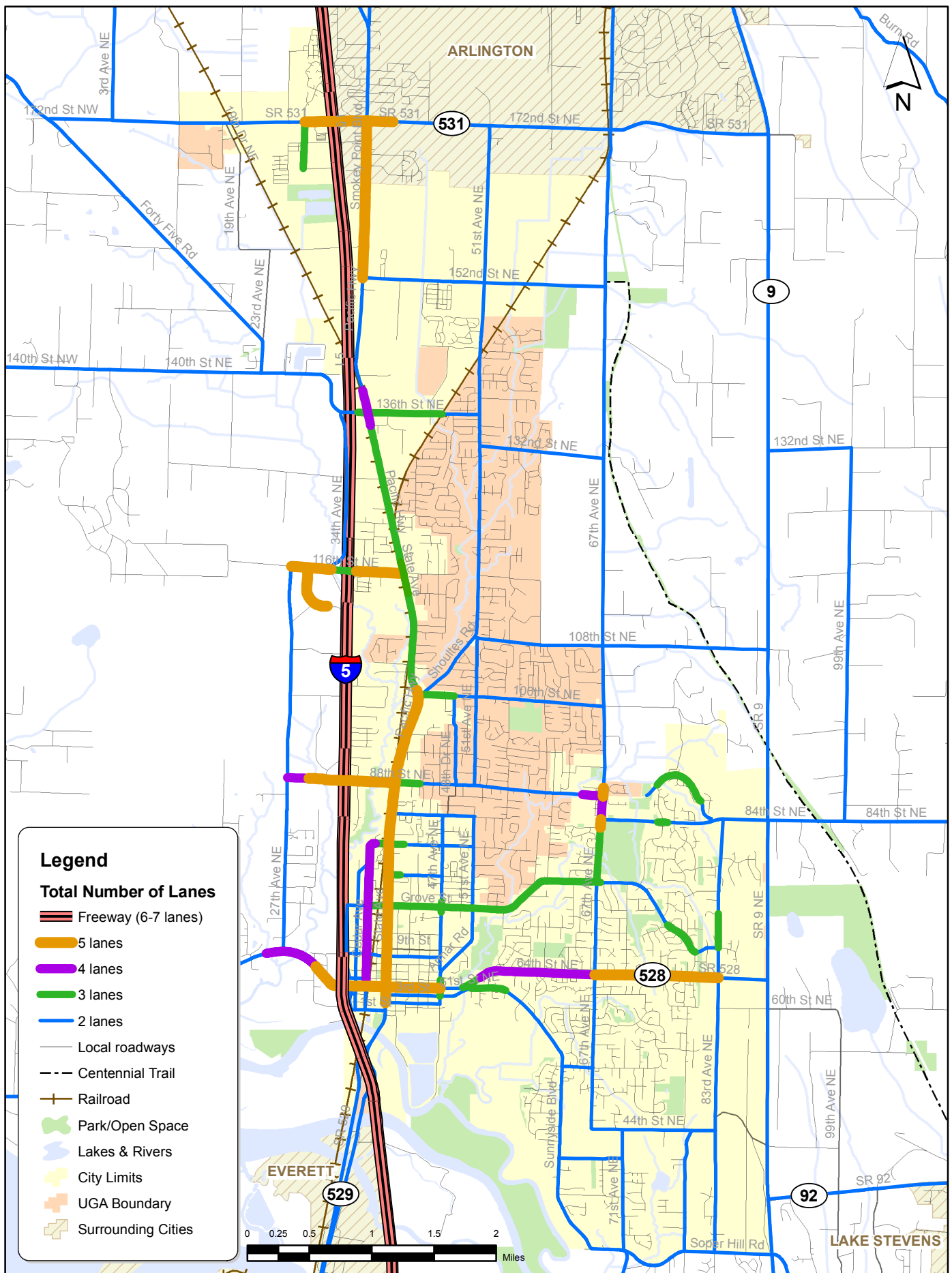
To provide background for developing the Transportation Element improvement projects and programs, a summary of existing conditions of the study area roadway system is presented. This includes the number of lanes and existing traffic controls, 2007 traffic volumes and operations, transportation safety, and the freight system. Non-motorized and transit facilities and services, which use the roadway system, are described in the next sections.

### Existing Highways and Street System

**Figure 1** and **Table 1** summarizes the existing state highways and arterial system serving the greater Marysville community. The City is served by several state highway and arterials.

#### State Highways

Six state highways serve travel to/from or within the City of Marysville and adjacent communities. I-5 is a six-lane, north-south, limited access freeway that connects Marysville south to Everett and Seattle and other communities south of Marysville. To the north, it connects to Skagit and Whatcom Counties and to Canada. Four interchanges serve the Marysville community – 4th Street (SR 528), 88th Street NE, 116th Street NE, and 172nd Street NE (SR 531).



**Figure 1**  
Existing (2007) Highway and Street System

City of Marysville Transportation Element 2008

**Table 1. Inventory of Existing Arterial and Collector Roadways Serving Marysville (2007)**

| Roadway  | Number of Lanes | Speed Limit (mph)     |
|--|-----------------|-----------------------|
| Interstate I-5   | 6               | 60                    |
| State Route 9 (SR 9)                                       | 2               | 45-55                 |
| State Route 529 (SR 529)                                   | 2 to 5          | 30-45 within the City |
| 4 <sup>th</sup> Street/64 <sup>th</sup> Street NE (SR 528) | 2 to 5          | 25-45                 |
| Grove Street   | 2 to 3          | 25-30                 |
| 84 <sup>th</sup> Street NE                                 | 2               | 35                    |
| 88 <sup>th</sup> Street NE                                 | 2 to 5          | 35                    |
| 116 <sup>th</sup> Street NE                                | 2 to 5          | 35                    |
| 67 <sup>th</sup> Avenue NE                                 | 2 to 3          | 35                    |
| 172nd Street NE (SR 531)                                   | 2 to 5          | 25-35                 |
| State Avenue/Smokey Point Boulevard                        | 2 to 5          | 30-40                 |
| 100 <sup>th</sup> Street NE                                | 2               | 35                    |
| 108 <sup>th</sup> Street NE                                | 2               | 35                    |
| 132 <sup>nd</sup> Street NE                                | 2               | 35                    |
| 136 <sup>th</sup> Street NE                                | 2 to 3          | 35                    |
| 152 <sup>nd</sup> Street NE                                | 2               | 35                    |
| 8 <sup>th</sup> Street                                     | 2               | 25                    |
| 47 <sup>th</sup> Avenue NE                                 | 2               | 25                    |
| 51 <sup>st</sup> Avenue NE                                 | 2               | 25-40                 |
| Shoultes Road  | 2               | 35                    |
| Sunnyside Boulevard/Soper Hill Road                        | 2 to 3          | 35                    |

SR 9 is another north-south state highway serving Marysville. It is located approximately 3.5 miles east of I-5 and connects with the Cities of Arlington, Lake Stevens, Snohomish, and Woodinville. In the vicinity of Marysville, it generally has one lane in each direction with additional turn lanes at intersections.

SR 529 is a north-south state highway connecting Marysville to the City of Everett and also to the Port of Everett. SR 529 is an extension of State Avenue. The SR 529 designation begins at its intersection at 4th Street (SR 528). SR 529 has five total lanes between 4th and 1st Streets in downtown Maryville, transitioning to an existing two-lane bridge over the Steamboat Slough. SR 529 has an interchange with I-5; however, the ramps only provide connections to/from the south and do not directly serve Marysville.

SR 528 and SR 531 are east-west state highways serving the City. SR 528, which also serves as 4th Street and 64th Street NE, connects SR 9 to I-5 through downtown Marysville. It has four to five travel lanes between the I-5 interchange ramps and 47th Avenue NE. East of 47th Avenue NE, the number of lanes varies between two and five.

SR 531 is an east-west State highway that serves the developing areas of northwest Marysville and the City of Arlington. SR 531 is also named 172nd Street NE. West of I-5, SR 531 connects to the unincorporated areas of Snohomish County near Lake Goodwin. East of I-5, the highway serves Arlington and the Lakewood and Smokey Point community,

and connects to SR 9. Near I-5, the corridor has five or more travel lanes (including turn lanes). East of 40th Avenue NE, the highway transitions to two-to-three lanes.

SR 92 provides an east-west highway connection between Granite Falls and SR 9, at Marysville. It is generally a two-lane road with turn lanes at several major intersections.

I-5 and SR 9 are classified by Washington State as Highways of Statewide Significance (HSS). HSS facilities connect major communities in the State. The HSS designation is important in the allocation and direction of funding. The HSS designation also exempts the highways from local agency concurrency provisions. The other four state highways serving the Marysville area are classified as Highways of Regional Significance (HRS).

### ***City Arterials***

The primary north-south arterial serving Marysville is State Avenue/Smokey Point Boulevard. State Avenue/Smokey Point Boulevard is an extension of SR 529 and parallels I-5 between Marysville to Arlington. It has two to five travel lanes.

Other corridors providing for north-south travel within the City include 51st and 67th Avenues NE. At its south end, 51st Avenue NE transitions to/from the west and connects to 4th Street (SR 528) in the 47th Avenue NE alignment. 51st Avenue NE does not currently connect between 84th and 88th Streets NE. North of 88th Street NE, 51st Avenue NE transitions through the City's urban growth area (UGA) and then connects to 172nd Street NE (SR 531) in Arlington. The 51st Avenue NE corridor has two travel lanes, with additional turn lanes at some intersections.

67th Avenue NE is located approximately one mile east of 51st Avenue NE. It also connects SR 528 with SR 531. South of 64th Street NE (SR 528), 67th Avenue NE along with 71st Avenue NE provides a north-south route in the Whiskey Ridge subarea. North of SR 528, the existing corridor provides access to residential areas within the City south of 88th Street NE. North of 88th Street NE the corridor is adjacent to the City of Marysville UGA and then traverses through unincorporated Snohomish County. Just south of 172nd Street NE (SR 531) the corridor enters the City of Arlington. The corridor has two to three travel lanes.

The most significant existing east-west arterial corridors that are not state highways include Sunnyside Boulevard/Soper Hill Road, Grove Street, 88th Street NE, 136th Street NE, and 152nd Street NE. The Sunnyside Boulevard/Soper Hill Road corridor connects SR 9 with 3rd Street in downtown Marysville. It provides an alternative to SR 528 for some travel patterns. It primarily has two travel lanes, with turn lanes at some intersections.

Grove Street provides for east-west circulation and mobility between north downtown Marysville and 83rd Avenue NE in east Marysville. Located north of SR 528, it primarily serves intra-City travel patterns. It has two to three travel lanes.

88th Street NE provides access to an interchange with I-5. East of State Avenue, it travels through the existing City boundaries, into the unincorporated UGA, and back into the City west of 67th Avenue NE. The existing corridor shifts south along 67th Avenue NE and then uses 84th Street NE to connect to SR 9. East of SR 9, the corridor serves unincorporated areas of Snohomish County and Granite Falls. Most of the corridor has two to three travel

lanes, with the segment between I-5 and State Avenue having four to five lanes. Additional lanes also currently exist in the vicinity of the intersections of 88th at 67th Avenue NE and 84th Street NE at SR 9.

The 136th Street NE corridor crosses I-5 but does not provide an interchange. West of I-5 the roadway curves to/from the north and becomes 140th Street NE in Snohomish County. East of Smokey Point Boulevard, 136th Street NE connects to 51st Avenue. East-west traffic can connect between 51st and 67th Avenues NE using 132nd Street NE via 51st Avenue NE. The corridor has two to three travel lanes.

152nd Street NE currently provides for east-west circulation between Smokey Point Boulevard and 67th Avenue NE. It is a two-lane roadway.

## 2007 Traffic Volumes

Traffic volumes in urban areas in the Puget Sound Region are typically highest during the weekday PM peak hour. This reflects the combination of commuter work trips, shopping, and other day-to-day activities which result in travel between 4:00 and 6:00 pm, Monday through Friday. Therefore, the weekday PM peak hour is typically used for evaluating transportation system needs. Traffic volumes for 2007 were provided by the City of Marysville, Washington State Department of Transportation (WSDOT), and new traffic counts collected at the key locations. Existing (2007) weekday PM peak hour volumes are shown in **Figure 2** for selected locations in the City and surrounding study area. **Figure 3** shows the 2007 PM peak hour volumes for the downtown area.

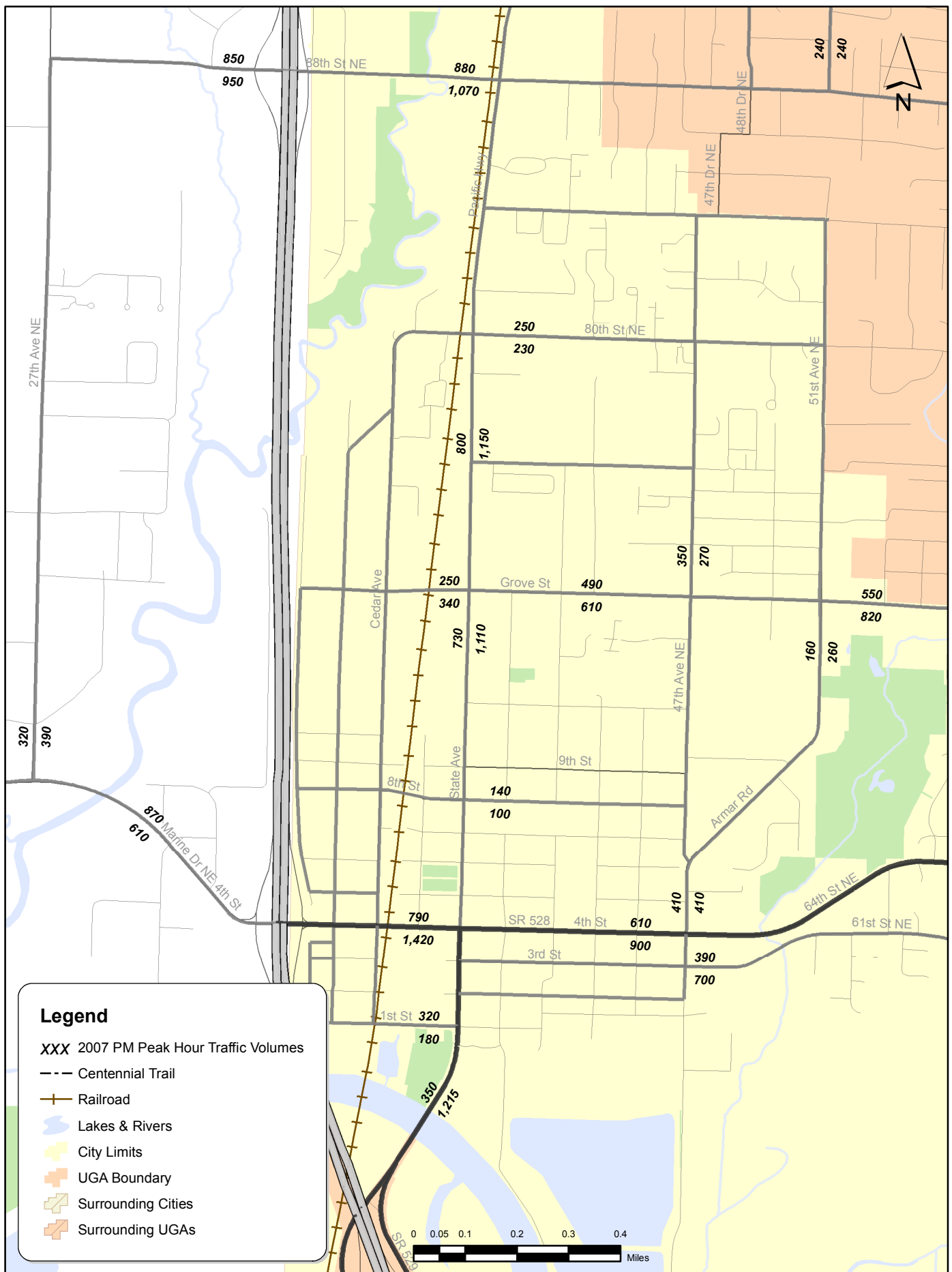
In the greater Marysville study area, the highest weekday PM peak hour traffic volumes occur on the arterials connecting with the I-5 interchanges. The PM peak hour traffic volumes on 172nd Street NE (SR 531) just east of I-5 exceed 3,500 vehicles per hour (vph). The volumes decrease to 2,500 vph east of Smokey Point Boulevard. Further to the east, in the vicinity of 67th Avenue NE, the two-way traffic volumes decrease to below 1,500 vph.

Similar traffic volume patterns are found along the 88th/84th Street NE corridor. Just east of the I-5 northbound interchange ramps, 88th Street NE carries nearly 2,200 vph. In the vicinity of 51st Avenue NE, the two-way, PM peak hour volumes decrease to approximately 1,000 vph. Just west of its intersection with 67th Avenue NE, the 2007 volumes drop to fewer than 700 vph.

Nearly 3,000 vph were counted on SR 528, just east of the northbound interchange ramps. These volumes decrease fairly quickly as traffic turns to/from downtown streets such as Cedar Avenue. East of the intersection at State Avenue, the two-way volumes are just over 1,500 vph. Between State Avenue and 67th Avenue NE, the 2007 volumes remain in the 1,500 vph range. As SR 528 approaches its intersection with SR 9, the 2007 PM peak hour volumes decrease to less than 1,000 vph.







**Figure 3**  
2007 PM Peak Hour Directional Traffic Volumes - Downtown Area

The 2007 PM peak hour traffic volumes in the SR 529/State Avenue/Smokey Point Boulevard corridor were approximately 1,500 vph south of 1st Street. These increase to almost 1,900 vph north of Grove Street. Between 88th Street NE and 152nd Street NE, the 2007 PM peak hour volumes on State Avenue/Smokey Point Boulevard decrease from 2,320 vph to 1,150 vph. Just south of 172nd Street NE (SR 531) the PM peak hour volumes increase to over 2,500 vph, due to the traffic generated by the existing commercial land uses in Arlington.

The 2007 two-way PM peak hour volumes on SR 9 are over 2,200 vph south of Soper Hill Road. The volumes decrease to 1,400 vph north of SR 528. Volumes on SR 9, just south of 172nd Street NE (SR 531) are approximately 900 vph.

Traffic volumes on 47th Avenue NE generally are approximately 800 vph just north of 4th Street (SR 528). The volumes decrease to fewer than 350 vph on 51st Avenue NE north of Grove Street. As previously noted, 51st Avenue NE does not currently connect between 84th and 88th Streets NE, north of Grove. Between 88th and 108th Streets NE, the 2007 PM peak hour volumes range from 350 vph to 500 vph. North of 108th Street NE, the 2007 volumes on 51st Avenue NE were approximately 1,400 vph, declining to just over 400 vph north of 152nd Street NE. This reflects the limited level of existing development in the north part of the corridor.

Between 88th Street NE and 64th Street NE (SR 528) the 2007 PM peak hour volumes on 67th Avenue NE range from 1,300 vph to 900 vph. These represent the highest PM peak hour volumes along 67<sup>th</sup> Avenue NE in the City. The PM peak hour volumes on other segments of 67th Avenue NE range from approximately 400 vph south of 52nd Street NE to 900 vph just south of SR 528. North of 88th Street NE, the 2007 two-way PM peak hour volumes are generally within a range of 600 to 900 vph with the highest volumes near 88th Street NE.

## **Traffic Operations**

Traffic operations analyses provide a quantitative method for evaluating how the transportation system is functioning. It is applied to existing and forecast conditions to assist in identifying issues and potential improvement options.

### ***Level of Service Standards***

Levels of service are typically evaluated based on methodologies documented in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2000. The HCM is a nationally recognized and locally accepted method of measuring traffic operations. Criteria range from LOS A, indicating free-flow conditions with minimal vehicular delays, to LOS F, indicating extreme congestion and significant delays. LOS at intersections is measured in terms of the average vehicular delay. LOS for arterial corridors is measured in terms of average travel speeds.

As part of its Comprehensive Plan, the City of Marysville has adopted level of service (LOS) standards to evaluate how intersections under its jurisdiction operate. As noted above, the transportation system serving Marysville is also under the jurisdiction of the State, County,



and adjacent cities. These agencies also have established LOS standards which may affect the transportation system needs in the Marysville area. The following summarizes the existing level of service standards for these agencies.

**City of Marysville LOS Standards.** The City previously defined concurrency LOS standards for both intersection and corridor performance. As part of the 2008 update, the City decided to limit its LOS standards to intersection operations. The following criteria summarize the current LOS standards established by the City. The City applies the standards to weekday PM peak hour conditions. The City applies its LOS standard to intersections of state highways, arterials, and collectors within the City. As areas are annexed, the City's standards are applied.

- LOS E “mitigated” for the following corridors. LOS E mitigated means that the congestion should be mitigated through improvements, transit, ridesharing, or other travel modes when the intersection falls below LOS E.
  - SR 529/State Avenue/Smokey Point Boulevard between the south City limits and north City limits
  - 4th Street/64th Street NE (SR 528) between I-5 and SR 9
- LOS D
  - All other intersections of arterials or collectors with another arterial or collector

The City's LOS standards are consistent with the State and regional standards for state highways within the City, as described below.

**State Highway LOS Standards.** As discussed above, the City of Marysville is served by six state highways. Two of the highways, I-5 and SR 9, are classified as Highways of Statewide Significance (HSS). The other four are classified as Highways of Regional Significance (HRS).

According to WSDOT's Highway Systems Plan, the LOS standards are set forth by state law. State law sets LOS D for HSS facilities in urban areas and LOS C for HSS facilities in rural areas. I-5 and SR 9 are HSS facilities serving Marysville. All of I-5 is located in the urban area within Marysville so the LOS D standard applies. SR 9 traverses both urban and rural areas so the LOS standard is dependent on location. WSDOT classifies SR 9 between Soper Hill Road and SR 531 as an urban facility, so the LOS D standard would apply. The GMA concurrency requirements do not apply to HSS facilities.

LOS standards for state highways of regional significance are adopted by the Puget Sound Regional Council (PSRC) and WSDOT and are identified in the State's Highway System Plan. The LOS standards for HRS are divided into three categories including Tiers 1, 2, and 3.

Tier 1 highways serve the inner urban area representing a 3 mile buffer around the most heavily traveled highways such as I-5. SR 528 and SR 529 are classified as Tier 1 HRS facilities in Marysville. The LOS standard for Tier 1 highways is LOS E-“Mitigated” meaning that mitigation must be provided during the PM peak hour if the level of service falls below LOS E.

Tier 2 highways serve the outer urban area which represents the area outside of the 3 mile buffer around heavily traveled highways and usually fall in areas farther from transit service with fewer alternative roadways. SR 92 and SR 531 are Tier 2 highways in the vicinity of Marysville. The standard for Tier 2 highways is LOS D. Tier 3 highways are rural routes in rural areas with and must maintain LOS C or above to meet standards. There are no Tier 3 highways in the Marysville study area.

Cities and counties are required to include the LOS standards for all state routes in the transportation element of their local comprehensive plan. The PSRC certifies the transportation elements of the city and county plans, and ensures that the regional LOS standards are included. PSRC notes that state law is silent on whether agencies include or exempt HRS facilities from local concurrency requirements.

**Snohomish County LOS Standards.** Unlike neighboring jurisdictions, Snohomish County LOS standards are defined based on arterial operations and not intersection LOS. Level of service along key arterials is measured by calculating corridor travel speeds. LOS standards for key arterials are defined by Snohomish County based on area type and arterial classification. In rural areas LOS standards range from LOS C to LOS D depending on the roadway type. In Urban areas LOS E is considered acceptable.

Arterial units have been defined along several key corridors within and near the City's urban growth area. For example, east of the City limits arterial units are defined along 84th Street NE and 132nd Street NE. West of I-5 and the City limits, arterial units are defined along Marine Drive, and the west end of 136/140th Street NE. The County portion of 88th Street NE between State Street and 67th Avenue NE is also an arterial unit as defined by Snohomish County. A north/south County arterial within the UGA is 51<sup>st</sup> Ave NE. Other collectors located in the vicinity of Marysville are also defined as arterial units by the County.

**City of Arlington LOS Standards.** The City of Arlington directly abuts Marysville and several arterial corridors are shared by the two cities. Arlington has adopted LOS D or better for arterials and collectors. In addition, the LOS D standard applies to local roads that primarily serve its central business district or industrial areas. Arlington also has established LOS C or better for local residential streets. The City of Arlington further recognizes and adopts the most current LOS standard along state highways, as described above. The City measures both the intersection operations and the volume-to-capacity (v/c) of roadway segments.

### **LOS Methodology**

Intersection levels of service at the key intersections were evaluated based on methodologies presented in the Highway Capacity Manual (HCM)(Transportation Research Board, 2000). Corridor LOS is also based on HCM principles. When calculating corridor levels of service the individual intersection delay is combined with the free flow speeds between intersections, to calculate an overall average speed for the corridor. Based on the roadway classification, the travel speed is compared to the defined LOS ranges, and the LOS reported. Travel speeds calculated through Synchro were validated with field runs conducted to assure that speeds calculated via the Synchro model were generally consistent with observations noted in the field.

### Existing (2007) Levels of Service

**Figures 4 and 5** summarize the 2007 PM peak hour intersection LOS and control type for each of the study intersections. As noted above, Snohomish County does not have LOS standards for individual intersections. For purposes of this analysis, intersections within the City of Marysville UGA were evaluated based on the City's LOS standards. Ten of the study intersections currently do not meet the City or applicable WSDOT LOS standards.

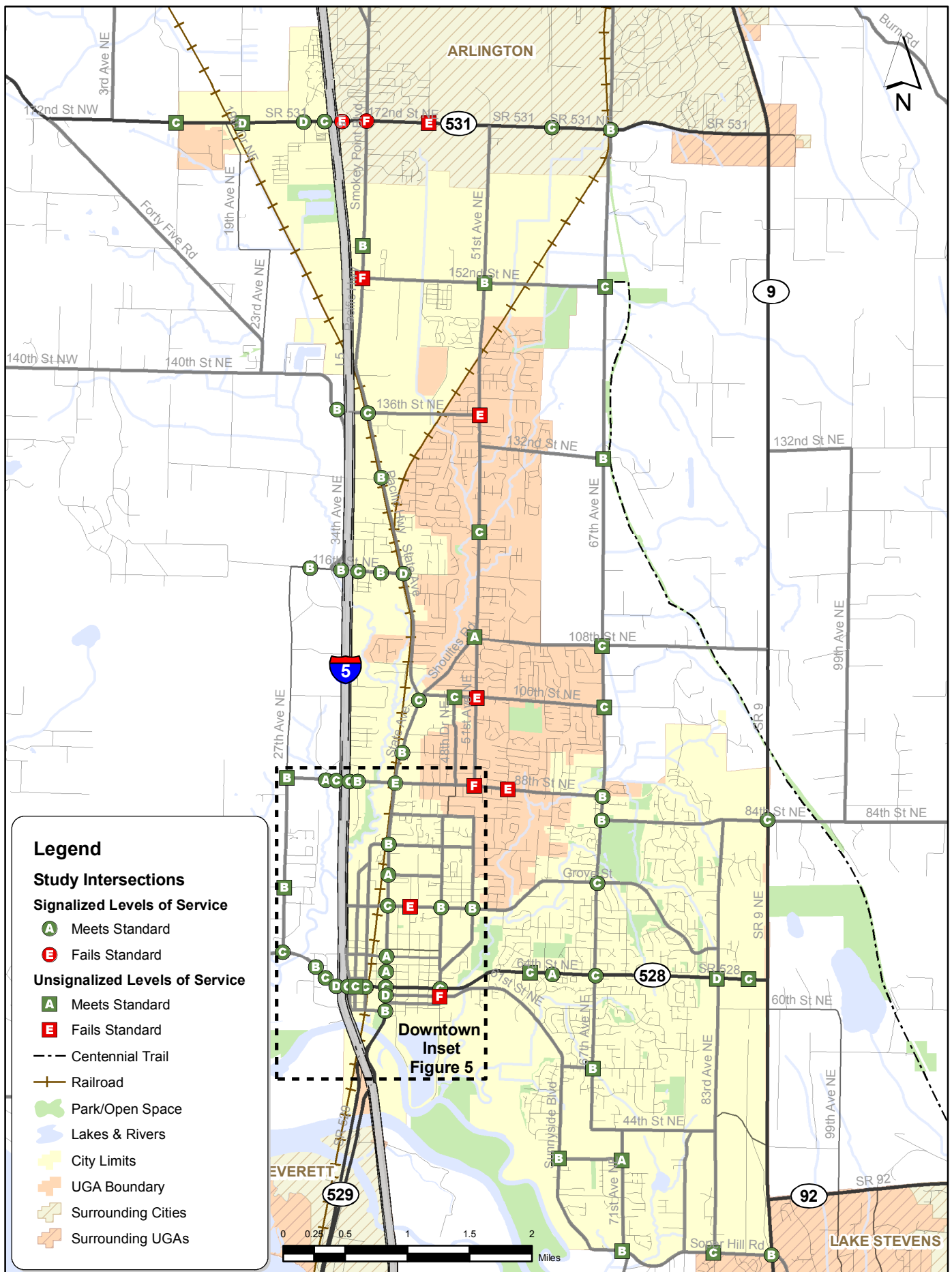
Three of the 10 intersections are within the City of Marysville city limits, four are within the Marysville UGA, and three are along 172nd Street NE (SR 531) in Arlington. The intersections falling below the LOS standards are summarized in **Table 2**.

**Table 2. 2007 PM Peak Hour Intersection Levels of Service Below Standards**

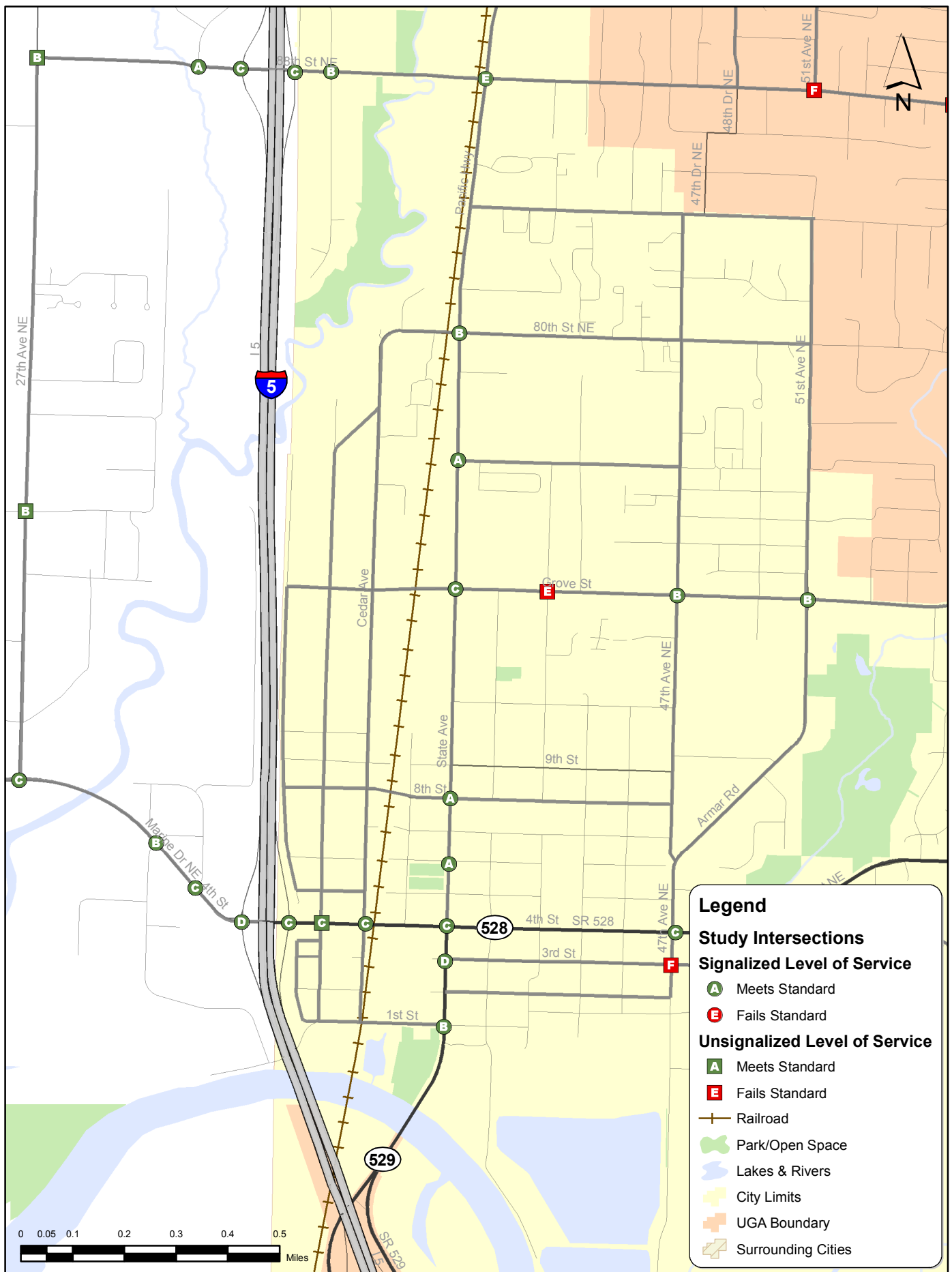
| Intersection   | Jurisdiction                                   | Traffic Control   | 2007 PM Peak Hour Level of Service | Level of Service Standard |
|--|--|-------------------|------------------------------------|---------------------------|
| 3rd Street at 47th Avenue NE                                 | Marysville                                     | AWSC <sup>1</sup> | F                                  | D                         |
| Grove Street at 43rd Avenue NE                               | Marysville                                     | Unsignalized      | E                                  | D                         |
| Smokey Point Blvd at 152nd Street NE                         | Marysville                                     | Unsignalized      | F                                  | E <sup>2</sup>            |
| 51st Avenue NE at 136th Street NE                            | Snohomish County/ Marysville Urban Growth Area | Unsignalized      | E                                  | D <sup>3</sup>            |
| 51st Avenue NE at 100th Street NE                            | Snohomish County/ Marysville Urban Growth Area | Unsignalized      | E                                  | D <sup>3</sup>            |
| 51st Avenue NE at 88th Street NE                             | Snohomish County/ Marysville Urban Growth Area | Unsignalized      | F                                  | D <sup>3</sup>            |
| 55th Avenue NE at 88th Street NE                             | Snohomish County/ Marysville Urban Growth Area | Unsignalized      | E                                  | D <sup>3</sup>            |
| 172nd Street NE (SR 531) at I-5 Northbound Interchange Ramps | State Highway in Arlington                     | Signal            | E                                  | D                         |
| 172nd Street NE (SR 531) at Smokey Point Blvd                | State Highway in Arlington                     | Signal            | F                                  | D                         |
| 172nd Street NE (SR 531) at 43rd Avenue NE                   | State Highway in Arlington                     | Unsignalized      | E                                  | D                         |

1. AWSC = All-way stop control  
 2. E = LOS E mitigated, which means that the congestion should be mitigated through improvements or use of alternative travel modes or ridesharing.  
 3. Intersection located in Snohomish County which does not have intersection level of service standards; reported standard is based on City of Marysville requirements.

As shown in **Table 2**, six of the seven intersections in Marysville or its UGA that operate below the City's LOS standards are unsignalized, with stop signs only on the minor street approach. For unsignalized intersections with stop sign control on the minor street approaches, the level of service reflects the operations for the worst movement, which is typically on one of the stop-controlled approaches. The poor level of service at these intersections results from the relatively high volume of traffic on the major road which limits the ability of traffic on the side streets from entering or crossing the major street.



**Figure 4**  
2007 PM Peak Hour Intersection Levels of Service



**Figure 5**

2007 PM Peak Hour Intersection Levels of Service - Downtown Area

City of Marysville Transportation Element 2008

Traffic signals will be installed in the near future at the Marysville intersections at Grove Street at 43rd Avenue NE and Smokey Point Boulevard at 152nd Street NE. These improvements will resolve the existing level of service deficiencies at these intersections. The other City of Marysville intersection, 3rd Street at 47th Avenue NE, is currently an all-way stop-controlled intersection. A traffic signal will be operating at this intersection in 2008 which will resolve the LOS deficiency.

Snohomish County has programmed improvements, including signals, at 51st Avenue NE at 136th Street NE and at 51st Avenue NE at 100th Street NE. These improvements will resolve the level of service deficiencies reported in Table 2. The other two intersections within the City's Urban Growth Area (51<sup>st</sup> Avenue NE at 88<sup>th</sup> Street NE and 55<sup>th</sup> Avenue NE at 88<sup>th</sup> Street NE) that do not meet the level of service standards will need to be improved when the area is annexed to the City. Installation of traffic signals would resolve the existing level of service deficiency at these two intersections.

Three of the poorly operating intersections are along SR 531 in Arlington. LOS D is the standard for SR 531 as established by WSDOT and PSRC. Two of the three intersections are signalized.

## **Traffic Safety**

The traffic safety analysis was conducted on major roadways and intersections within the City of Marysville. Historical accident data along all major roadways were provided by the City for the three-year period from 2004 to 2006. Analysis and statistics were summarized by accidents related to fatalities, intersections, roadway segments, and pedestrians or bicycles.

### ***Fatalities***

During the three year study period (2004-2006), two fatal accidents occurred in the study area. The fatalities occurred in separate accidents. One occurred in 2006 at the intersection of SR 531 and 19<sup>th</sup> Avenue NE. SR 531 is a major east-west arterial serving the north part of the City. The fatal accident was the result of a vehicle running off the road. The other fatality accident occurred in 2004 near the intersection of State Avenue and 122<sup>nd</sup> Street NE in Marysville. State Avenue is a major north-south arterial in the City with a 40 mph speed limit. Its intersection at 122<sup>nd</sup> Street NE currently has no traffic controls. The fatal accident at this intersection in 2004 was the result of a rear end collision.

### ***State Highway - High Accident Locations***

Within Marysville, the Washington State Department of Transportation (WSDOT) has identified Hazardous Accident Locations (HALs) along several state highways including SR 9, SR 528, SR 529, and SR 531. WSDOT identifies state highway HALs that meet certain criteria to identify potentially unsafe accident locations. For the year 2006, a HAL was identified for SR 9, near the intersection of 108<sup>th</sup> Street NE (mileposts 21.88 to 22.02). On SR 528 a HAL was identified from I-5 to Quinn Avenue (mileposts 0.02 to 0.62). On SR 531 a HAL was identified near the intersection of 28<sup>th</sup> Drive NE (mileposts 6.19 to 6.38). No HALs were identified on SR 529 in Marysville. Rear-end collisions resulting from traffic congestion, are noted as the primary cause of accidents for these HALs.



Within Marysville, WSDOT has not identified any High Accident Corridors (HACs) along SR 9, SR 528, SR 529, or SR 531. Like HALs, WSDOT identifies state highway HACs that meet certain criteria to identify potentially unsafe accident locations.

### *Intersection Safety Analysis*

**Table 3** summarizes intersections within the City of Marysville with high incidence City intersections. Typically, any intersection with an accident rate greater than one accident per million entering vehicles (MEV) should be monitored to determine if improvements could be made to increase safety.

The historical accident rates suggest that there are no intersections within Marysville which currently have an excessive number of accidents relative to their volume of traffic. The intersection with the highest rate (0.82) is at the 67th Avenue NE/84th Street NE intersection where 44 percent of accidents were rear-end collisions. Typically, a main cause for a rear-end collision is traffic congestion (vehicles following too closely). Congested traffic operations at this location are associated with long queues on 67<sup>th</sup> Avenue NE. Congestion and associated rear-end collisions are most common at the other high accident rate intersections of State Avenue/88th Street NE, State Avenue/80th Street NE, Cedar Avenue/4th Street, and 47th Avenue NE/4th Street.

**Table 3. Highest Accident Intersections in Marysville (2004-2006)**

| Intersection                                | Average<br>Accidents per<br>Year | Daily Total<br>Entering<br>Vehicles <sup>1</sup> | Accidents per<br>MEV <sup>2</sup> | Accident Type<br>(Majority) |
|---|----------------------------------|--|-----------------------------------|-----------------------------|
| State Avenue at 4th Street (SR 528)         | 16.3                             | 62,000   | 0.71                              | Left turn/Angle             |
| State Avenue / 88th Street NE               | 10.7                             | 37,200   | 0.79                              | Rear-end                    |
| State Avenue / 3rd Street                   | 6.7                              | 45,000   | 0.41                              | Angle                       |
| State Avenue / 80th Street NE               | 5.7                              | 37,200   | 0.42                              | Rear-end                    |
| State Avenue / 92nd Street NE               | 4.7                              | 25,100   | 0.51                              | Angle                       |
| State Avenue / 100th Street NE              | 4.7                              | 23,700   | 0.54                              | Angle                       |
| State Avenue / 1st Street                   | 4.0                              | 46,600   | 0.24                              | Not Available               |
| Cedar Avenue / 4th Street (SR 528)          | 4.7                              | 60,700   | 0.21                              | Rear-end                    |
| 67th Avenue NE / 84th Street NE             | 5.3                              | 17,800   | 0.82                              | Rear-end                    |
| 67th Avenue NE / 64th Street NE<br>(SR 528) | 4.7                              | 22,700   | 0.56                              | Left turn/Angle             |
| 47th Avenue NE / 4th Street (SR 528)        | 5.7                              | 59,600   | 0.26                              | Rear-end                    |

Source: Marysville historical accident records (2004 to 2006)

1. Estimated based on 2007 PM peak hour traffic volumes

2. Accidents per million entering vehicles

### *Roadway Safety Analysis*

Average accident rates were analyzed along major roadway corridors to identify roadway segments with potential safety problems. To provide meaningful comparisons, accidents along roadway segments are typically analyzed in terms of accidents per million vehicle miles

(acc/mvm) traveled. No universally accepted guidelines exist for identifying hazards based on accident rates for roadway segments alone; however, WSDOT publishes average accident rates for state highways by roadway classification. Based on 2005 WSDOT reports, these rates range from 2.77 to 3.88 acc/mvm for arterial highways. Another comparison can be made by examining the average accident rates found throughout the City and identify those segments that exceed the average rate for the City.

Based on City data, the average for all of the analyzed roadway segments was 1.61 (excluding intersection related accidents). Several roadway segments within the arterial corridors exceed this average value for the City. These include:

- 88<sup>th</sup> Street NE between I-5 and State Avenue
- 4th Street (SR 528) between 33<sup>rd</sup> Avenue NE (west of I-5) and State Avenue
- 3<sup>rd</sup> Street between State Avenue and Sunnyside Boulevard
- State Avenue between 1<sup>st</sup> Street and 136<sup>th</sup> Street NE
- 67<sup>th</sup> Avenue NE between 64<sup>th</sup> Street NE and 88<sup>th</sup> Street NE

Many of the road segments with the higher than average accident rates are also corridors with the highest traffic volumes, as discussed above. State Avenue, 88th Street NE, 4th Street (SR 528), and 67th Avenue NE are all classified as principal or minor arterials. 3rd Street is classified as a collector arterial; however, 3rd Street is also impacted by traffic diverting off of 4th Street.

### ***Pedestrian/Bicycle Safety***

Between 2004 and 2006 there were 29 accidents involving pedestrians and 32 accidents involving bicyclists in Marysville. The largest concentration of these types of accidents occurred along the State Avenue corridor. Twelve bicycle related accidents and ten pedestrian related accidents occurred in this corridor between 2004 and 2006.

Based on more recent City data, 56 collisions involving pedestrians were reported between 2002 and 2007. The highest concentrations of the pedestrian collisions are along State Avenue and 4th Street (SR 528). These are some of the highest volume roadways in the City. The higher level of pedestrian activity in the downtown area results in a significant number of crossings of these high volume arterials which greatly increases the potential for safety issues.

The City reports that a total of 57 bicycle accidents were reported in the City limits between 2002 and 2007. The majority of these occurred along State Avenue, Grove Street, 4th Street (SR 528), or 67th Avenue NE. These are all higher volume arterials which currently have limited bicycle facilities.



Within Marysville, WSDOT has identified one High Pedestrian Accident Location (PAL) along 4th Street (SR 528) between Beach Avenue and Delta Avenue (mileposts 0.11 to 0.28) in downtown Marysville. No other sections of the state highways in Marysville (SR 9, SR 528, SR 529, and SR 531) are currently listed as a PAL by WSDOT.

## **Freight System**

Freight movement in the study area involves both trucks and rail transportation. The City works to provide adequate routes and facilities for movement of goods by truck. Rail tracks also traverse the City. The railroad track impacts other transportation modes in the City.

### ***Truck Routes***

The City of Marysville serves a large volume of truck traffic due to its proximity to I-5, as well as the local commercial and industrial land uses. The City has an adopted truck route system. The system includes the connections to the three existing interchanges with I-5 and to SR 529 which provides a connection to the Port of Everett. The primary existing east-west truck route is 4th Street/64th Street NE (SR 528)) between I-5 and SR 9. This route is supplemented with truck routes along sections of 1st and 2nd Streets in downtown Marysville. In addition, Grove Street serves as a truck route between Cedar Avenue and 67th Avenue NE. Trucks using Grove Street must use 84th Street NE or 64th Street NE (SR 528) between 67th Avenue NE and SR 9. Both 88th and 116th Streets NE are truck routes between their interchanges with I-5 and State Avenue. In the Smokey Point area, 152nd Street NE is the currently designated truck route.

The primary north-south truck route in Marysville is SR 529 and State Avenue which parallels I-5. However, due to the tight-turning radius at 4th Street (SR 528) and other factors, the segment of State Avenue between Grove Street and 2nd Street is not part of the designated truck route. Instead, the north-south truck route through downtown Marysville is shifted to Cedar Avenue via 1st Street and Grove Street. 80th Street NE provides an alternative truck connection between Cedar Avenue and State Avenue.

The other existing north-south truck route within the City is 67th Avenue NE. The designated truck route extends between the existing City limits near 88th Street NE and 64th Street NE (SR 528).

Recent and planned growth and annexations will result in additional truck traffic. Expansion of the designated truck routes is described in the Transportation Systems Plan section of the Transportation Element.

Truck parking is another issue for the City of Marysville. The City has designated locations for truck parking in the south and north parts of Marysville. However, as properties in these areas are being developed, the availability of on-street parking for trucks is being diminished. Trucks parking on arterials or collectors can obstruct visibility as well as impact traffic safety and operations.

### **Rail Crossings**

There are 17 public crossings and approximately 9 private crossings in the City of Marysville transportation study area. Burlington Northern Santa Fe (BNSF) Railways operates the main rail line through the City of Marysville and a spur that branches off from the main line and ends in Arlington. The BNSF mainline parallels State Avenue/Smokey Point Boulevard. The spur to Arlington branches off from the BNSF mainline approximately one quarter mile north of 116th Street NE in Marysville. The BNSF main line contains 11 public crossings in the City while the remaining 6(5 within the City) public crossings are on the BNSF spur to Arlington. **Figure 6** illustrates the location of the rail crossings within the city and provides information on whether the crossing is public or private and whether the crossing is signalized or simply signed.

All of the private crossings are on the BNSF main line. The United States Department of Transportation (USDOT) reports that approximately 19 trains use the BNSF mainline every day with AMTRAK offering an average of one passenger train service per day. The USDOT also estimates that one train per day typically uses the spur to Arlington.

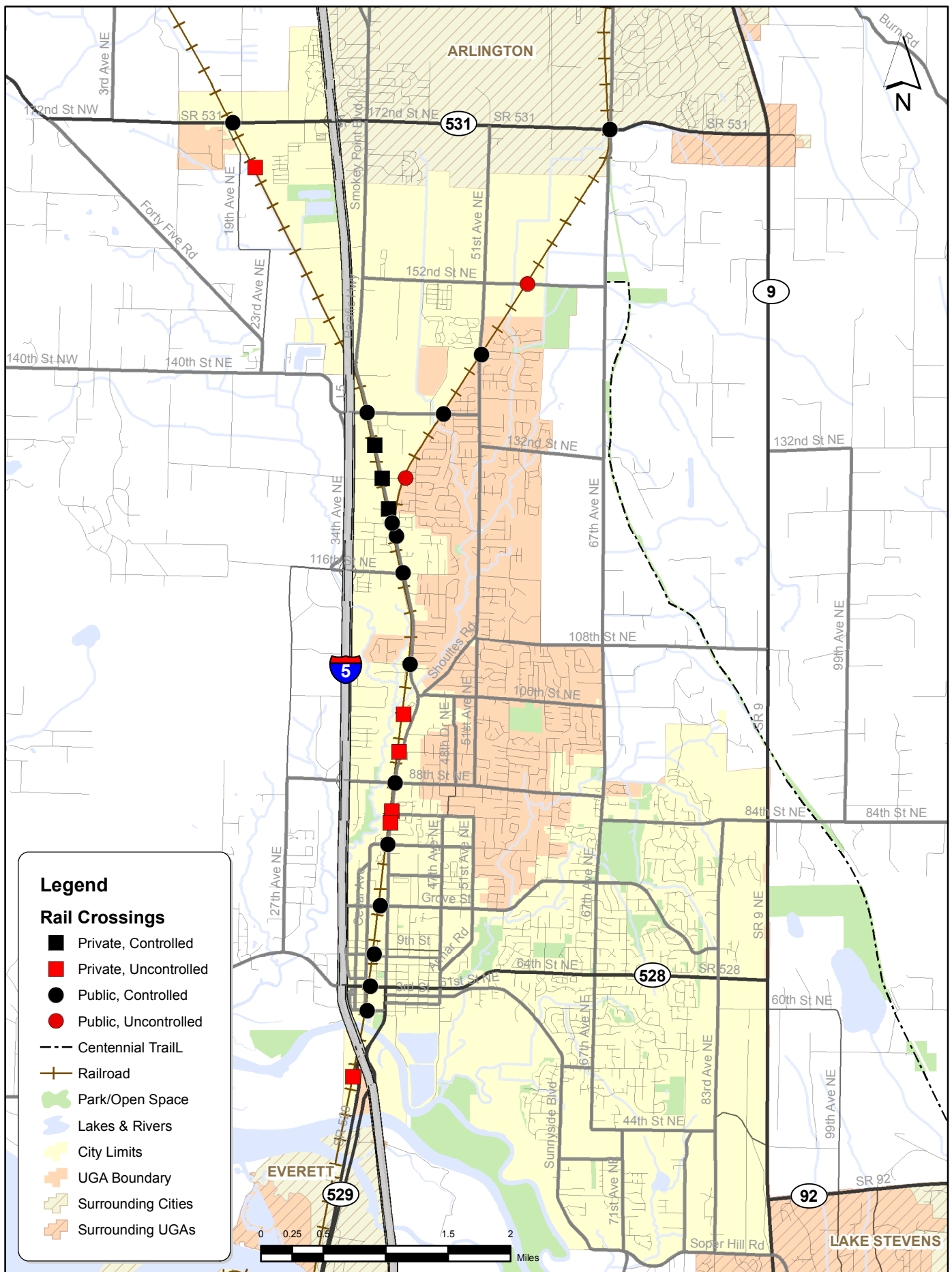
The rail crossings have been the location of several accidents during the past 10 years. Some of the accidents have resulted in fatalities or injuries. Crash reports compiled by United States Department of Transportation (USDOT) show that the collisions at the public at-grade crossings were a result of motorists ignoring the gates and flashing beacons. The accidents can result in the rail line and/or City arterials being closed.

Rail crossings also impact pedestrian and bicycle travel in the City and surrounding area. Some of the rail crossings of streets are at oblique angles which can result in safety problems for bicyclists. In addition, pedestrians and bicyclists can feel unsafe and be exposed to collisions, especially at uncontrolled crossings.

### **Pedestrian and Bike Facilities**

Bicycle and pedestrian facilities play a vital role in the City's transportation environment. The non-motorized transportation system is comprised of facilities that promote mobility without the aid of motorized vehicles. A well established system encourages healthy recreational activities, reduces vehicle demand on City roadways, and enhances safety within a *livable community*. Pedestrian and bicycle facilities also provide access to/from transit stops. Good transit access can increase the use of non-auto travel modes.

A viable non-motorized transportation system consists of the connection of traffic generators, such as major employers, the downtown, schools, residential areas, parks, and transit stops through a system of bike and pedestrian facilities. Existing and planned pedestrian and bicycle facilities are illustrated on **Figures 19-22** in the Transportation System Plan section of the Transportation Element.



**Figure 6**  
Existing (2007) Rail Crossings

City of Marysville Transportation Element 2008

## **Pedestrian Facilities**

The majority of the existing sidewalks and pathways for pedestrians are in the downtown area of the City. Sidewalks or pathways also are located along some arterials and local streets throughout the City. However, gaps in the system reduce the connectivity between various subareas of the City.

The City's street standards identifies the standards for pedestrian facilities to be constructed as part of transportation projects or as part of new developments.

Within many parts of the City and its UGA, pedestrians are generally forced to walk on roadway shoulders, if available. This can pose safety issues and reduces the likelihood for pedestrian travel in the City. Historical pedestrian accident data were summarized in the traffic safety section.

The City also is served by several multi-use trails. The major trail in the region is the Centennial Trail located east of Marysville. It provides a connection between 152nd Street NE at 67th Avenue NE to the City of Lake Stevens and other areas southeast of Marysville. Currently, there are limited direct trail or pedestrian connections to the Centennial Trail to/from the City of Marysville.

Other trails or pathways have or are being developed as part of the City's parks and open space plans.

## **Bicycle Facilities**

There are only a limited number of existing bike lanes within Marysville and the surrounding communities. As part of its street standards (Engineering Design Standards [EDDS] 2006) the City has identified locations and standards for bicycle facilities. The EDDS focus is to provide a continuous system of bicycle facilities throughout the City, UGA, and connecting to the surrounding communities. The bicycle facilities also would connect with the regional and local multi-use trails.

## **Transit and Transportation Demand Management**

Transit is another major component of the City's transportation system. Community transit provides both fixed-route bus service and paratransit services. The transit service is focused on several park-and-ride lots. In addition, Community Transit coordinates ridesharing services.

### **Transit Service**

Transit service is a vital component of a balanced transportation system. Community Transit operates 13 routes in and through the City of Marysville including seven fixed local routes, two Inter-County commuter routes to Seattle, one route to the University District, and three In-County commuter routes. Local routes are routes that serve origins and destinations within Snohomish County. Service is usually available seven days per week.

Inter-County commuter routes serve King County employment destinations, primarily in the Seattle Central Business District on weekdays. In-County commuter routes serve Snohomish County employment destinations in the vicinity of Paine Field with services available on weekdays.

**Table 4** summarized service characteristics of the individual routes. It also provides the average boardings and alightings in 2007. **Figure 7** shows the fixed routes throughout the City along with the existing park and ride facilities.

### Park & Ride Lots

As shown on **Figure 7**, the City currently is served by three park-and-ride lots including the Ash Avenue park-and-ride lot, and the Marysville North and South park-and-ride lots. Combined, the three facilities have approximately 346 parking stalls. With 202 spaces, the Ash Avenue park-and-ride lot is the largest of the three. **Table 5** summarizes the utilization rates of each of the park-and-ride lots in the year 2007. All three park-and-ride lots are located near I-5. Two of the three park-and-ride lots are over 85 percent full during 2007. The 2nd Street/Ash Avenue lot is under 50 percent utilized. (Community Transit reports utilization of the 2nd Street/Ash Avenue lot is now also over 85% for 2008.) This reflects its service by a single fixed commuter route and its better proximity to the I-5 flyer stops.

A 32 space park-and-pool lot is available at the Marysville United Methodist Church located on 64<sup>th</sup> Street NE. About 130 stalls are provided at this site. The park-and-pool is used to park a vehicle during weekdays, and take a bus, carpool or vanpool to work or school. A small existing park and ride north of SR 531 at the I-5 interchange made largely inaccessible by recent access controls will be relocated and expanded as part of the SR 531 interchange improvement.

### D.A.R.T. Paratransit

Dial-A-Ride Transportation (D.A.R.T.) provides services to individuals who have disabilities and/or the elderly who are unable to access fixed-route services. Service is provided by the Snohomish County Senior Services and is available seven days per week. Service is available to all origins and destinations within ¾-mile of local bus routes.

### Vanpool Program

Community Transit operates a vanpool program serving commuter groups with an origin or destination in Snohomish County. The program offers support to forming and operating vanpool groups. The support includes providing vehicles, driver orientation, vehicle maintenance, and assistance in forming vanpool groups for daily commuters. Community Transit currently operates a fleet of over 300 vehicles including 8, 12 and 15 passenger vans.

**Table 4. Transit Service Routes (2007)**

| Route Number | Route Description  | Weekday Service | Weekend Service   | Average Weekday Boardings (2007) |
|--------------|--|-----------------|-------------------|----------------------------------|
| 200          | Fixed local route including Everett Station, Lynnwood, and Aurora Village.   | Yes             | No                | 244                              |
| 201          | Fixed local route including the Lynnwood TC, Ash Way P&R, Mariner P&R, Everett Station, Marysville, and Stillaguamish SC.  | Yes             | Saturday & Sunday | 1,824                            |
| 202          | Fixed local route including Everett Station, Marysville, Smokey Point Mall, and Stillaguamish SC.                          | Yes             | Saturday & Sunday | 727                              |
| 207          | In-County commuter route including Smokey Point Mall, Marysville, and Boeing.  | Yes             | No                | 51                               |
| 221          | Fixed local route including Lake Stevens, Marysville, and Quil Ceda Village.   | Yes             | Saturday & Sunday | 261                              |
| 222          | Fixed local route including Marysville, Quil Ceda Village, and Tulalip.  | Yes             | Saturday & Sunday | 371                              |
| 227          | In-County commuter route including Arlington, Arlington P&R, Smokey Point Community Church P&R, Marysville, and Boeing.    | Yes             | No                | 57                               |
| 230          | Fixed local route including Smokey Point Mall, Cascade, Arlington, and Darrington.   | Yes             | Saturday & Sunday | 59                               |
| 240          | Fixed local route including Arlington, Cascade Hospital, Smokey Point Mall, Lake Goodwin Resort, Stanwood, and Stanwood SC | Yes             | Saturday & Sunday | 377                              |
| 247          | In-County commuter route including Stanwood, Marysville, and Boeing.   | Yes             | No                | 216                              |
| 421          | Inter-County commuter route including Marysville and the Seattle CBD.  | Yes             | No                | 471                              |
| 422          | Inter-County commuter route including Stanwood, Marysville, and the Seattle CBD.   | Yes             | No                | 177                              |
| 821          | University District route including Marysville and the University District.  | Yes             | No                | 116                              |

Route data and descriptions from the Community Transit System Performance Report – August 2007 Executive Summary

**Table 5. Marysville Park & Ride Lot Utilization (2007)**

| Facility              | Location                          | Stalls | % Used |
|-----------------------|-----------------------------------|--------|--------|
| Marysville Ash Avenue | 6 <sup>th</sup> Street/Ash Avenue | 202    | 87%    |
| Marysville (North)    | 116 <sup>th</sup> Street NE/I-5   | 70     | 99%    |
| Marysville (South)    | 2 <sup>nd</sup> Street/Ash Avenue | 74     | 47%    |

1. Source: Community Transit System Performance Report, August 2007.





## **Rideshare Services**

Through its rideshare program, Community Transit offers assistance to travelers interested in sharing their commute in a carpool or vanpool.

Community Transit offers free emergency transportation to ridesharing employees who are registered with their employer's Commute Trip Reduction program. Guaranteed Ride Home (GRH) provides up to 65 miles of free taxi service (one-way) to provide transportation to ridesharing employees when emergencies or unforeseeable situations arise during the workday.

## **Commute Trip Reduction (CTR) Plan**

The City has adopted a Commute Trip Reduction Plan defined in Chapter 11.52 of the Municipal Code. All “affected employer” within the City (100 or more full-time employees at a single worksite) must develop and implement a CTR program that will encourage its employees to reduce VMT per employee and SOV commute trips. Each employer’s CTR program shall include the following mandatory elements: designation of a Transportation Coordinator; distribution of information about alternatives to SOV commuting; annual progress report.



## B. Travel Forecasts and Alternatives Evaluation

In addition to addressing existing needs, the City must develop its transportation system to accommodate forecast growth. The GMA requires that the transportation planning horizon be at least ten years in the future. For the 2008 update, the City decided that a longer-range horizon should be used and selected 2035 as the forecast year for the Transportation Element. The longer-range horizon year allows the City to better plan for and size transportation facilities that will be needed as the City grows. The transportation improvement projects are grouped into short (2008-2015), mid-range (2016-2025), and long-range (2026-2035) time frames to help guide implementation of the plan.

The City's travel forecasting model was updated and expanded to better support the City's transportation planning efforts. The travel demand model provides a tool for forecasting long-range traffic volumes based on the projected growth in housing and employment. The model is also useful in evaluating transportation system alternatives.

### Land Use Forecasts

Travel forecasts are largely derived based on changes in households and employment within the study area. In addition, the travel forecasts must incorporate growth in the volume of traffic entering and exiting the greater Marysville area. More detailed assumptions for land use growth and "external" traffic growth are available in the *City of Marysville Travel Demand Model Documentation*, The Transpo Group, 2008.

As stated above, the Transportation Element has a 2035 planning horizon, whereas the Land Use Element has a 2025 planning horizon. However, the population and employment targets are consistent with the Marysville Comprehensive Plan, Development Regulations and Final Environmental Impact Statement.

The Land Use Element of the Marysville Comprehensive Plan outlines a low, medium and high population growth target range. The high range of the 2025 population growth target for the UGA is 86,490 people. The projected population for 2025 is approximately 31,500 people more than the 2006 estimated population of the Marysville UGA.

As outlined below, it is estimated that an additional 18,000 households are expected within the UGA in Year 2035. Using an average of 2.6 people per household (taken from the 2000 Census), the 2035 population estimate projects an increase of approximately 46,800 people. Although this population estimate is more than the population growth target range outlined in the Land Use Element, it remains consistent with it.

The annual rate of growth in the transportation element is 2.3 percent, which is slightly less than the rate of growth in the Land Use Element. Subsequently, the annual increase in the population estimate contained in the Transportation Element will be the same or slightly less than the 2025 population estimate in the Land Use Element. Furthermore, since the Transportation Element follows the same trend, the 2035 estimate will be consistent with the natural progression, and future updates of the Marysville Comprehensive Plan.

The following summarizes the overall projected growth in households and employment that were used in forecasting the 2035 travel demands.

## Household Growth

**Figure 8** shows the projected household growth in Marysville and surrounding communities. Overall, the number of households in the study area is projected to grow by 41,000, or an increase of nearly 80 percent. This is equivalent to a 2.1 percent annual growth rate. The City of Marysville and its Urban Growth Area (UGA) are forecast to grow by nearly 18,000 households. This is nearly 90 percent higher than the estimate of 2007 households. Growth in the City and its UGA is forecast to average 2.3 percent per year.

As shown in **Figure 8**, housing in the south and east parts of Marysville is projected to grow the fastest, accommodating nearly 50 percent of the growth in housing. These areas are projected to grow from 4,900 to over 13,000 households by 2035. The City recently completed a Master Plan for the Sunnyside-Whiskey Ridge subarea which is within the south and east Marysville district shown on **Figure 8**.

The remaining growth in households in the City and its UGA would be fairly evenly divided between north and central Marysville. Approximately 5,300 new dwelling units are forecast for north Marysville. The number of households in central Marysville would increase by approximately 4,200 dwelling units between 2007 and 2035.

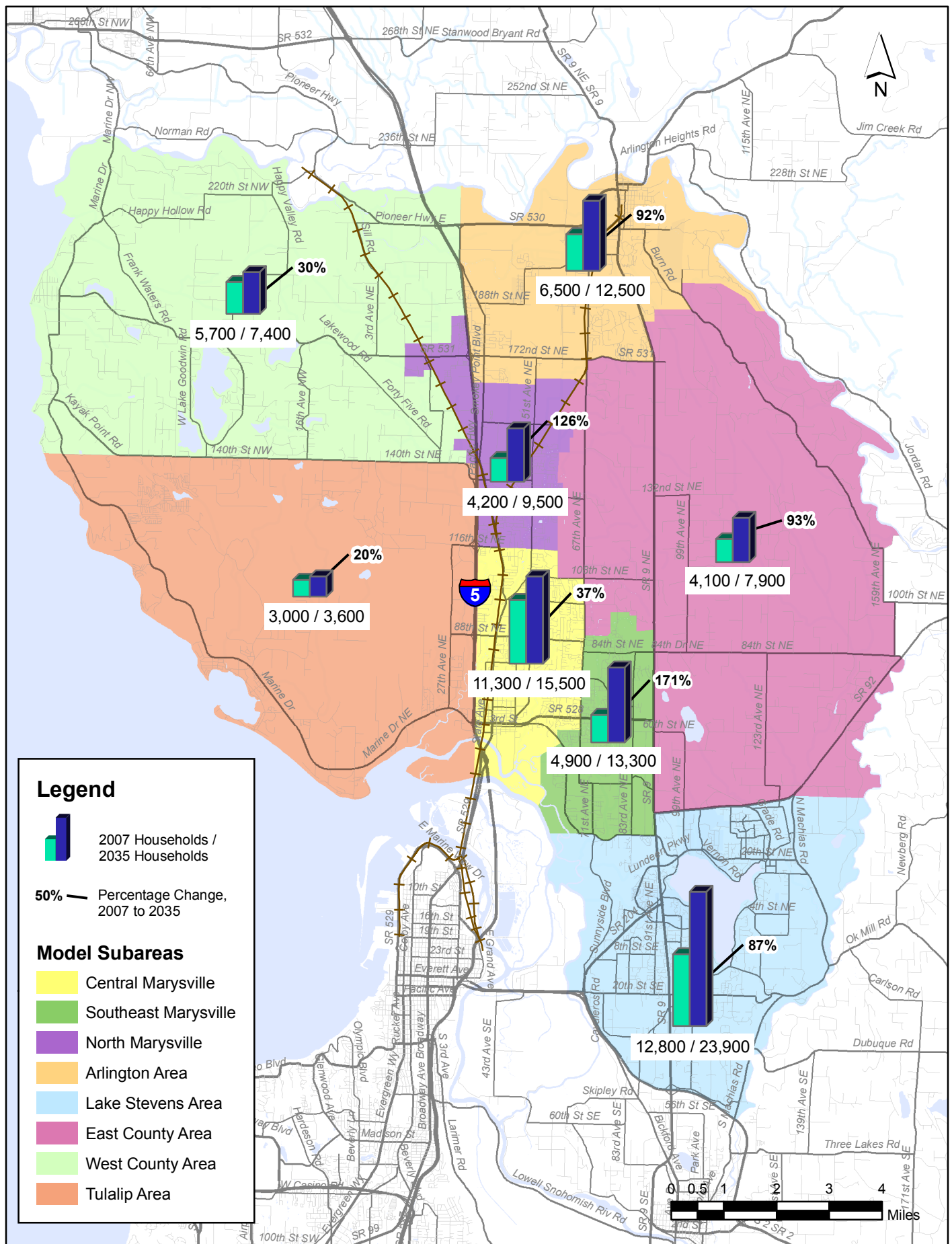
Significant growth in housing is also forecast in the Cities of Lake Stevens and Arlington. Growth in these other communities also affects the transportation system needs in Marysville. Approximately 11,000 additional housing units were assumed to be constructed between 2007 and 2035 in or near the City of Lake Stevens. This represents nearly a doubling of the number of 2007 households by 2035. The number of households in the Arlington area also would nearly double, from 6,500 to 12,500 during the 28 year period. The number of households in the unincorporated part of Snohomish County between the Marysville UGA and Granite Falls is also forecast to nearly double by 2035. This area will add nearly 4,000 households which will affect traffic forecasts and improvement needs.

Household growth on the Tulalip reservation and in other County areas west of I-5 is forecast to be more moderate. Combined, these two areas are projected to grow by approximately 2,300 additional households, representing a growth of 20 to 30 percent between 2007 and 2035.

## Employment Growth

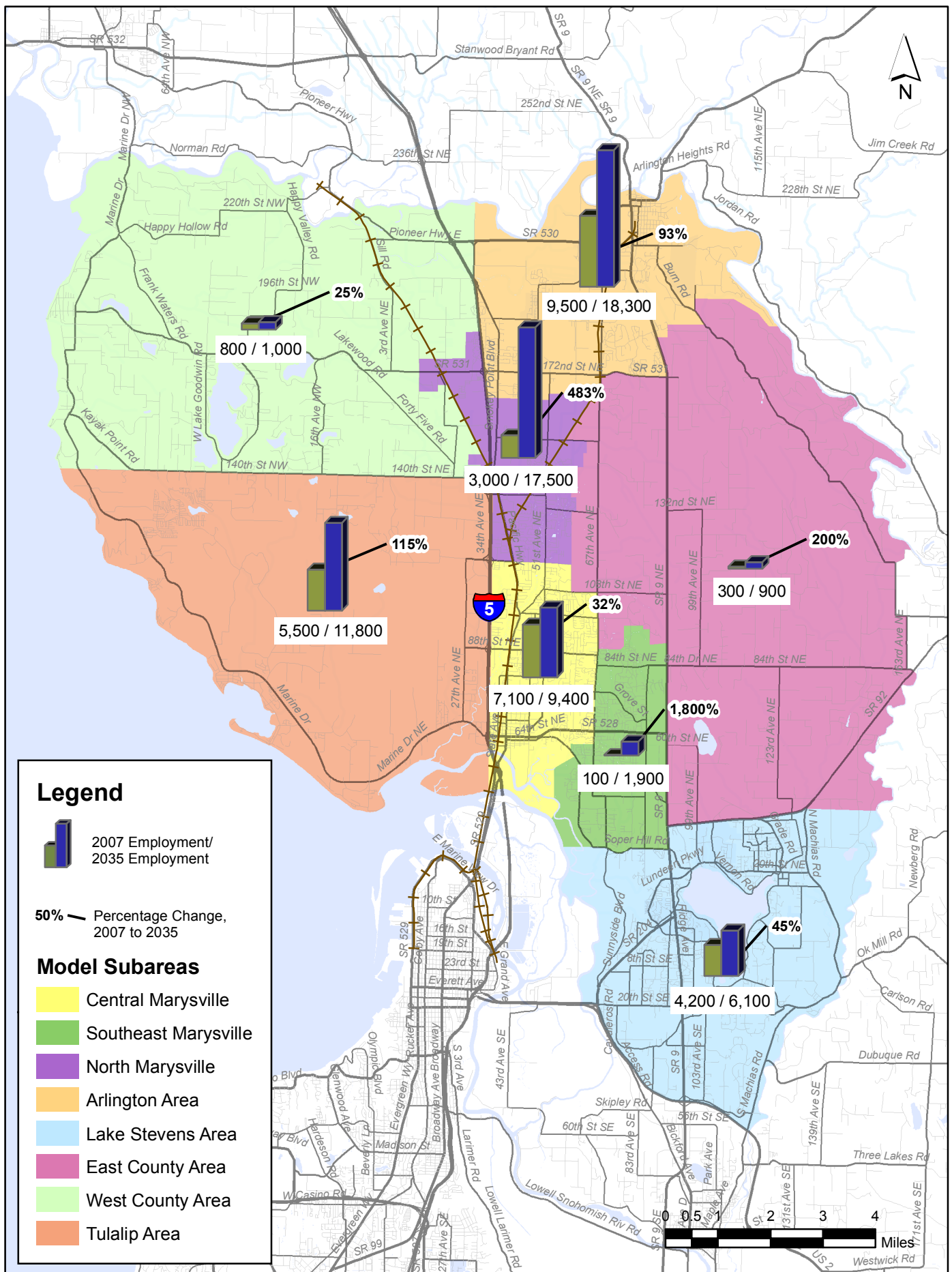
**Figure 9** summarizes the forecast growth in employment used in developing the 2035 travel forecasts. The number of jobs in the travel demand model study area is forecast to increase by 120 percent – from 30,500 employees in 2007 to nearly 67,000 employees in 2035. The bulk of the employment growth will occur within Marysville, Arlington, and the Tulalip reservation. Employment within the Arlington area is projected to nearly double, growing from 9,500 to 18,300 jobs by 2035. The north Marysville area also is expected to have significant growth in jobs, with over 14,000 additional employees. The City of Marysville has been preparing subarea Master Plans for these areas during the past several years. Combined, the Arlington and north Marysville areas account for nearly two-thirds of the forecast growth in employment within the overall model study area.

The number of jobs within the Tulalip reservation is forecast to grow significantly between 2007 and 2035. Over 6,000 additional jobs, reflecting an increase of 115 percent, are assumed for the Tulalip area west of I-5.



**Figure 8**  
Forecast Housing Growth 2007 - 2035

City of Marysville Transportation Element 2008



**Figure 9**  
Forecast Employment Growth 2007 - 2035

## 2035 Baseline and Alternatives Evaluation

The updated travel forecasting model was used to convert the existing (2007) and forecast (2035) land use data into travel demands. The 2007 data were used to calibrate and validate the model. The 2035 model was used to forecast traffic volumes and travel patterns.

The 2035 forecast model was initially set up assuming currently committed and planned transportation improvement projects would be constructed by 2035. This scenario provides a baseline for identifying potential alternative transportation improvement needs. The results of the alternatives evaluation were used to establish a framework for the Transportation Systems Plan.

### 2035 Baseline Evaluation

The 2035 baseline model was developed based on capacity improvement projects identified in prior plans and project lists prepared by WSDOT, Snohomish County, the City of Marysville, the other adjacent cities, and the Tulalip Tribe. Some of these improvements are funded or are expected to be funded in the next few years. Other improvements were considered long-term commitments based on plans and, therefore, were assumed complete by 2035 for the baseline analyses.

The 2035 baseline forecasts assume that 88th Street NE would be widened to a 4 to 5 lane arterial and connected to SR 9 via Ingraham Road. Even with the assumed widening, the 2035 forecasts showed that some sections of the 88th Street NE corridor west of 67th Avenue NE would likely be over-capacity. In addition, the forecasts showed diversion of traffic between State Avenue and 55th Avenue NE to 84th Street NE as well as other corridors, due to delays on 88th Street NE. A focus of the alternatives evaluation was on identifying strategies to reduce the need for a 4 to 5 lane arterial in the 88th Street NE corridor.

The 2035 baseline forecasts also showed:

- Significant levels of congestion on 4th Street (SR 528) east of I-5
- Several downtown streets would be impacted by traffic diverting from 4th Street (SR 528) due to congestion
- Sunnyside Boulevard would require 4 to 5 lane travel lanes between downtown Marysville to just south of 52nd Street NE
- Sections of SR 9 will be over capacity, especially just south of SR 528
- Sections of Grove Street, east of 51st Avenue NE, are forecast to be over capacity
- 51st and 67th Avenues NE would require turn lanes to accommodate the higher volumes on these north-south arterials
- Intersection improvements will be required to address delays and congestion in several other locations



## Alternatives Evaluation

Based on the results of the 2035 baseline forecasts, several alternatives were defined and evaluated. These are shown on **Figure 10**. The alternatives largely focused on strategies to reduce or eliminate the need to widen 88th Street NE to 4 to 5 lanes. In order to reduce the need for widening of 88th Street NE to 4 to 5 lanes, the potential extension of 116th Street NE was evaluated. 116th Street NE provides an alternative access to/from I-5, which may be able to divert some traffic away from the 88th Street NE corridor. The 116th Street NE corridor extension was evaluated with different eastern termini, ranging from 51st Avenue NE to east of 67th Avenue NE. In addition, possible extension of 80th Street NE was considered as a potential way to shift traffic out of the 88th Street NE corridor.

The 2035 baseline system assumed completion of a new interchange with I-5 at 156th Street NE. The alternatives evaluation also tested conditions without the new interchange to assess the potential traffic shifts to other arterials. This was especially important in the evaluation of the extension of 116th Street NE.

Another major alternative is a potential downtown bypass route. The bypass was defined as a possible way to address the congestion on 4th Street (SR 528) in downtown Marysville and to provide a more direct connection between SR 529 and southeast Marysville. The potential for the bypass to reduce diversion of traffic to other downtown streets also was evaluated.

Completion of 51st Avenue NE between 84th and 88th Streets NE also was evaluated in developing the transportation systems plan. This missing arterial link currently results in traffic diverting through adjacent neighborhoods.

The following summarizes key findings from the alternatives evaluation which were used to establish the framework for the Transportation Element.

### *88th Street NE Widening*

The most significant long-range transportation issue for Marysville is east-west traffic flows connecting to/from I-5. East-west travel through the City is limited by topography and drainage basins. The alternatives evaluation concluded that extension of 116th Street NE and providing only three lanes on 88th Street NE would not resolve this major capacity need. Travel associated with the commercial growth west of I-5 and residential growth east of I-5 would not readily shift to an extension of the 116th Street NE corridor due to the longer travel distance and time. In addition, the costs for extending 116th Street NE and widening 88th Street NE to three lanes would be significantly greater (\$15 - \$20 million more) than widening 88th Street NE to five lanes without the extension of 116th Street NE.

Extending 80th Street NE to connect to 60th Avenue NE would help reduce congestion on 88th Street NE. However, under this option, 88th Street NE would still need to be widened to five lanes between 60th and 67th Avenues NE. The extension of 80th Street NE to 60th Avenue NE would increase the total costs to achieve the same capacity as widening 88th Street NE to five lanes. Furthermore, unlike 88th Street NE, the 80th Street NE corridor does not provide a direct connection to I-5.



### ***I-5/156th Street NE Interchange***

The alternatives analyses concluded that the proposed new interchange at I-5/156th Street NE is a very important element of the City's future transportation system. The interchange is needed to serve the increased travel demands associated with the significant growth in employment in north Marysville and Arlington. The new interchange serves growth on both sides of I-5. Without the interchange, the existing interchange at 172nd Street NE (SR 531) would be well over capacity.

### ***51st Avenue NE***

Completion of 51st Avenue NE between 84th and 88th Streets NE will complete a continuous north-south arterial corridor. Completion of the missing link did not significantly increase the overall traffic to the corridor. Without the connection, traffic will continue to use the corridor, diverting to local streets to connect between 88th and 84th Streets NE. Therefore, the connection is primarily needed to reduce traffic impacts in the adjacent neighborhoods.

### ***Downtown Bypass***

The downtown bypass was assumed to connect between the intersections of 1st Street/ State Avenue and 47th Avenue NE/Sunnyside Boulevard. A specific alignment has not been established, but conceptual alignments are being evaluated as part of the City's Downtown Master Plan. The new corridor was found to greatly reduce traffic congestion on 4th Street (SR 528) within downtown and the associated traffic diversion to other downtown streets. The downtown bypass does not, however, result in any significant traffic shifts away from other key corridors, such as 88th Street NE.

## **Plan Framework**

Based on the baseline and alternatives evaluation, the City established a framework for its long-range highway and street system. The framework builds from the City's prior Comprehensive Plan and Subarea Plans, as well as other agency transportation improvement programs. Key elements of the framework plan include:

- Widening and extending 88th Street NE to 4 to 5 lanes between State Avenue and SR 9.
- Implementing a downtown bypass route to connect between 1st Street/ State Avenue and 47th Avenue NE/Sunnyside Boulevard; the specific alignment is still to be determined.
- Widen Sunnyside Boulevard to 4 to 5 lanes between 47th Avenue NE to south of 52nd Street NE; the Sunnyside Boulevard/Soper Hill Road corridor would be three lanes between south of 52nd Street NE and SR 9.
- A new 40th Street NE corridor will be developed between Sunnyside Boulevard and the SR 9/SR 92 intersection, per the Sunnyside-Whiskey Ridge Subarea Plan. The City is pursuing a break-in-access to allow the new connection to SR 9 at SR 92.



- State Avenue will need to be widened to five lanes between 100th Street NE and 152nd Street NE to add capacity to the corridor.
- A new north-south arterial is needed on the west side of I-5 in the north part of the City. It would connect 140th Street NE with 172nd Street NE (SR 531) and serve growth in the Triangle Subarea. It also would connect with the new 156th Street NE corridor to provide an alternative access to I-5.
- A new five-lane, east-west principal arterial route will be developed in the 156th/152nd Street NE corridor. It would connect to the new north-south arterial west of I-5 and 67th Avenue NE. Right-of-way for potential extension of the corridor east to SR 9 is also recommended to be preserved.
- A new interchange should be constructed at I-5/156th Street NE to serve extensive growth in north Marysville and Arlington.
- 51st Avenue NE should be connected between 88th and 84th Streets NE to complete the north-south corridor. A collector road system will need to be constructed to serve the employment growth in the Smokey Point area.
- Additional connector roads will be needed to improve circulation and reduce traffic impacts on the arterial system.

## C. Transportation Systems Plans

The transportation systems plans provide the blueprint for improvement projects and programs to meet the multi-modal transportation needs of the community. The transportation systems plans are based on the evaluation of existing system deficiencies and forecasts of future travel demands. The improvement projects and programs must be balanced with the availability of funding, as discussed in the next section. The systems plans build on the prior Comprehensive Plan, the subarea master plans, input from stakeholders, and the updated evaluation of existing and forecast conditions in Marysville.

The transportation systems plans are organized and presented by travel mode to provide an overview of key components of each element. However, the plans are integrated to create a multi-modal transportation system. For example, improvements along arterial streets and highways also incorporate appropriate non-motorized improvements. The non-motorized systems were defined to support access to transit, and to provide alternatives to automobile travel within the City. As improvement projects move toward implementation, the City will conduct detailed design studies, supported with project-level environmental review, and input from the public and other stakeholders.

The plans illustrate how the City of Marysville's transportation system supports, and relies on, transportation facilities and programs provided by other agencies. These include new or improved interchanges with I-5, consistency of the arterial and collector road system, connectivity of trails and non-motorized transportation systems, additional transit service and facilities, and rideshare programs. The City will continue to coordinate with WSDOT, Snohomish County, adjacent cities, the Tulalip Tribes, and Community Transit to develop a comprehensive multi-modal transportation system for the greater Marysville area.

### Streets and Highways

Streets and state highways are the core of the transportation system serving the City of Marysville and surrounding communities. They provide for the overall movement of people and goods, for a wide range of travel modes. Streets and highways serve automobile trips, trucks, transit, vanpools, carpools, and the majority of bicycle and pedestrian travel. Therefore, the streets and highways establish the framework for the overall transportation system for the City.

The core of the street and highway system includes arterials and collectors. The City also has designated specific corridors as truck routes, which can affect the design features of specific improvement projects. The arterial system is supported by future connector roads to provide circulation and connectivity of the overall system.

### Arterial and Collector Classifications

Roadways within a network are typically classified based on their desired purpose, design, and function. **Table 6** describes typical roadway functional classifications.

**Table 6. Functional Classifications**

| Classification     | Description   |
|--------------------|---|
| Freeway            | Multi-lane, high speed, high-capacity roadway generally intended exclusively for motorized traffic. Freeways have controlled access and are intended to serve longer, regional intra-state or interstate travel.  |
| Principal Arterial | Principal arterials connect focal points of traffic generation throughout the City and adjacent areas. They are used to provide access to the regional highway system, connect major community centers and connect to adjacent cities. These streets are intended to primarily serve "through" traffic with limited access to abutting land use. Principal arterials typically carry the highest traffic volumes.                         |
| Minor Arterial     | Minor arterials are inter-community roadways that connect community centers with each other or to principal arterials or freeways. Minor arterials serve lesser points of traffic generation, and provide greater land access than principal arterials. Generally, minor arterials have moderate to high traffic volumes and may include some restriction of traffic movements and limitations on spacing of driveways and local streets. |
| Collectors         | Collectors distribute traffic between the local street system and the arterial street system. They provide land access as well as connections between neighborhoods and smaller community centers. Collectors typically have low to moderate traffic volumes and limited regulation of access control. On-street parking is usually limited.  |
| Local Streets      | Local streets primarily provide direct land access and generally discourage through traffic. These streets typically have low to moderate traffic volumes and few access controls. On-street parking is generally allowed.  |

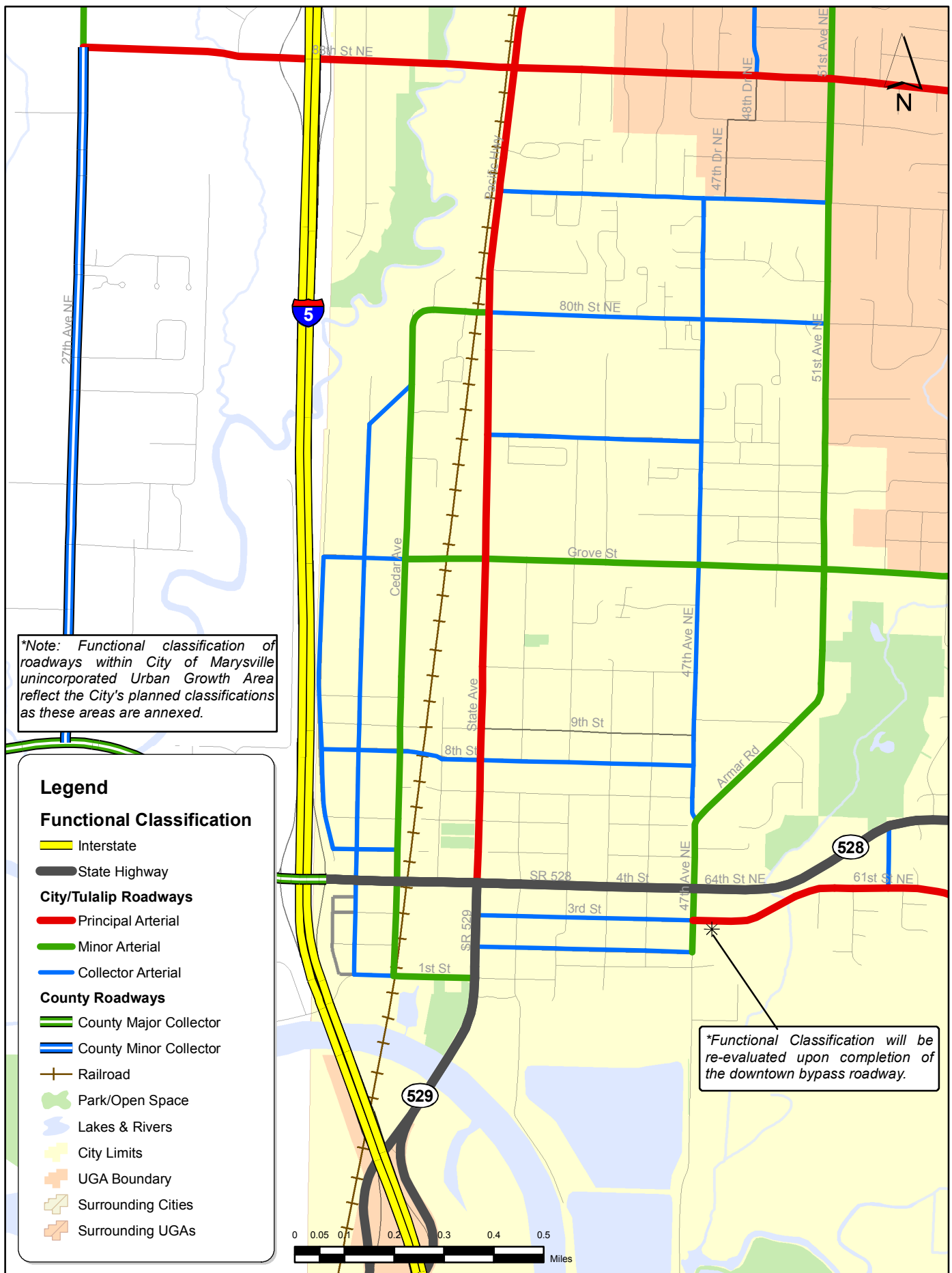
The general hierarchy of functional classification is based on the relationship between the function of the roadway and the surrounding land uses and the relationship between mobility and access. For example, commercial developments will generally desire to locate along arterials or collectors due to a high amount of mobility and visibility. Likewise, it is desirable to have parks, schools, and residential homes located along collector or local streets due to lower traffic volumes and a high degree of access.

The following figure illustrates the relationship between mobility and access using examples of streets within the City of Marysville.

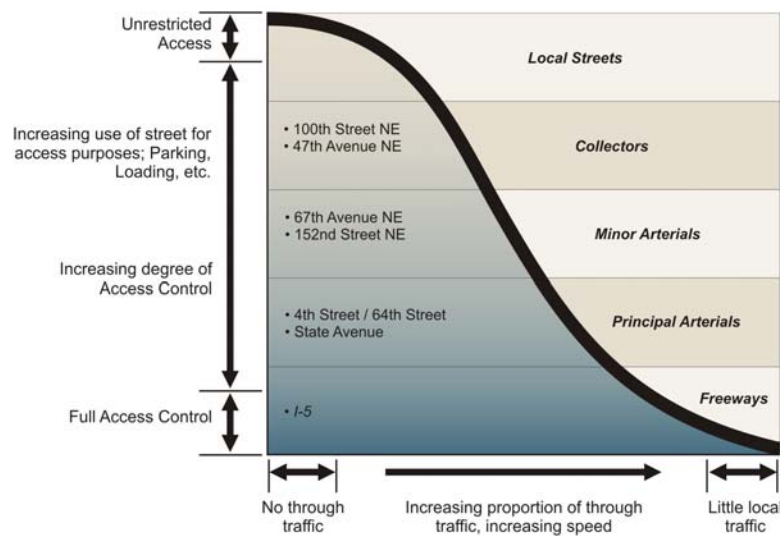
**Figures 11 and 12** show the functional classification for streets within the City of Marysville within the City's designated Urban Growth Area (UGA). The functional classifications within the unincorporated UGA reflect the City's planned classifications as these areas are annexed. In addition, the figures show how the City's arterial classifications connect with and support the surrounding regional transportation system.

The functional classifications incorporate changes identified in recent subarea master plans. The functional classification also reflects the analysis of the longer-range needs to serve growth through 2035.





**Figure 12**  
Roadway Functional Classification - Downtown Area



Functional Classification Level of Mobility Relationship  
between Mobility and Access

## Truck Routes

The City of Marysville has a significant level of truck activity. With the increased commercial and employment growth forecast through 2035, the level of truck activity will also increase.

The state of Washington classifies the most significant truck routes based on the tonnage of freight carried on streets and highways. The State's Freight and Goods Transportation System (FGTS) classifies state highways, county roads, and city arterials carrying 4 million or more tons per year as Strategic Freight Corridors. The FGTS is used in evaluating funding priorities, pavement needs and upgrades, and traffic management. The following corridors in the greater Marysville area are designated as part of a Strategic Freight Corridor:

- I-5
- SR 529 (Everett to I-5)
- SR 531 (Approximately 51st Street NE to I-5)
- SR 9 (Woodinville to SR 530)
- SR 92 (SR 92 to Granite Falls)
- 84th Street NE (SR 9 to SR 92)

In order to systematically address the needs of truck travel, the City has adopted a defined system of truck routes. The truck route system will continue to be evaluated as the City develops and areas are annexed.

The primary north-south truck route is State Avenue/Smokey Point Boulevard, including SR 529 to/from Everett. The section of State Avenue between 2nd Street and Grove Street is not part of the designated truck route due to physical constraints. Cedar Avenue serves as the connecting truck route between 1st Street and Grove Street. In the east part of the City, 67th Avenue NE is a designated north-south truck route from 64th Street NE (SR 528) to the north City limits.

East-west truck routes include the 4th/64th Street NE (SR 528) corridor between I-5 and SR 9. In addition, east-west truck routes are designated for sections of 88th Street NE, 116th Street NE, and the 156th/152nd Street NE corridor. These corridors all provide, or are planned to provide, access with an interchange with I-5. As the 88th Street NE corridor is upgraded and connected directly to SR 9, it will become a predominant truck route because it connects 84th Street NE, which is designated as a Strategic Freight Corridor by the State.

The Smokey Point and Lakewood subareas are planned for significant commercial activity. This commercial growth will require additional truck routes. These would include the planned arterials and collector roads between 152nd and 172nd Streets NE east of Smokey Point Boulevard. In addition, the 136th Street NE corridor, which connects Smokey Point Boulevard to 51st Avenue NE, also will serve truck movements in the north part of the City. The proposed north-south arterial connecting 172nd Street NE (SR 531) to 140th Street NE will serve as a key truck route west of I-5. 172nd Street NE (SR 531) will also be a truck route from the west City limits to I-5. In addition to these major corridors, the City can designate other collectors and connector roads, as appropriate, to serve these developing commercial areas.

### ***Connector Roads***

In addition to the classified arterials, the City recognizes the need for additional connector roads. The connector roads are needed to facilitate property access, circulation, and connectivity of the roadway system. Connector roads are needed to fill in gaps in the existing system, as well as serve the growth projected for the City.

**Figure 13** shows the general locations of planned connector roads, including future arterial routes. Specific alignments have not been identified for the planned connector roads. The alignments will be defined as part of future corridor studies or as adjacent properties are developed. Some of the other planned connector roads also may be classified as arterials in the future, depending on specific design and access requirements at the time the corridor is developed.

## **Transportation Improvement Projects and Programs**

The City has identified a comprehensive list of multi-modal transportation system improvement projects and programs. The multi-modal improvement projects address transportation needs within the existing City limits. It also identifies improvement projects within the City's unincorporated UGA needed to serve future growth within the area as it is annexed. Improvements under other jurisdictions include previously identified projects as well as potential improvements identified by the City of Marysville. The City will continue to coordinate with the other agencies in their transportation planning efforts to facilitate development of a comprehensive transportation system for the City and surrounding communities. The projects were categorized as follows:

- **New Construction** – constructing a new arterial or collector road, including appropriate non-motorized facilities.







- **Major Widening** – widening an existing corridor to add through travel lanes and turn lanes to increase capacity. Appropriate non-motorized improvements would be incorporated.
- **Minor Widening and Reconstruction** – reconstructing and upgrading roadways to serve higher traffic volumes and non-motorized travel. May include addition of turn lanes at intersections or construction of a center, two-way left-turn lane.
- **Non-motorized Improvements** – projects that primarily focus on upgrading or completing bicycle and/or pedestrian facilities.
- **Interchange** – includes construction of new or modifying existing interchanges with I-5.
- **Intersection** – upgrading an intersection through addition of turn lanes and/or modification of traffic controls (traffic signal, stop signs, etc.). Also includes a program to enhance traffic signal operations through implementation of an Intelligent Transportation System (ITS) program for the City.
- **Programs** – The City has an extensive maintenance and operations (M&O) program to preserve the various components of the transportation system. The M&O program covers general administration, roadway and storm drainage maintenance, street lighting, sidewalk maintenance and constructing traffic signals and signs, street cleaning, and safety programs.

Each of the projects have been assigned a likely timing horizon of short-range (2008-2015), mid-range (2016-2025), and long-range (2026-2035). The timing blends the relative priority of each project with the likely timing to be able to fund, design, and construct an improvement project. For example, while constructing a new interchange at 156th Street NE/I-5 is a high priority, it is not reasonable to be funded and constructed by 2015 based on current funding programs. The timing horizon also takes into consideration the availability of funding, which is presented in the next section of the Transportation Element.

Planning level cost estimates were prepared for each project. The planning level cost estimates are based on typical unit costs for different project types. The cost estimates also account for potential right-of-way acquisition, and engineering design. Costs of specific needs such as a bridge or major power lines are also incorporated, at a planning level. All of the cost estimates are reported in 2008 dollars.

**Tables 7, 8, and 9** summarize projects by short-range (2008-2015), mid-range (2016-2025), and long-range (2026-2035), respectively. These are illustrated on **Figures 14, 15, and 16**, respectively.

**Table 7. Short-Range (2008 - 2015) Improvement Projects**

|                                   | Project Name                                    | Project Limits                     | Project Description  | Project Cost (\$) <sup>1</sup>  |
|-----------------------------------|---|------------------------------------|--|---------------------------------|
| New Roadway                       | Ingraham Blvd                                   | 68th Ave NE to 74th Ave NE         | Construct 4/5 lane arterial including bicycle and pedestrian facilities.   | 5,585,000                       |
|                                   | Ingraham Blvd                                   | 81st Ave NE to 83rd Ave NE         | Construct 4/5 lane arterial including bicycle and pedestrian facilities.   | 2,057,000                       |
|                                   | 40th St NE                                      | 83rd Ave NE to SR 9                | Construct 4/5 lane arterial including pedestrian facilities.   | 18,000,000                      |
|                                   | Lakewood Triangle Access                        | Twin Lakes to State Ave            | Construct 4/5 lane arterial including bicycle and pedestrian facilities. Project includes I-5 overcrossing at 156th St NE and connects Twin Lakes Blvd. and State Ave. Project can be built in phases. | 20,170,000                      |
|                                   | <b>New Roadway Sub-Total</b>                    |                                    |  | <b>\$45,812,000</b>             |
| Major Widening                    | SR 528  | Allen Creek to East of 67th Ave NE | Widen to 4/5 lane arterial including pedestrian facilities.  | 524,000                         |
|                                   | 84th St NE                                      | 83rd Ave NE to SR 9                | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.  | 4,227,000                       |
|                                   | State Ave <sup>2</sup>                          | 136th St NE to 152nd St NE         | Widen to 4/5 lane arterial including pedestrian facilities.  | 10,781,000                      |
|                                   | <b>Major Widening Sub-Total</b>                 |                                    |  | <b>\$15,532,000</b>             |
| Minor Widening/<br>Reconstruction | 40th St NE                                      | Sunnyside Blvd to 83rd Ave NE      | Reconstruct and widen to 2/3 lanes, and construct missing segments for 2/3 lane arterial including pedestrian facilities.  | 13,100,000                      |
|                                   | 152nd St NE                                     | Smokey Point Blvd to 43rd Ave NE   | Reconstruct to urban arterial standards including bicycle and pedestrian facilities.   | 1,944,000                       |
|                                   | <b>Minor Widening/ Reconstruction Sub-Total</b> |                                    |  | <b>\$15,044,000</b>             |
| Non-Motorized                     | Cedar Ave                                       | 1st St NE to 80th St NE            | Convert street from 4 lanes to 3 lanes with bicycle facilities; restripe road segment for bicycle facilities south of 4th St NE.   | N/A <sup>5</sup>                |
|                                   | 47th Ave NE                                     | 7th St to 10th St                  | Construct sidewalks where needed.  | 946,000                         |
|                                   | 53rd Ave NE                                     | SR 528 to Sunnyside Blvd           | Construct bicycle and pedestrian facilities.   | 505,000                         |
|                                   | 47th Dr NE                                      | 85th Pl NE to 84th St NE           | Construct sidewalks where needed.  | 297,000                         |
|                                   | <b>Non-Motorized Sub-Total</b>                  |                                    |  | <b>\$1,748,000</b>              |
| Intersection Improvements         | Grove St & Alder Ave (43rd Ave NE)              | Intersection                       | Install traffic signal.  | 200,000                         |
|                                   | 88th St NE & State Ave                          | Intersection                       | Add thru lanes, turn lanes, and modify traffic signal.   | 895,000                         |
|                                   | SR 528 & State Ave                              | Intersection                       | Construct turn lane(s) and modify traffic signal.  | 1,085,000                       |
|                                   | 40th St NE & 71st Ave NE                        | Intersection                       | Construct turn lane(s) and install traffic signal when warranted.  | 946,000                         |
|                                   | SR 9 & SR 92                                    | Intersection                       | Construct turn lane(s) and modify traffic signal.  | 300,000                         |
|                                   | SR 528 & 67th Ave NE                            | Intersection                       | Intersection improvements included as part of an associated roadway widening project.  | Cost is part of roadway project |
|                                   | 40th St NE & 83rd Ave NE                        | Intersection                       | Intersection improvements included as part of an associated roadway widening project.  | Cost is part of roadway project |
|                                   | Jennings Park Entrance Improvements             | Intersection                       | Realign Jennings Park Entrance driveway with 53rd Ave NE, and install traffic signal when warranted.   | 465,000                         |
|                                   | Grove St & 67th Ave NE                          | Intersection                       | Construct turn lane(s).  | 180,000                         |
|                                   | 40th St & Sunnyside Blvd                        | Intersection                       | Construct turn lane(s) and install traffic signal when warranted.  | 893,000                         |
|                                   | SR 528 & 83rd Ave NE                            | Intersection                       | Construct turn lane(s) and install traffic signal when warranted.  | 1,232,000                       |
|                                   | SR 528 & 87th Ave NE                            | Intersection                       | Construct turn lane(s) and install traffic signal when warranted.  | 1,263,000                       |
|                                   | SR 528 & 60th Dr NE                             | Intersection                       | Intersection improvements included as part of an associated roadway widening project.  | Cost is part of roadway project |
|                                   | 172nd St NE & 27th Ave NE                       | Intersection                       | Construct turn lane(s) and modify traffic signal.  | 1,098,000                       |
|                                   | 152nd St NE & 51st Ave NE                       | Intersection                       | Construct turn lane(s) and install traffic signal when warranted.  | 1,483,000                       |
|                                   | 156th St NE & Smokey Point Blvd                 | Intersection                       | Construct turn lane(s) and install traffic signal when warranted.  | 1,385,000                       |
|                                   | 152nd St NE & Smokey Point Blvd                 | Intersection                       | Intersection improvements included as part of an associated roadway widening project.  | Cost is part of roadway project |
|                                   | 136th St NE & Smokey Point Blvd                 | Intersection                       | Intersection improvements included as part of an associated roadway widening project.  | Cost is part of roadway project |

**Table 7. Short-Range (2008 - 2015) Improvement Projects Continued**

|                           | Project Name                              | Project Limits | Project Description   | Project Cost (\$) <sup>1</sup> |
|---------------------------|---|----------------|---|--------------------------------|
| Intersection Improvements | 116th St NE & State Ave                   | Intersection   | Construct turn lane(s), modify traffic signal, add second WB thru lane, and extend EB right-turn lane.  | 1,518,000                      |
|                           | 88th St NE & 51st Ave NE                  | Intersection   | Construct turn lanes and install traffic signal when warranted. Short term fixes include the addition of a EB left turn lane and traffic signal.  | 1,326,000                      |
|                           | 88th St NE & 55th Ave NE                  | Intersection   | Construct turn lanes and install traffic signal when warranted. Short term fixes include the addition of a EB left turn lane and traffic signal.  | 990,000                        |
|                           | SR 528 & 47th Ave NE <sup>3</sup>         | Intersection   | Intersection improvements included as part of an associated roadway widening project.   | 169,000                        |
|                           | 3rd St & 47th Ave NE <sup>4</sup>         | Intersection   | Construct turn lane(s) and modify traffic signal.   | 521,000                        |
|                           | Intelligent Transportation System Program | City-wide      | Implement Intelligent Transportation Systems Program to improve signal coordination and management, roadway monitoring and response, ITS device management, and data collection. System to include communications equipment, traffic signal equipment, video surveillance and monitoring, video detection, satellite traffic management center. | 421,000                        |
|                           | Intersection Improvements Sub-Total       |                |   | \$16,370,000                   |
| Short-Term Projects Total |   |                | \$94,506,000  |                                |

1. All costs in 2008 dollars.

2. 2007 bond proceed deducted from total project cost. Total project cost is \$12,013,000.

3. 2007 bond proceed deducted from total project cost. Total project cost is \$604,000.

4. 2007 bond proceed deducted from total project cost. Total project cost is \$917,000.

5. Cost not available; project will be implemented through maintenance program.

Note: Potential City Center Access Improvement Projects not shown above.

|                       | Project Name                          | Project Limits                          | Project Description  | Agency  |
|-----------------------|---------------------------------------|---|--|---|
| Other Agency Projects | SR 9                                  | Lundeen Parkway to SR 92                | Widen to 4/5 lane arterial   | WSDOT   |
|                       | SR 529 Ebey Slough Bridge Replacement | Bridge to 1st St NE                     | Construct a four lane bridge including pedestrian and bicycle facilities.  | WSDOT   |
|                       | SR 9 at SR 531                        | Intersection                            | Construct turn lane(s) and modify traffic signal.  | WSDOT   |
|                       | 84th St NE & SR 9                     | Intersection                            | Construct turn lane(s) and modify traffic signal.  | WSDOT   |
|                       | Soper Hill Rd & SR 9                  | Intersection                            | Construct turn lane(s) and modify traffic signal.  | WSDOT   |
|                       | SR 9 at SR 528 Intersection           | Intersection                            | Add through lanes and modify traffic signal.   | WSDOT   |
|                       | 172nd St NE & I-5 Ramps               | Intersection                            | Modify existing interchange ramps.   | WSDOT   |
|                       | 172nd St NE & 43rd Ave NE             | Intersection                            | Construct turn lane(s) and install traffic signal when warranted.  | WSDOT/Arlington   |
|                       | 116th St NE & I-5 SB Ramps            | Interchange                             | Construct single-point urban interchange (SPUI)  | WSDOT/Tulalip Tribes (City share of costs is \$500,000) |
|                       | 122nd Pl NE & 51st Ave NE             | Intersection                            | Construct turn lane(s) and install traffic signal when warranted.  | Snohomish County  |
|                       | 100th St NE & 51st Ave NE             | Intersection                            | Construct turn lane(s) and install traffic signal when warranted. Programmed for 2009 construction.  | Snohomish County  |
|                       | 136th St NE & 51st Ave NE             | Intersection                            | Construct turn lanes, realign outbound Shoultes Elementary School driveway to intersection, and install traffic signal when warranted. Programmed for 2009 completion. | Snohomish County  |
|                       | Smokey Point Park & Ride Lot          | Near 169th Pl NE and Smokey Point Blvd. | Construct Park and Ride Lot  | Community Transit                                       |
|                       | Cedar/Grove Park & Ride Lot           | Near Cedar and Grove                    | Construct Park and Ride Lot  | Community Transit                                       |
|                       | Transit Service                       | City-wide                               | Transit service improvements to/from and within City of Marysville.  | Community Transit                                       |

**Table 8. Mid-Range (2016 - 2025) Improvement Projects**

|  | Project Name              | Project Limits  | Project Description  | Project Cost (\$) <sup>1</sup> |
|--|---------------------------|---|--|--------------------------------|
| New Roadway                              | 38th Dr NE                | 80th St NE to 88th St NE                                | Construct connector including pedestrian facilities.   | 10,455,000                     |
|  | Downtown Bypass           | State Ave/1st St to 47th Ave/Sunnyside Blvd             | Construct 4/5 lane arterial including pedestrian facilities.   | 31,478,000                     |
|  | 87th Ave NE               | 40th St NE to 60th St NE                                | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 12,832,000                     |
|  | 87th Ave NE               | 60th St NE to SR 528                                    | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 2,914,000                      |
|  | 44th St NE                | 83rd Ave NE to East Sunnyside School Road/Densmore Road | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 3,137,000                      |
|  | 43rd Ave NE               | 152nd St NE to Marysville City Limits                   | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined.  | 10,497,000                     |
|  | 160th St NE               | Smokey Point Blvd to 59th Ave NE                        | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined.  | 11,618,000                     |
|  | 59th Ave NE               | 160th St NE to Marysville City Limits                   | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined.  | 8,935,000                      |
|  | 156th/152nd St NE         | Smokey Point Blvd to 51st St NE                         | Construct 4/5 lane arterial including bicycle and pedestrian facilities.   | 17,822,000                     |
|  | 152nd Connector           | 152nd St NE to 156th St NE                              | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined.  | 1,567,000                      |
|  | 164th St NE <sup>2</sup>  | 43rd Ave NE to 59th Ave NE                              | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined.  | 7,897,623                      |
|  | 54th/55th Ave NE          | 152nd St NE to 164th St NE                              | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined.  | 10,061,000                     |
|  | 47th Ave NE & 157th St NE | 164th St NE to 54th/55th Ave NE                         | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined.  | 11,304,000                     |
|  | 51st Ave NE               | 84th St NE to 88th St NE                                | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 3,759,000                      |
|  | 27th Ave NE Extension     | Twin Lakes to 172nd St NE                               | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 11,828,000                     |
| New Roadway Sub-Total                    |                           |   |  | <b>\$156,104,623</b>           |
| Major Widening                           | State Ave                 | 116th St NE to 136th St NE                              | Widen to 4/5 lane arterial including pedestrian facilities.  | 11,613,000                     |
|  | Sunnyside Blvd            | 47th Ave NE to South of 52nd St NE                      | Widen to 4/5 lane arterial including bicycle and pedestrian facilities. Include traffic control and intersection geometry improvements where needed. | 15,540,000                     |
|  | 88th St NE                | 51st Ave NE to 67th Ave NE                              | Widen to 4/5 lane arterial including pedestrian facilities. Bike lanes may be included in project or along separate but parallel corridor.           | 24,159,000                     |
|  | 51st Ave NE               | 160th St NE to Arlington City Limits                    | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.  | 4,266,000                      |
|  | 152nd St NE <sup>3</sup>  | 51st Ave NE to 67th Ave NE                              | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.  | 7,202,494                      |
|  | 51st Ave NE               | 152nd St NE to 160th St NE                              | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.  | 7,180,000                      |
|  | 172nd St NE (SR 531)      | 27th Ave NE to 11th Ave NE                              | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.  | 11,640,000                     |
| Major Widening Sub-Total                 |                           |   |  | <b>\$81,600,494</b>            |
| Minor Widening/ Reconstruction           | 83rd Ave NE               | 40th St NE to Soper Hill Road                           | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 4,589,000                      |
|  | 83rd Ave NE               | SR 528 to 40th St NE                                    | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 9,178,000                      |
|  | E Sunnyside School Road   | East Sunnyside School Road/Densmore Road to SR 9        | Reconstruct and widen to 2/3 lane arterial including pedestrian facilities.  | 882,000                        |
|  | E Sunnyside School Road   | 87th Ave NE to East Sunnyside School Road/Densmore Road | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 588,000                        |
|  | Soper Hill Road           | 71st Ave NE to 83rd Ave NE                              | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 6,190,000                      |
|  | Soper Hill Road           | 83rd Ave NE to SR 9                                     | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 3,036,000                      |
|  | Sunnyside Blvd            | 71st Ave NE to 40th St NE                               | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 6,983,000                      |
|  | Sunnyside Blvd            | South of 52nd Ave NE to 40th St NE                      | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 4,589,000                      |
|  | 67th Ave NE               | 44th St NE to SR 528                                    | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 7,766,000                      |
|  | 44th St NE                | 67th Ave NE to 83rd Ave NE                              | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 4,540,000                      |
|  | 52nd St NE                | Sunnyside Blvd to 67th St NE                            | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 1,530,000                      |
|  | 52nd St NE                | 67th Ave NE St to 75th Ave NE                           | Reconstruct to urban arterial standards including bicycle and pedestrian facilities.   | 2,021,000                      |
|  | 83rd Ave NE               | SR 528 to 84th St NE                                    | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 8,833,000                      |
|  | 51st Ave NE               | 88th St NE to 108th St NE                               | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 7,462,000                      |
|  | 67th Ave NE               | 88th St NE to 108th St NE                               | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 7,589,000                      |
| Minor Widening/ Reconstruction Sub-Total |                           |   |  | <b>\$75,776,000</b>            |

**Table 8. Mid-Range (2016 - 2025) Improvement Projects Continued**

|                            | Project Name                               | Project Limits                              | Project Description  | Project Cost (\$) <sup>1</sup>  |
|----------------------------|--|---|--|---------------------------------|
| Non-Motorized Improvements | 80th St NE                                 | Cedar Ave to 51st Ave NE                    | Provide pedestrian and bicycle facilities  | N/A <sup>4</sup>                |
|                            | 51st Ave NE                                | 84th St NE to south of Grove Street         | Provide pedestrian and bicycle facilities  | N/A <sup>4</sup>                |
|                            | Grove St                                   | State Ave to Ash Ave                        | Provide pedestrian and bicycle facilities  | N/A <sup>4</sup>                |
|                            | 1st St                                     | State Ave to Ash Ave                        | Provide pedestrian and bicycle facilities  | N/A <sup>5</sup>                |
|                            | 57th St NE                                 | 1st St NE & Ash to West of I-5              | Coordinate with Tulalip Tribes for non-motorized connection under I-5.   | N/A <sup>4</sup>                |
|                            | E Sunnyside School Road                    | 87th Ave NE to 83rd Ave NE                  | Convert roadway to non-motorized uses.   | 25,000                          |
|                            | Densmore/Sunnyside School Road             | Soper Hill Rd to East Sunnyside School Road | Construct multi-use trail.   | 1,406,000                       |
|                            | PSE Corridor (79th Street)                 | South of Soper Hill Road to North of SR 528 | Construct multi-use trail.   | 4,942,000                       |
|                            | 60th Dr NE                                 | Grove St to 88th St NE                      | Construct bicycle and pedestrian facilities.   | 2,876,000                       |
|                            | 80th St NE                                 | 51st Ave NE to 60th Dr NE                   | Upgrade and extend for non-motorized connectivity.   | 4,249,000                       |
|                            | <b>Non-Motorized Sub-Total</b>             |   |  | <b>\$13,498,000</b>             |
| Intersection Improvements  | City Center Access Improvement Projects    | City Center                                 | Construct intersection, arterial, or interchange improvements recommended as part of City Center Access Study. | \$20,000,000                    |
|                            | 84th St NE & State Ave/Rail Crossing       | Intersection                                | Construct rail crossing at 84th St NE and install traffic signal. Close adjacent rail crossings.               | 2,213,000                       |
|                            | 100th St NE & Shoultes Rd                  | Intersection                                | Intersection/operational improvements to be coordinated with State Ave/100th St intersection.                  | 380,000                         |
|                            | 100th St NE & 48th Dr NE                   | Intersection                                | Install traffic signal when warranted.   | 465,000                         |
|                            | 1st St & State Ave                         | Intersection                                | Construct turn lane(s) and modify traffic signal.  | 606,000                         |
|                            | 88th St NE & 36th Ave NE                   | Intersection                                | Construct turn lane(s) and modify traffic signal.  | 839,000                         |
|                            | 88th St NE & 67th Ave NE                   | Intersection                                | Construct turn lane(s) and modify traffic signal.  | 842,000                         |
|                            | Soper Hill Rd & Sunnyside Blvd             | Intersection                                | Construct turn lane(s) and install traffic signal when warranted.  | 1,425,000                       |
|                            | Soper Hill Rd & 83rd Ave NE                | Intersection                                | Construct turn lane(s) and install traffic signal when warranted.  | 943,000                         |
|                            | 53rd Ave NE at Sunnyside Blvd              | Intersection                                | Install traffic signal when warranted.   | 504,000                         |
|                            | Sunnyside Blvd & 52nd St NE                | Intersection                                | Construct turn lane(s) and install traffic signal when warranted.  | 1,157,000                       |
|                            | 52nd St (Evans Rd) & 67th Ave NE           | Intersection                                | Construct turn lane(s) and install traffic signal when warranted.  | 465,000                         |
|                            | 172nd St NE & 19th Ave NE                  | Intersection                                | Construct turn lane(s) and install traffic signal when warranted.  | 743,000                         |
|                            | 116th St NE & 38th Ave NE                  | Intersection                                | Construct turn lane(s) and modify traffic signal.  | 726,000                         |
|                            | 164th St NE & 51st Ave NE                  | Intersection                                | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | 1,150,000                       |
|                            | 160th St NE & 51st Ave NE                  | Intersection                                | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | 1,150,000                       |
|                            | 157th St NE & 51st Ave NE                  | Intersection                                | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | 1,150,000                       |
|                            | 156th St NE & 43rd Ave NE                  | Intersection                                | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | 1,150,000                       |
|                            | 156th St NE & 152nd St Connector           | Intersection                                | Install traffic signal when warranted per Smokey Point Master Plan.  | 465,000                         |
|                            | 152nd St NE & 43rd Ave NE                  | Intersection                                | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | 946,000                         |
|                            | 152nd St NE & 54th/55th Ave NE             | Intersection                                | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | 924,000                         |
|                            | 108th St NE & 67th Ave NE                  | Intersection                                | Construct turn lane(s) and install traffic signal when warranted.  | 924,000                         |
|                            | 100th St NE & 67th Ave NE                  | Intersection                                | Construct turn lane(s) and install traffic signal when warranted.  | 400,000                         |
|                            | 128th St NE & Smokey Point Blvd            | Intersection                                | Intersection improvements included as part of an associated roadway widening project.                          | Cost is part of roadway project |
|                            | <b>Intersection Improvements Sub-Total</b> |   |  | <b>\$39,567,000</b>             |
|                            | <b>Mid-Term Projects Total</b>             |   |  | <b>\$366,546,117</b>            |

1. All Costs in 2008 dollars

2. Project cost represents the City's share which is estimated at two-thirds of the total project cost; remaining section of arterial is within the City of Arlington.

3. Project cost represents the City's share which is estimated at two-thirds of the total project cost. Remaining section of corridor is in Snohomish County.

4. Project to be paid for by developer(s).

5. Cost not available; project will be implemented through maintenance program.

Note: Individual City Center Access Improvement Projects not shown above.

**Table 8. Mid-Range (2016 - 2025) Improvement Projects Continued**

|                       | Project Name                    | Project Limits                                 | Project Description   | Agency                                    |
|-----------------------|---------------------------------|--|---|---|
| Other Agency Projects | 172nd St NE & Smokey Point Blvd | Intersection                                   | Improvements to identified by WSDOT   | WSDOT                                     |
|                       | 156th St NE & I-5 Ramps         | Interchange                                    | Construct single-point urban interchange (SPUI)   | WSDOT (City share of cost is \$1,500,000) |
|                       | SR 531 (172nd St NE)            | 1,300 feet west of 43rd Ave NE to SR 9         | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.                         | WSDOT/Arlington                           |
|                       | 172nd St NE & 59th Ave NE       | Intersection                                   | Construct turn lane(s) and modify traffic signal.   | WSDOT/Arlington                           |
|                       | 172nd St NE & 67th Ave NE       | Intersection                                   | Construct turn lane(s) and modify traffic signal.   | WSDOT/Arlington                           |
|                       | 172nd St NE & 51st Ave NE       | Intersection                                   | Install traffic signal when warranted.  | WSDOT/Arlington                           |
|                       | 88th St NE & I-5 SB Ramp        | Interchange                                    | Construct single-point urban interchange (SPUI)   | WSDOT/Tulalip Tribes                      |
|                       | 100th St NE                     | 67th Ave/100th St to Centennial Trail          | Construct multi-use trail.  | Snohomish County                          |
|                       | 67th Ave NE                     | 152nd St NE to Arlington C/L                   | Construct shoulders for pedestrian and bicycle use.   | Snohomish County                          |
|                       | 152nd St NE & 67th Ave NE       | Intersection                                   | Construct turn lane(s) and install traffic signal when warranted.                               | Snohomish County                          |
|                       | 132nd St NE & 67th Ave NE       | Intersection                                   | Construct turn lane(s) and install traffic signal when warranted.                               | Snohomish County                          |
|                       | 51st Ave NE                     | Arlington City Limits to SR 531                | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.                         | Arlington                                 |
|                       | 51st Ave Extension              | SR 531 to 188th St NE                          | Construct 4/5 lane arterial including bicycle and pedestrian facilities.                        | Arlington                                 |
|                       | 43rd Ave NE                     | Marysville City Limits to SR 531 (172nd St NE) | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined. | Arlington                                 |
|                       | 59th Ave NE                     | Marysville City Limits to SR 531 (172nd St NE) | Construct 2/3 lane arterial for Smokey Point Master Plan. Specific alignments to be determined. | Arlington                                 |
|                       | Smokey Point Blvd               | Smokey Point Dr to SR 530                      | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.                         | Arlington                                 |
|                       | Transit Service                 | City-wide                                      | Transit service improvements to/from and within City of Marysville.                             | Community Transit                         |

**Table 9. Long-Range (2026 - 2035) Improvement Projects**

|                                | Project Name                             | Project Limits                                   | Project Description  | Project Cost (\$) <sup>1</sup> |
|--------------------------------|--|--|--|--------------------------------|
| New Roadway                    | 67th Ave NE Connector                    | 67th Ave NE/44th St NE to 71st Ave NE/40th St NE | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 4,707,000                      |
|                                | 54th St NE/ 55th PI NE                   | 83rd Ave NE to Whiskey Ridge Trail               | Connector with bicycle and pedestrian facilities.  | 1,307,000                      |
|                                | 87th Ave NE                              | SR 528 to 83rd Ave NE at 80th St NE              | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 16,160,000                     |
|                                | 31st Ave NE                              | 140th St NE to 156th Ave NE                      | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 20,692,000                     |
|                                | 156th St NE Extension <sup>2</sup>       | 31st to 23rd Ave NE                              | Construct 2/3 lane arterial including bicycle and pedestrian facilities.   | 5,616,752                      |
|                                | New Roaday Sub-Total                     |  |  | \$48,482,752                   |
| Major Widening                 | 88th St NE                               | State Ave to 51st Ave NE                         | Widen to 4/5 lane arterial including pedestrian facilities. Bike lanes may be included in project or along separate but parallel corridor. | 16,766,000                     |
|                                | State Ave                                | 100th St NE to 116th St NE                       | Widen to 4/5 lane arterial including pedestrian facilities.  | 17,115,000                     |
|                                | Ingraham Blvd                            | 74th Ave NE to 81st Ave NE                       | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.  | 5,251,000                      |
|                                | Major Widening Sub-Total                 |  |  | \$39,132,000                   |
| Minor Widening/ Reconstruction | 8th St                                   | Cedar Ave to State Ave                           | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 1,059,000                      |
|                                | 71st Ave NE                              | Sunnyside Blvd/Soper Hill Road to 40th St NE     | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 4,589,000                      |
|                                | 87th Ave NE                              | Soper Hill Rd to 35th St NE                      | Reconstruct and widen to 2/3 lane arterial including pedestrian facilities.  | 2,581,000                      |
|                                | 136th St NE                              | State Ave to 51st Ave NE                         | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 5,936,000                      |
|                                | 51st Ave NE                              | 108th St NE to 136th St NE                       | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 11,977,000                     |
|                                | 51st Ave NE                              | 136th St NE to 152nd St NE                       | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 6,979,000                      |
|                                | 52nd St NE                               | 75th Ave NE to Whiskey Ridge Trail               | Connector with bicycle and pedestrian facilities.  | 6,763,000                      |
|                                | 100th St NE                              | 51st Ave NE to 67th Ave NE                       | Reconstruct to urban arterial standards including bicycle and pedestrian facilities.   | 4,198,000                      |
|                                | 100th St NE                              | Shoultes Road to 51st Ave NE                     | Reconstruct to urban arterial standards including bicycle and pedestrian facilities.   | 1,866,000                      |
|                                | 108th St NE                              | 51st Ave NE to 67th Ave NE                       | Reconstruct to urban arterial standards including bicycle and pedestrian facilities.   | 3,346,000                      |
|                                | 132nd St NE                              | 51st Ave NE to Urban Growth Area (UGA)           | Reconstruct to urban arterial standards including bicycle and pedestrian facilities.   | 2,254,000                      |
|                                | Shoultes Road                            | State Ave to 108th St NE                         | Reconstruct to urban arterial standards including bicycle and pedestrian facilities.   | 3,891,000                      |
|                                | Minor Widening/ Reconstruction Sub-Total |  |  | \$55,439,000                   |
| Non-Motorized Improvements     | State Ave                                | 80th St NE to 88th St NE                         | Work with railroad to construct non-motorized facilities on West side of street or on parallel route.                                      | 1,011,000                      |
|                                | Beach Ave                                | Grove St to Cedar St                             | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.  | 1,920,000                      |
|                                | Non-Motorized Sub-Total                  |  |  | \$2,931,000                    |
| Intersection Improvements      | 108th St NE & 51st Ave NE                | Intersection                                     | Construct turn lane(s) and install traffic signal when warranted.  | 1,600,000                      |
|                                | Intersection Improvements Sub-Total      |  |  | \$1,600,000                    |
| Long-Term Projects Total       |  |  |  | \$147,584,752                  |

1. All costs in 2008 dollars.

2. Project cost represents the City's share which is estimated at one-half of the total project cost; remaining section of the corridor is within Snohomish County.

Note: Potential City Center Access Improvement Projects Not Shown Above



**Table 9. Long-Range (2026 - 2035) Improvement Projects Continued**

|                       | Project Name    | Project Limits                         | Project Description   | Agency            |
|-----------------------|-----------------|--|---|-------------------|
| Other Agency Projects | 45 Road         | 23rd Ave NE to SR 531                  | Provide non-motorized improvements.   | Snohomish County  |
|                       | 11th Ave NE     | 45 Road to SR 531                      | Construct shoulders for pedestrian and bicycle use.                                     | Snohomish County  |
|                       | 23rd Ave NE     | 140th St NE to Forty Five Road         | Construct shoulders for pedestrian and bicycle use.                                     | Snohomish County  |
|                       | 23rd Ave NE     | 156th St NE to Forty Five Road         | Construct shoulders for pedestrian and bicycle use.                                     | Snohomish County  |
|                       | 152nd St NE     | 67th Ave NE to SR 9                    | ROW Preservation  | Snohomish County  |
|                       | 156th St NE     | 11th Ave NE to 19th Ave NE             | Construct 2/3 lane arterial including pedestrian facilities.                            | Snohomish County  |
|                       | 132nd St NE     | Urban Growth Area (UGA) to 67th Ave NE | Reconstruct to rural arterial standards including bicycle and pedestrian facilities.    | Snohomish County  |
|                       | 140th St NE     | 23rd Ave NE to 31st Ave NE             | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities. | Snohomish County  |
|                       | 156th St NE     | 19th Ave NE to 23rd Ave NE             | Reconstruct to rural arterial standards including pedestrian facilities.                | Snohomish County  |
|                       | 67th Ave        | 152nd St NE to 132nd St NE             | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities. | Snohomish County  |
|                       | 67th Ave NE     | 108th St NE to 132nd St NE             | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities. | Snohomish County  |
|                       | 108th St NE     | 67th Ave NE to SR 9                    | Reconstruct to rural arterial standards including bicycle and pedestrian facilities.    | Snohomish County  |
|                       | Transit Service | City-wide                              | Transit service improvements to/from and within City of Marysville.                     | Community Transit |







The following highlights some of the major improvement projects to help the City meet its transportation system needs. The discussion is organized by corridor to show how the improvements work together to support the overall system.

### ***I-5 Access Improvements***

I-5 provides the primary connection between Marysville and the Puget Sound Region and other parts of Washington State. Marysville is served by four existing interchanges, including the Smokey Point (SR 531) interchange shared with Arlington.

The Transportation Element includes specific projects to improve three of the existing interchanges. The Tulalip Tribes are working with WSDOT to reconstruct the interchanges at 88th Street NE and 116th Street NE. The existing diamond interchanges at these two locations would be converted to single-point urban interchanges (SPUI). The SPUI design can provide for more efficient operations by eliminating a traffic signal at each location. The City of Marysville supports the funding and construction of these improvements.

WSDOT has been improving the I-5/172nd Street NE (SR 531) interchange at Smokey Point. Phase 1 of the project added travel lanes and improved intersection operations at the interchange. A second phase of the project will provide a loop ramp for the west-to-south turn movement. This will help reduce delays along the corridor.

The City of Marysville is working to fund construction of a new interchange at I-5/156th Street NE. The new interchange will reduce future traffic volumes at the adjacent 172nd Street NE (SR 531) and 116th Street NE interchanges. The 156th interchange is important to provide regional access to serve the projected growth in north Marysville (on both sides of I-5) and in Arlington.

The City is also working with WSDOT to identify potential improvements to reduce congestion and delays at the 4th Street (SR 528) interchange serving downtown. The “City Center Access Study” is still in process and will likely result in potential improvements at the existing interchange. Another potential option is the addition of new ramps to/from the north at the existing I-5/SR 529 interchange. As part of this study, the City also is evaluating improvements to City arterials that could improve the operations at the I-5/4th Street (SR 528) interchange. Some potential locations for these improvements are included in the plan and described as the “City Center Access Study” projects. The City will incorporate the recommendations of the “City Center Access Study” into the Transportation Element after they are finalized and adopted.

### ***East-West Corridor Improvements***

Several east-west corridors will need improvements to meet the 2035 travel demands. The key corridors provide access to/from I-5 or across I-5. In addition to adding travel lanes and turn lanes, the plan includes improvements at arterial intersections.

To serve the growth forecast in the Lakewood and Smokey Point areas, a new principal arterial is planned for 156th/152nd corridor. The corridor would ultimately connect west of the BNSF rail line as a grade-separated crossing. This preserves the corridor for long-range

transportation needs and the potential growth outside of the existing UGA. A 5-lane arterial will cross I-5 and provide access to the proposed interchange which is being coordinated with WSDOT. The 156th alignment for the corridor will extend east of Smokey Point Boulevard and then transition to the 152nd Street NE alignment; the specific alignment has not been established. East of 51st Avenue NE, the corridor could be initially constructed as a 2 to 3 lane facility, although right-of-way should be preserved to support an ultimate 4 to 5 lane cross-section. Because there are limited east-west corridors in the greater Marysville area that provide a direct connection between SR 9 and I-5, the City's Transportation System Plan calls for preserving the right-of-way to allow future extension east of 67th Avenue NE. This needs to be further coordinated with Snohomish County and WSDOT.

The travel forecasts show a need to widen the 136th/132nd Street NE corridor to 2 to 3 lanes. This corridor provides a connection between the UGA in the 51st Avenue NE corridor to State Avenue/Smokey Point Boulevard. It also connects across I-5 to the 140th Street NE corridor in unincorporated Snohomish County.

The recent widening of 116th Street NE between I-5 and State Avenue to five lanes will accommodate future volumes. Some additional spot intersection improvements will still be needed to support planned growth. As discussed under the section on alternatives evaluation, future extension of 116th Street NE east of State Avenue was not included in the recommended plan.

The 108th and 100th Street NE corridors provide east-west access and circulation in the central part of Marysville and its UGA. The higher volumes of traffic will increase the need to upgrade the non-motorized facilities to better meet urban standards, such as the installation of sidewalks or other pedestrian facilities. Additional bicycle facilities are also identified for these two corridors.

A key improvement in the transportation plan is the widening of 88th Street NE to 4 to 5 lanes between State and 67th Avenues. In addition, the corridor is planned to be extended east of 67th Avenue NE to connect to 84th Street NE at SR 9. When complete, the corridor will provide a direct connection between SR 92 (east of SR 9) and the Tulalip developments west of I-5. The corridor will serve significant volumes of regional traffic generated outside of Marysville. Without the widening, the existing corridor will continue to be over capacity and will continue to result in traffic diversion into the adjacent neighborhoods.

The Grove Street corridor has been upgraded to 3 lanes along most of its length. The primary improvements along this corridor include improvements at 2 intersections. Completion of non-motorized facilities west of State Avenue is also identified for the corridor.

The City is working to complete a 4 to 5 lane corridor along 4th Street/64th Street NE (SR 528) between I-5 and SR 9. In the near-term, the City has a project identified to complete the corridor widening between Allen Creek and 67th Avenue NE. This primarily involves restriping the existing roadway from 2 to 4 lanes to 4 to 5 lanes. The improvement at the intersection of 47th Avenue NE/4th Street (which is being constructed in 2008) will complete the widening between 47th Avenue NE and Allen Creek. The City Center Access Study which is currently underway also may result in additional improvements to 4th Street



between 27th Avenue NE (west of I-5) and 47th Avenue NE. The City and WSDOT have identified intersection improvement at 83rd Avenue NE, 87th Avenue NE, and SR 9 in the east part of the corridor.

In addition to improvements along 4th Street in downtown Marysville, the plan recommends constructing a downtown bypass route. The bypass route would provide an alternative for some of the traffic that would otherwise use 4th Street, or other local downtown streets. It is recommended that the bypass connect the 1st Street/State Avenue intersection with Sunnyside Boulevard at 47th Avenue NE. The specific alignment for the corridor has not yet been defined.

Forecast traffic volumes on Sunnyside Boulevard confirm the need for a 4 to 5 lane arterial from 47th Avenue NE to south of 52nd Street NE. South of 52nd Street NE, the Sunnyside Boulevard/ Soper Hill Road corridor is recommended to be widened to 3 lanes.

The Transportation Element incorporates the new 40th Street NE/35th Street NE corridor identified in the East Sunnyside-Whiskey Ridge Subarea Plan. The new arterial corridor will provide additional capacity to serve growth in this area. It also will provide a direct connection to the SR 9/SR 92 intersection. The City is working with WSDOT to obtain a break-in-access for adding a west leg to the existing intersection.

The 44th Street NE corridor also needs to be improved between 67th Avenue NE and SR 9. This includes a new connection between 83rd and 87th Avenues NE which would replace the existing Sunnyside School Road connection located north of 44th Street NE. This will provide a more direct arterial connection to serve the East Sunnyside-Whiskey Ridge subarea.

### ***North-South Corridor Improvements***

North-south travel in and around Marysville is primarily focused on I-5 and four arterial corridors. The four primary arterial corridors include State Avenue/Smokey Point Boulevard, 51st Avenue NE, 67th Avenue NE and SR 9. Consistent with prior subarea studies, the Transportation Element incorporates a new north-south arterial west of I-5 to serve the projected growth in the Lakewood Triangle subarea. The arterial corridor would connect to 172nd Street NE (SR 531) on the north and 140th Street NE to the south. It would provide connections to/from the planned 156th/152nd Street NE east-west arterial and its proposed new interchange with I-5.

State Avenue/Smokey Point Boulevard currently has only 2 to 3 lanes between 100th and 152nd Streets NE. This section is planned to be widened to 5 lanes in three segments. The City is in the process of initiating the widening between 136th and 152nd Streets NE. Development along the corridor will help construct the additional lanes between 116th and 136th Streets NE. The segment of State Avenue between 100th and 116th Street NE will be widened as a third project. To the south, WSDOT is replacing the SR 529 bridge over the Steamboat Slough with a new 4-lane bridge. Upon completion of the widening of these road segments, the corridor will provide 4 to 5 lanes from Everett to Arlington through Marysville.



East of State Avenue, 51st Avenue NE provides for north-south travel in the City and its UGA. The Transportation Element identifies completion of the missing segment between 84th and 88th Streets NE. In addition, the plan calls for widening 51st Avenue NE to 2 to 3 lanes between 88th and 152nd Streets NE. This widening is needed to provide turn lanes to minimize the affect of turning traffic on the throughput of the corridor. North of 152nd Street NE the corridor would be widened to 4 to 5 lanes to 172nd Street NE (SR 531) to accommodate the projected commercial growth in the Smokey Point Master Plan area.

The plan also recommends upgrading the 67th Avenue NE corridor between 172nd Street NE (SR 531) and the East Sunnyside-Whiskey Ridge Subarea. North of 108th Street NE, the future volumes would require widening to 2 to 3 lanes. This segment is outside the existing Marysville UGA, so the road would likely be constructed to rural road standards. Between 108th and 88th Streets NE, the corridor abuts the Marysville UGA. The plan calls for widening this segment to a 2 to 3 lane urban arterial with non-motorized facilities. Much of 67th Avenue NE between 88th Street NE and 64th Street NE (SR 528) would support 3 lanes plus bicycle facilities. The section between Grove Street and 64th Street NE (SR 528) will be restriped to provide 3 lanes plus bicycle facilities upon resolution of remaining right of way restrictions. South of 64th Street NE (SR 528) the plan incorporates the adopted East Sunnyside-Whiskey Ridge improvements along the 67th/71st Avenue NE corridor. These include upgrading the existing roadway to a 3-lane arterial. A new arterial connection also would be constructed between 67th Avenue NE/44th Street NE and 71st Avenue NE/40th Street NE to provide a more direct route to Soper Hill Road.

Improvements are also identified for 83rd and 87th Avenue NE corridors. These include upgrading the roads to arterial standards. Several local connector roads are also identified for completion.

WSDOT has several projects planned to improve SR 9 near Marysville. The most significant improvement is widening SR 9 to 4 to 5 lanes between SR 92 and Lundeen Parkway in Lake Stevens. This improvement would also include additional turn lanes at key intersections at Soper Hill Road and at SR 92. WSDOT also has current projects planned for the intersections of SR 9 at 64th Street NE (SR 528), 84th Street NE, 108th Street NE, and at 172nd Street NE (SR 531).

### ***Intersection and Intelligent Transportation System Improvements***

Intersection improvements are included as part of the major east-west and north-south corridors discussed above. The plan also incorporates improvements at other intersections throughout the City and its UGA. The improvements include additional turn lanes to meet the 2035 travel demands and improve safety. Changes in traffic controls from stop signs to traffic signals also are identified to support safe and efficient operations as traffic volumes and non-motorized travel modes increase.

The City of Marysville has a need to implement an Intelligent Transportation System (ITS) over the next five to 10 years. By implementing ITS, the City can efficiently manage its traffic infrastructure and congestion on key City corridors. The City's biggest need regards ITS improvements and implementation centers on an effective arterial traffic management system (ATMS). The ATMS system would enable City staff to perform four basic functions

from their central offices: 1) signal coordination and management, 2) roadway monitoring and response, 3) ITS device management, and 4) data collection.

In order to plan for and implement an ATMS system the City must have a reliable high-speed communication network that interconnects the ITS field devices to a remote management center. Because Snohomish County currently maintains the City's traffic/ITS infrastructure it is critical that the a network connectivity is established between the City and the County's traffic management center

The Snohomish County ITS plan identifies several improvements within the City of Marysville. These improvements were identified along key corridors such as State Avenue, 4th/64th Street NE (SR 528), and 67th Avenue NE. The improvements include but not limited to:

- Communication systems
- Traffic signal equipment
- Video surveillance and monitoring equipment
- Video detection system equipment
- Satellite traffic management center

It is highly recommended that the above ITS improvements be implemented in the next five years. The City will continue to have ITS expansion needs beyond five years as it grows and its traffic infrastructure grows.

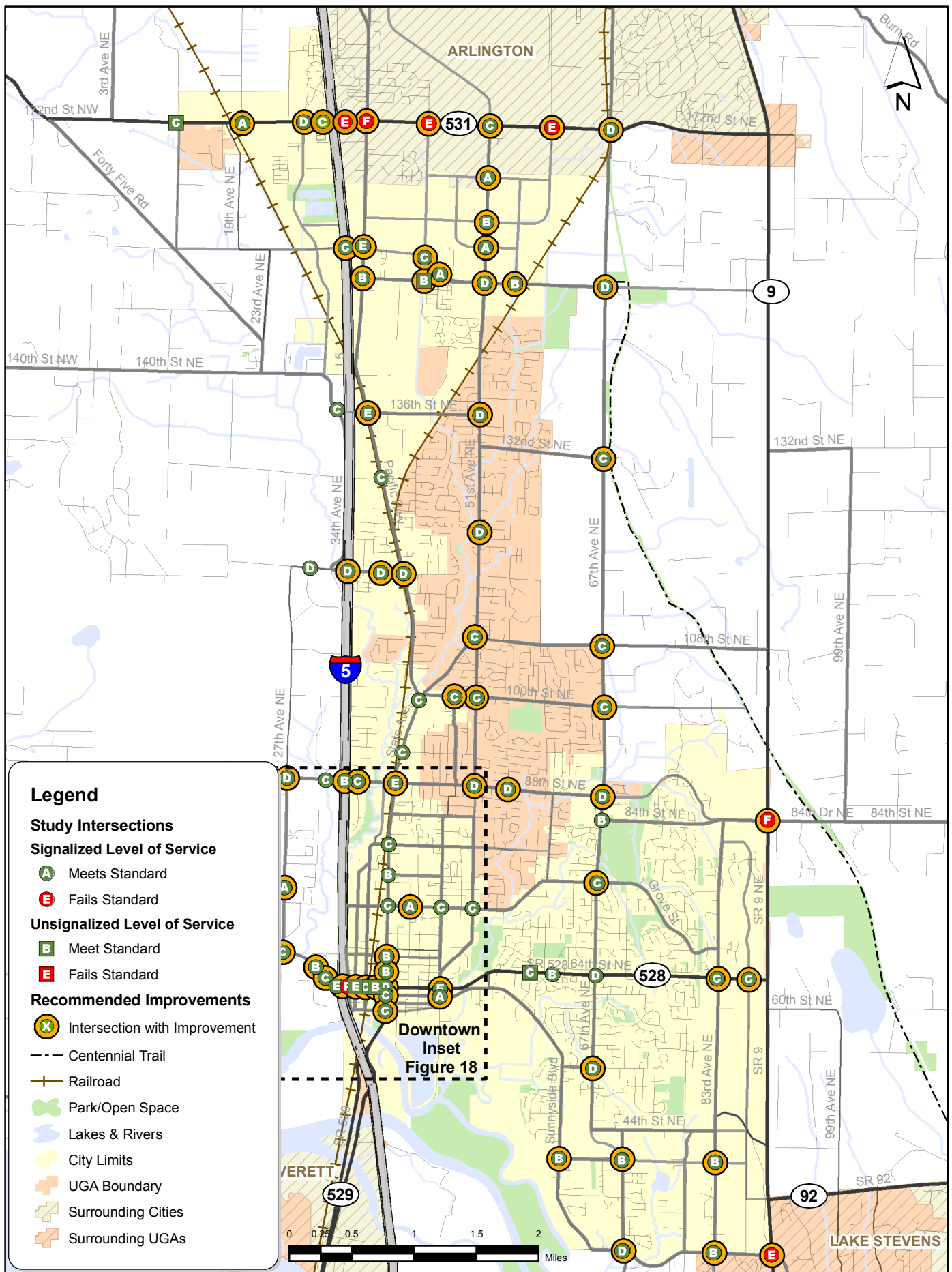
### ***City Center Access***

As noted above, the City is working with WSDOT and other stakeholders to identify potential capacity and operational improvements related to access to the Marysville City Center. The study is currently underway and is evaluating improvements to arterials and intersections. It also will evaluate possible improvements to the I-5/4th Street (SR 528) interchange. In addition, the study may include evaluation of the modification of the I-5/SR 528 interchange, including the potential for addition of ramps to/from the north to directly serve Marysville.

Although specific project recommendations are still being evaluated, the Transportation Element has identified potential locations for improvements. A preliminary allocation to cover at least some of the costs of these improvements is included in the Transportation Element to account for potential funding needs. The City will incorporate the final recommendations of the "City Center Access Study" into the Transportation Element after they are adopted.

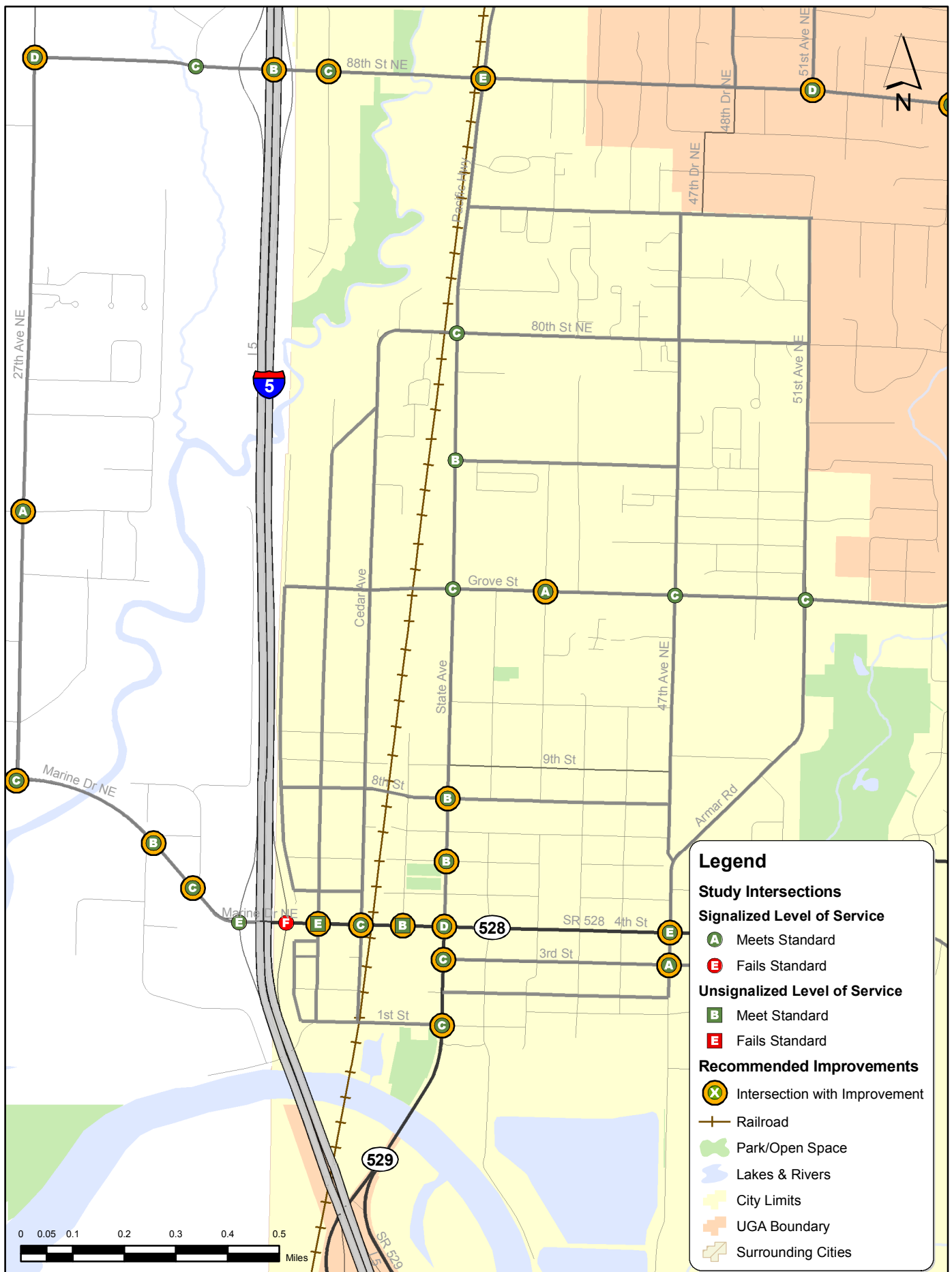
### **Forecast 2035 Traffic Operations with Improvements**

The forecast traffic volumes with the recommended improvements were evaluated to assess the 2035 traffic operations. **Figures 17 and 18** show the resulting 2035 PM peak hour intersection levels of service, assuming completion of the identified roadway and intersection



**Figure 17**  
 2035 PM Peak Hour Intersection Levels of Service

City of Marysville Transportation Element 2008



**Figure 18**

2035 PM Peak Hour Intersection Levels of Service - Downtown Area

City of Marysville Transportation Element 2008

improvements. The 2035 improvements and resulting levels of service for each intersection are summarized in Appendix B.

As noted in the existing conditions section, the City has established the following intersection level of service standards for arterials, collectors, and state highways within the City limits. These standards also will apply to intersections in the City's UGA after annexation occurs.

- **LOS E mitigated** on the SR 529/State Avenue/Smokey Point Boulevard corridor from the south city limits to north city limits.
- **LOS E mitigated** on the 4th Street/64th Street NE (SR 528) corridor between I-5 and SR 9.
- **LOS D** on all other intersections of arterials or collectors with another arterial or collector.

These level of service standards are consistent with the adopted state and regional LOS standards for state highways. LOS E mitigated means that the congestion should be mitigated through improvements, transit, ridesharing, and other travel modes when the intersection falls below LOS E.

The identified improvements resolve the existing 2007 level of service deficiencies identified for the seven intersections within the City of Marysville and its Urban Growth Area (UGA), as presented in Table 2. Generally, installation of traffic signals would resolve the existing level of service deficiencies at those seven intersections. Additional turn lanes and roadway widening improvements will be needed to maintain the City's level of service standards based on the 2035 traffic forecasts.

With the planned improvements and forecast growth, the I-5 interchange ramp intersections with 4th Street (SR 528) are forecast to operate at LOS E (southbound) and LOS F (northbound). The LOS F for the northbound ramp intersection is below the City and regional standard of LOS E mitigated. The City Center Access Study is evaluating options to reduce congestion at this interchange. The potential improvements are being coordinated with WSDOT.

The intersections of SR 9/Soper Hill Road, SR 9/SR 92, and SR 9/Sunnyside School Road also are below the LOS D standard for SR 9, which is a Highway of Statewide Significance (HSS). The City is continuing to work with WSDOT to define the ultimate channelization of SR 9/SR 92 in conjunction with the proposed addition of the west leg of the intersection. The SR 9/Sunnyside School Road is forecast to operate at LOS F during the 2035 weekday PM hour. This is an unsignalized intersection. The high volume of traffic forecast for SR 9 limits the number of available gaps which results in LOS F.

The intersection of SR 9/84th Street NE is forecast to operate at LOS F based on the 2035 PM peak hour forecast volumes. The LOS F is below the LOS D standard for HSS corridors. SR 9 and 84th Street NE are major travel corridors and will carry high volumes of traffic. Resolving the poor level of service would likely require widening SR 9 to 4 to 5 lanes at the intersection. This widening is not part of WSDOT's current plans for the SR 9 corridor.

The other intersections forecast to be below the adopted level of service standards are along 172nd Street NE (SR 531) in Arlington. This state highway has a standard of LOS D. Three intersections – at Smokey Point Boulevard, at 43rd Avenue NE, and at 59th Avenue NE – are forecast to operate at LOS E or LOS F during the 2035 PM peak hour. In addition, the northbound ramp at I-5 also is forecast to operate at LOS E. The high volume of traffic on 172nd Street NE and the intersecting streets will result in overall delays in the corridor.

Several other intersections are forecast to operate at LOS E under the 2035 conditions with identified improvements. These are located along State Avenue, Smokey Point Boulevard, and 4th Street. The forecast LOS E is consistent with the City's adopted standard. These LOS E intersections include:

- Smokey Point Boulevard at 156th Street NE
- Smokey Point Boulevard at 136th Street NE
- State Avenue at 88th Street NE
- 4th Street (SR 528) at Beach Avenue
- 4th Street (SR 528) at 47th Avenue NE

The forecast 2035 levels of service assume completion of the identified roadway and intersection improvements are constructed. In order to meet concurrency requirements, the intersection improvements may need to be constructed in advance of the full roadway improvements in some corridors. Depending on the availability of funding, interim improvements may be needed in order to maintain the City's adopted level of service standard. For example, interim traffic signals will likely be required at the intersections of 88th Street NE/51st Avenue NE and 88th Street NE/55th Street NE when that portion of the UGA is annexed. These two stop-controlled intersections currently operate at LOS F and LOS E, respectively, which is below the City's LOS D standard which would apply to the corridor after the area is annexed.

## Non-Motorized Transportation Systems Plans

The City of Marysville will continue to develop pedestrian and bicycle facilities as part of its transportation system improvements. The City has adopted street standards that provide for a range of facilities including sidewalks, bike lanes, wider travel lanes, and multi-use trails. The Transportation Element identifies the desired major pedestrian and bicycle systems plans to guide development and implementation of improvement projects. As noted above, the roadway improvement projects incorporate pedestrian and bicycle facilities to facilitate implementation of the overall non-motorized transportation systems. Both the pedestrian and bicycle systems plans were coordinated with the City's Healthy Communities program. The Healthy Communities program provided input on projects and programs and their priorities.

## Pedestrian Systems Plan

Sidewalks, walkway, and multi-use trails are integral to the City's overall transportation system. The City generally desires to have sidewalks or other pedestrian facilities on both sides of streets, unless special circumstances make it physically or cost prohibitive.

The City requires new developments to construct sidewalks on their internal streets and adjacent frontages. This process has helped the City convert the rural roadways developed under Snohomish County road standards into the urban facilities needed to support the additional growth and higher traffic volumes within the City. Developer improvements will provide for a large portion of the ultimate system but will also leaves some gaps in sidewalks along arterial and collector corridors.

**Figures 19 and 20** illustrate the major pedestrian facility plan for the City, its UGA, and the surrounding communities. The major pedestrian system plan shows where sidewalks currently exist and planned facilities included in the transportation plan. Most of the additional pedestrian facilities will be constructed as part of associated roadway projects. These may be constructed as part of developer frontage requirements or as part of a capital project by the City of Marysville or another agency. In some corridors, pedestrian facilities may be provided through development of multi-use trails separated from the travel lanes.

The pedestrian system plan includes several regional multi-use trails. The most significant of which is the Centennial Trail located east of the City. The major pedestrian system plan includes improvements to enhance connectivity to the Centennial Trail. These connections include the proposed Whiskey Ridge Trail in the Puget Sound Energy (PSE) right-of-way located west of 83rd Avenue NE. This new trail would serve the growing area in the East Sunnyside-Whiskey Ridge Subarea. The pedestrian systems plan also provides a system of local connectors to the proposed Whiskey Ridge Trail. Other potential or planned connections to the Centennial Trail are identified in the 100th, 108th, 132nd, and 152nd Street NE corridors.

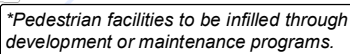
Because of the recent incorporation of substantial new areas into the City, a revision of the sidewalk component of the Department of Justice (DOJ) mandated Title II Transition Plan for Americans with Disabilities Act (ADA) of 1990 implementation should be considered. There are segments of missing or substandard sidewalks within the City that would not be included in planned roadway projects. A Transition Plan could be beneficial in establishing policies and priorities and identifying programs to address any deficiencies in a comprehensive manner.

The Transportation Element provides for a near term pedestrian system plan. Key priorities are connections to schools, parks, community facilities, transit facilities, commercial areas, and to regional trails. Filling in missing gaps in the system also is supported through the City's ongoing Maintenance and Operations program.

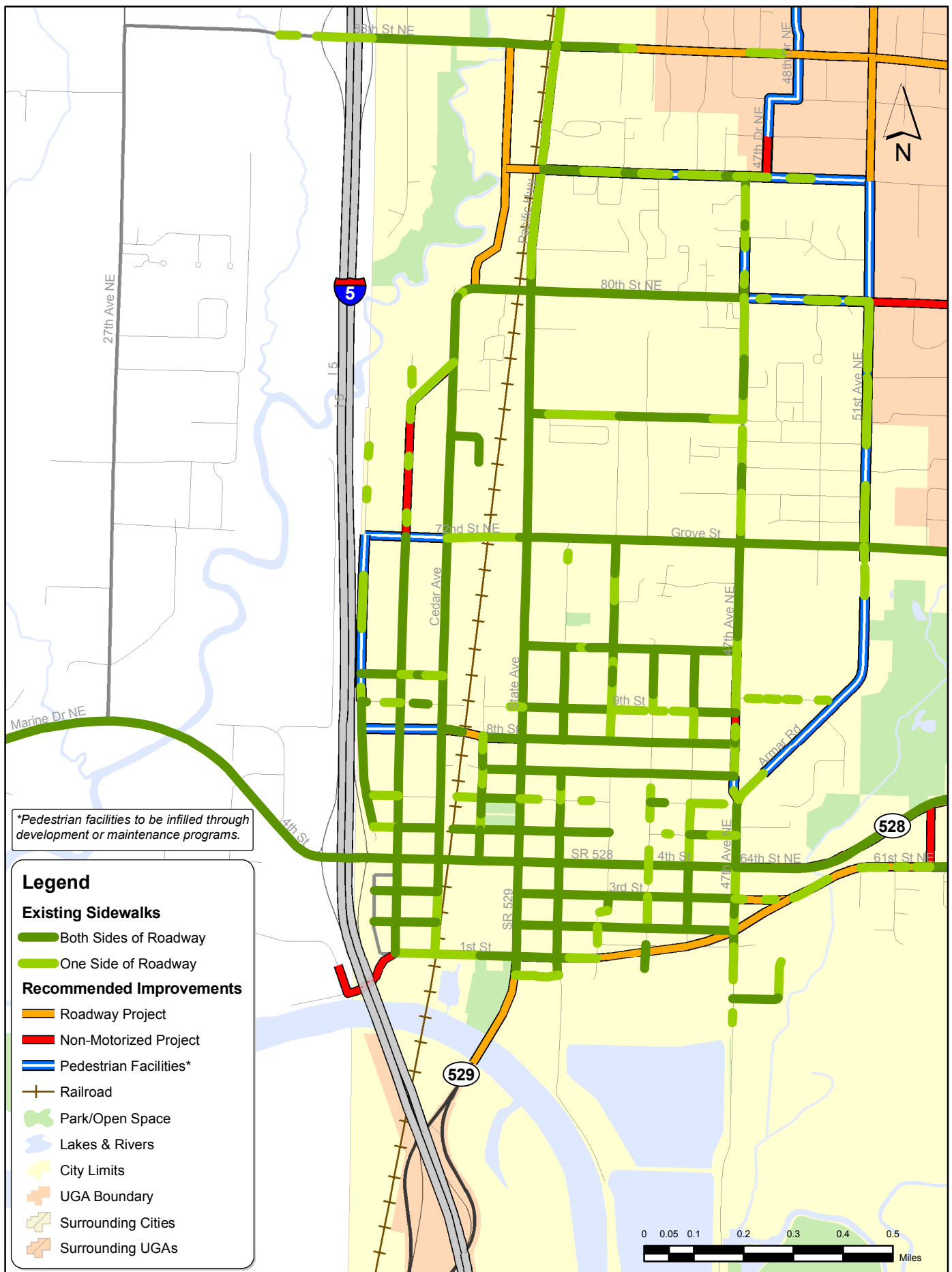
## Bicycle Systems Plan

**Figures 21 and 22** shows the planned bicycle system plan for Marysville and the surrounding areas.



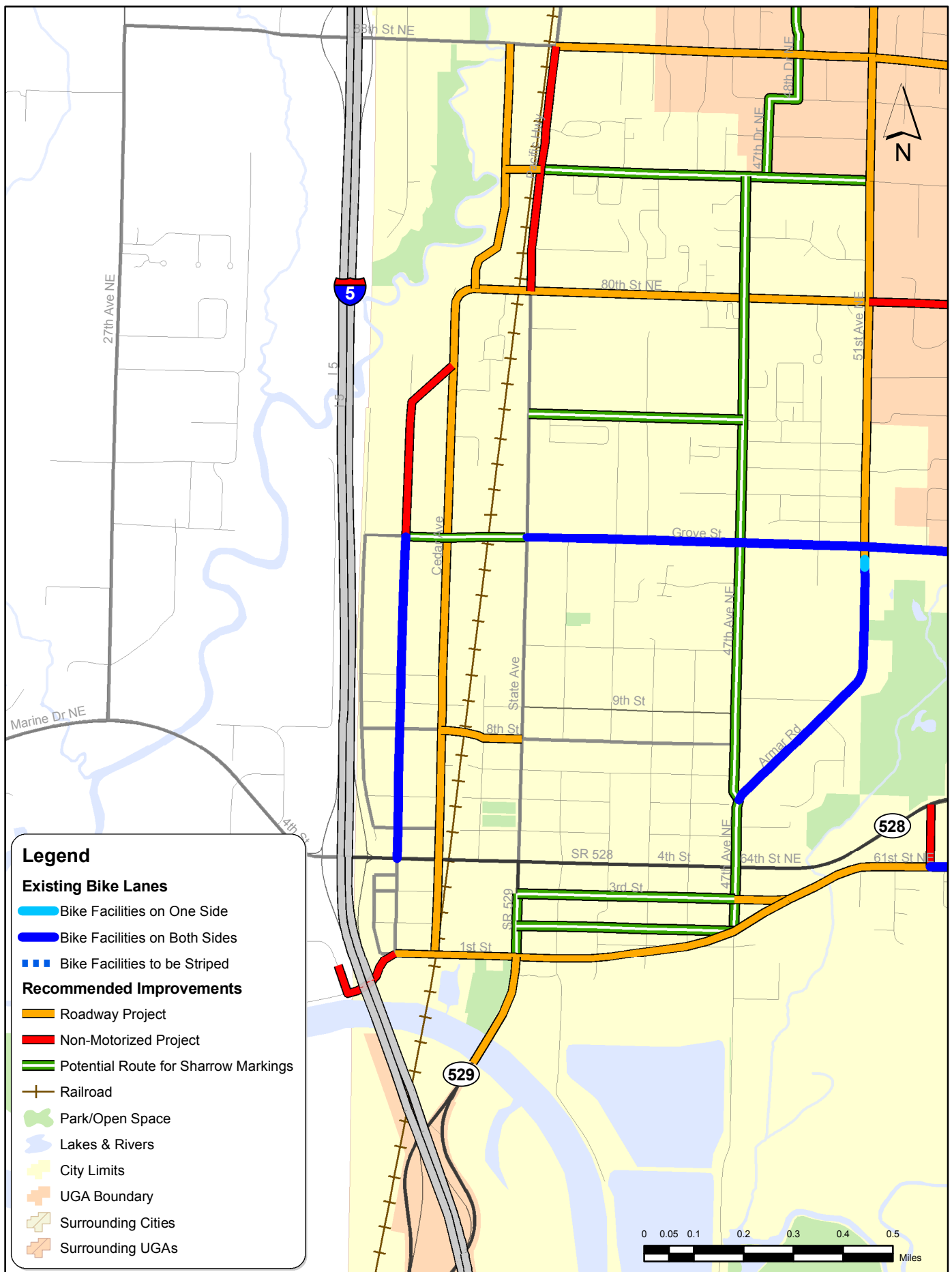


City of Marysville Transportation Element 2008



**Figure 20**  
Major Pedestrian System Plan - Downtown Area





**Figure 22**  
Bicycle System Plan - Downtown Area

City of Marysville Transportation Element Update

The bicycle system plan, when completed will provide facilities between the City's residential neighborhoods, the transit system, employment areas, schools, and parks.

The bicycle facilities will include multi-use trails, bike lanes, and lower volume roadways. Road shoulders may be appropriate bike facilities in the adjacent rural areas. Specific improvements for various corridors will be based on the City's Engineering Design and Development Standards (EDDS) and project level engineering studies. The City will investigate restriping some roadways to provide cost-effective bike facilities in various corridors, such as Cedar Avenue and 67th Avenue NE.

As shown on **Figures 21** and **22**, bicycle facilities would be along most key arterials. The most notable exception is State Avenue which serves as a transit connection point and has very high traffic volumes, a significant volume of trucks, and limited right-of-way.

In addition to the arterial routes, the plan identifies alternative corridors using lower volume roads. These are primarily located near downtown and in the 88th Street NE and 51st Avenue NE corridors.

## Transit and Transportation Demand Management

In order to provide a comprehensive transportation system, the City of Marysville recognizes the importance of transit and transportation demand management (TDM) programs. In general, these programs build on regional programs with some refinements to reflect the specific needs of the City.

### Transit

Transit service in the Marysville area is provided by Community Transit. Community Transit has an adopted six-year Transit Development Plan (TDP) for the period 2008 to 2013. The TDP provides a framework to guide Community Transit's service delivery through the next six years. The City should continue to work with Community Transit to improve transit services and develop a convenient, integrated and efficient transit system that supports future growth.

#### *Future Transit Service*

As part of Community Transit's 6 Year Transit Development Plan, the City of Marysville received analysis for possible service improvements. In the TDP, the Marysville area is slated for increased transit frequency and span of service during 2009 and a possible new route in 2011 to 2013. The new route would be focused on improving service between downtown Marysville and the Mariner park and ride lot in south Everett (via SR 9). The route restructuring planned during the 2011 time period would:

- Provide better service connections for riders in south County areas
- Enhance connections with *Swift* service and other regional providers and
- Improve running times by serving areas with high transit ridership and minimizing unproductive service hours.

Route restructure decisions will be based on stop-level ridership and on-time performance data produced by Community Transit's new Advanced Public Transportation Systems (APTS) data systems. This new system, to be implemented in 2008, will provide a new level of detail in analyzing transit route efficiency ridership demand.

Additional improvements to transit services should focus on the following elements:

- **Regional Corridors** – I-5 provides the primary link between Marysville and Everett, Lynnwood, Edmonds and King County. The City should continue to work with WSDOT to ensure the function of I-5 as a transit corridor (with high occupancy vehicle [HOV] lanes, queue jumps and direct access ramps, and conveniently located park-and-ride lots).

Other transit emphasis corridors serving Marysville include:

- **State Avenue/Smokey Point Boulevard:** the north-south corridor serves downtown Marysville and the rapidly growing Smokey Point area. Existing transit amenities include two park-and-ride lots just off-route in Marysville and new lots are planned in Marysville and Smokey Point/Arlington.
- **4th Street/64th Street NE (SR 528):** this east-west corridor extends between I-5 and SR 9. It serves the established Marysville downtown and two developing activity centers (east of downtown at 64<sup>th</sup> Street NE at 67<sup>th</sup> Avenue NE, and the intersection of SR 528 at SR 9).

On these transit emphasis corridors, the City will continue to promote the integration of buses with general traffic and non-motorized circulation. The City will also consider transit/HOV lanes and transit signal priority at major intersections.

- **Transit Centers** - Two new park-and-ride lots are identified in the transportation plan. They are located near 169th Place NE and Smokey Point Boulevard., and near Cedar Avenue and Grove Street. The Smokey Point park-and-ride will be a full transit center with access to local commercial uses
- **Local Circulator Transit Service** – The City should work with transit providers to establish a local circulator transit service that provides intra-community transit service. The local circulator service would provide connections to downtown, major commercial and mixed-centers in Marysville, park-and-ride lots and other key destinations. The circulator could connect the future employment areas in the Smokey Point/Arlington area with the surrounding residential areas in Marysville and adjacent areas.
- **Sunnyside/Whiskey Ridge Service** – Current transit service to the residential neighborhood is limited to bus stops on 64<sup>th</sup> Street NE (SR 528) serving two commuter routes (CT 421 and CT 821). With growing development planned in the neighborhood, the City should work with Community Transit to provide new bus routes on designated arterial streets including Sunnyside Boulevard, Soper Hill Road, 40th Street NE, 83rd Avenue NE, and 67th/71st Avenues NE.



- **Transit Accessibility** – The City will work to continue to provide additional bus stops along principal and minor arterials, to improve comfort of bus stops (shelters, benches, information, signing) and to improve access for all users in compliance with the Americans with Disabilities Act (ADA).
- **Transit Speed and Reliability** – The City also will coordinate with Community Transit to improve the reliability of transit services. Strategies include locating bus stops on the far side of signalized intersections to facilitate the merging of buses, providing bus pullouts on roadways with one lane in each direction, special detection arrangement at required rail crossing stopping points to extend signal service, and implementing a transit signal priority program to facilitate bus circulation on principal transit corridors.

### Transportation Demand Management (TDM) Program

In addition to improving the transit system, expansion of existing TDM programs are recommended to reduce the overall amount of travel by single-occupancy vehicles within the City. TDM programs are coordinated with regional agencies such as Snohomish County, Community Transit and PSRC.

The City of Marysville has adopted a Commute Trip Reduction (CTR) plan (see Chapter 11.52 of the Municipal Code). The plan establishes goals consistent with the state legislation (RCW 70.94.521) and focuses on major employers located in the city. Strategies focus on transit incentives, ridesharing services, parking management and work scheduling.

- **Transit Incentives** – Employers can provide free or reduced-rate transit passes to all employees.
- **Ridesharing** - Employers can develop and maintain a database of home addresses to facilitate carpool and vanpool matching between employees working on the same site. Employers can also provide financial incentives or reserved parking spaces for carpool and vanpool vehicles.
- **Flexible Work Schedules** – Flexible work hour schedules allow employees to adjust start/end times to accommodate carpools, vanpools, or transit options. Alternative work schedules can also be used to reduce the number of days an employee commutes during peak travel periods. These programs help reduce the need for adding capacity to highways and arterials, and reduce the levels of peak hour congestion.
- **Telecommuting** – The use of telecommunications technology can allow some employees to work from home, reducing the need for travel to and from a work site for some work days.
- **Secured Bicycle Parking and Showers** – Secured bicycle parking could be provided in the vicinity of major employment centers, preferably in a covered, weather-protected area. Shower facilities at work sites are also desirable to encourage commuting by bicycle.



## D. Financing Program

The comprehensive list of transportation improvement projects must be funded and implemented to meet existing and future travel demands in and around the City of Marysville. The first section presents the estimated project and program costs. Potential revenues are then presented. The financing program also includes a discussion of how additional funding could be raised to help implement the projects and programs.

### Project and Program Costs

**Table 10** summarizes the costs of the recommended transportation improvement projects and programs. These cover capital improvements, maintenance and operations, and bond debt services. The costs are summarized for the short- (2008-2015), mid- (2016-2025), and long-range (2026-2035) time periods based on the project timelines presented in **Tables 7, 8, and 9**. The cost summary includes projects within the City of Marysville existing city limits and the improvements within the Marysville Urban Growth Area (UGA). The improvement projects within the UGA are included because the area is anticipated to be annexed within the next several years. Once the area is annexed, the City will have responsibility for funding and implementing the improvements. Snohomish County has three intersection projects along 51st Avenue NE programmed for funding and construction by 2009. Because Snohomish County has programmed funding and construction for these projects within the UGA, their costs are not included in the City's financing program. All costs are presented in constant 2008 dollars. The City costs also include potential City contributions to projects at the I-5 interchanges with 116th Street NE and 156th Street NE.

**Table 10. Transportation Project and Program Costs (2008-2035)**

|                                | Short-Range Costs <sup>1</sup><br>(2008-2015) | Mid-Range Costs <sup>1</sup><br>(2016-2025) | Long-Range Costs <sup>1</sup><br>(2026-2035) | Total Costs <sup>1</sup><br>(2008-2035) |
|--------------------------------|---|---|--|---|
| Capital Projects <sup>2</sup>  | \$95,010                                      | \$368,050                                   | \$147,590                                    | \$610,650                               |
| Maintenance & Ops <sup>2</sup> | 30,530  | 45,640                                      | 55,640                                       | 131,810                                 |
| Bond Debt Service              | 6,540   | 9,840                                       | 1,240  | 17,620                                  |
| <b>Total</b>                   | <b>\$132,080</b>                              | <b>\$423,530</b>                            | <b>\$204,470</b>                             | <b>\$760,080</b>                        |

1. All costs in \$1,000s of 2008 Dollars

2. Includes projects and maintenance/operations for transportation facilities in City's urban growth area (UGA) which is anticipated to be annexed within the next several years.

Planning level cost estimates were developed for the capital improvements presented in the Transportation Systems Plan section of the Transportation Element. Cost estimates were prepared based upon average unit costs for recent transportation projects within the City.

Maintenance and operations costs were projected based on recent expenditures and assuming a 2 percent annual growth to account for expected population growth and annexation. These costs cover maintenance and operations on City streets, street overlays and other miscellaneous sidewalk and safety improvement programs.

The debt service category covers the remaining principal and interest on bonds that the City issued to help fund several transportation projects. Issuance of new bonds in the future is

not currently anticipated. Bond expenditures include total outstanding balance (principal and interests) as of 2008. The projects that are partially funded with bonds include:

- State Avenue (1st Street to Grove Street);
- State Avenue (116<sup>th</sup> to 136<sup>th</sup>);
- State Avenue (136<sup>th</sup> to 152<sup>nd</sup>);
- 4th Street (SR 528)/47<sup>th</sup> Avenue NE;
- 3rd Street/47th Avenue NE.

A total of roughly \$611 million (in 2008 dollars) would be needed to fully fund the capital improvements under the jurisdiction of the City of Marysville or located within the UGA. Other projects under the jurisdiction or lead of WSDOT, Snohomish County or the City of Arlington would be needed as part of this plan but are not included in the City's financial analysis. The costs of these projects would be in addition to the City's.

In addition to capital costs, annual maintenance and operations programs result in \$132 million. Paying off existing bonds adds another \$17.6 million. Combined, the 2008-2035 Transportation Element would require \$760 million in 2008 dollars.

## Revenue Projections

Funding sources for transportation projects include various fees and tax revenues, grants, bonds, developer contributions and traffic impact fees. The estimates were based on revenues allocated to transportation funding during the last five years and discussions with City staff. Estimates of potential revenues from each source were projected for two scenarios. The TRENDS scenario generally reflects recent growth trends in the City's revenues, population and employment. This likely represents a conservative assessment of available revenues from these sources. The HIGH scenario applies a higher growth rate to existing revenues to estimate future funding compared to the TRENDS scenario. The higher growth rate is based on the 2008-2035 land use forecasts used in preparing the travel forecasts for the Transportation Element. The HIGH scenario does not represent the maximum funding that could be generated, but provides a less conservative projection for the long-range planning horizon than the TRENDS scenario.

**Table 11** summarizes projected revenues for the TRENDS and HIGH scenarios. Based on these assumptions, the City would generate almost \$390 million (in 2008 dollars) over the life of the plan under the TRENDS scenario. This would increase to \$559 million under the HIGH scenario. The assumptions and results for each group of funding sources are presented below.

**Table 11. Transportation Funding Revenue Projections (2008-2035)**

| Revenue Source                | TRENDS Scenario Total <sup>1</sup> | HIGH Scenario Total <sup>1</sup> |
|-------------------------------|------------------------------------|----------------------------------|
| Real Estate Excise Tax (REET) | \$69,012                           | \$85,862                         |
| Sales & Use Taxes             | 49,614                             | 55,653                           |
| Motor Vehicle Fuel Tax        | 31,349                             | 39,003                           |
| Miscellaneous                 | 16,049                             | 16,049                           |
| Grants                        | 23,200                             | 48,074                           |
| Bonds                         | 5,777                              | 5,777                            |
| Traffic Impact Fees           | 34,155                             | 148,809                          |
| Developer Construction        | 159,862                            | 159,862                          |
| <b>Total</b>                  | <b>\$389,052</b>                   | <b>\$559,089</b>                 |

1. All revenues in \$1,000s of 2008 Dollars

## Tax Revenues

The City directs revenues from three primary taxes toward transportation improvements and programs. These include Real Estate Excise Taxes, Sales and Use Taxes, and Motor Vehicle Fuel Taxes (Gas Taxes). Under the TRENDS scenario, these three taxes would generate approximately \$150 million in revenues between 2008 and 2035, in 2008 dollars. The TRENDS tax revenue projections presented in Table 11 are based on a moderate level of population growth (1.5% annual growth). The City may see higher growth in the annual tax revenues depending on the actual population growth, including annexations. Assuming the higher growth rate based on the 2008-2035 household and employment forecasts, the City could generate approximately \$180 million in tax revenues under the HIGH scenario. The City could also choose to direct a higher proportion of the real estate excise tax to transportation funding, which is not assumed in this analysis.

## Miscellaneous

In addition to the above tax revenues, the City directs other funding toward transportation improvements and programs. These miscellaneous funds include items such as inspection fees and a portion of stormwater management fees related to street work. Based on the average miscellaneous revenues for 2004 to 2008, these funds are estimated to generate \$16 million over the life of the plan, in 2008 dollars. This value is assumed for both the TRENDS and HIGH scenarios.

## Grants

The City has secured several grants during the past few years. Between 2004 and 2008, the City has secured an average of \$1.7 million per year in various grants. Major projects that are in progress are being funded in part by grants (Ingraham Boulevard and State Avenue). The City does not anticipate as high of level of grant opportunities in the near future. For this reason, the projections presented in Table 11 for the TRENDS scenario are based on annual grant revenues of \$750,000. This would result in \$20-\$25 million (in 2008 dollars) in funding by 2035.

Funding through grants is tied to specific programs and types of projects. Several grant programs target transportation projects that support regional economic growth, mobility, and other travel models. Many of the projects identified in the Transportation Systems Plan support regional needs and would likely be eligible for some grant funding.

The Surface Transportation Program (STP) provides funding for projects on any Federal-aid highway, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities.

The State Transportation Improvement Board (TIB) provides funding for urban areas through various programs: the Urban Arterial Program focuses on roadway projects that improve safety and mobility; the Urban Corridor Program focuses on roadway projects with multiple funding partners that expand capacity; the Sidewalk Program focuses on sidewalk projects that improve safety and connectivity.

The Congestion Mitigation and Air Quality (CMAQ) program is a federally funded program administered through PSRC. CMAQ funds projects and programs in air quality non-attainment and maintenance areas, which reduce transportation related emissions.

Grants are also available to fund specific programs such as Intelligent Transportation Systems (ITS) implementation projects.

Examples of projects that could be eligible for grants include the widening of 88<sup>th</sup> Street (between State Avenue and SR 9) and the widening of State Avenue (between 100<sup>th</sup> Street and 152<sup>nd</sup> Street).

If the City is successful in maintaining the level of grant revenues that has been experienced in the last few years (\$1.67 million dollars per year), the total grant revenues could be in the range of \$45-\$50 million (in 2008 dollars) over the 28-year life of the plan. This results in the HIGH scenario grant funding being approximately twice the grant funding assumed for the TRENDS scenario.

## **Bonds**

Bonds do not result in additional revenues, but allow the City to fund and construct projects earlier than they would be able to under their current revenue options. The interest on these bonds results in increased costs, as shown in **Table 10**.

The City of Marysville has issued bonds for funding public infrastructure projects. The bond package was issued in 2007 for a total amount of just over \$8 million. The proceeds of this bond package are allocated to funding of four different projects:

- State Avenue (116<sup>th</sup> Street to 136<sup>th</sup> Street);
- State Avenue (136<sup>th</sup> Street to 152<sup>nd</sup> Street);
- 4<sup>th</sup> Street (SR 528)/47<sup>th</sup> Avenue NE;
- 3<sup>rd</sup> Street/47<sup>th</sup> Avenue NE.

In 2003, the City issued bonds for improvements to State Avenue between 1st Street and Grove Street. This improvement is complete, but the City must pay off the principal and interest as part of the total transportation financing program.

Although the City does not anticipate issuing new bonds in the near future, it remains an option available for accelerating funding some of the capital improvement projects included in this Transportation Element over the life of the plan.

## **Traffic Impact Fees**

The Growth Management Act (GMA) allows agencies to develop and implement a transportation impact fee (TIF) program to help fund some of the costs of transportation facilities needed to accommodate growth. State law (Chapter 82.02 RCW) requires that TIFs be:

- Related to improvements to serve new developments and not existing deficiencies
- Assessed proportional to the impacts of new developments
- Allocated for improvements that reasonably benefit new development
- Spent on facilities identified in the Capital Facilities Plan.

The City of Marysville has adopted a transportation impact fee program defined in Chapter 18B (Traffic Impact Fees and Mitigation) of the City's Municipal Code. The ordinance was updated in May 2007 to revise the calculation of the City's traffic impact fees resulting from changes in the Capital Facilities Plan. The resultant traffic impact fee cost per PM peak hour trip is based on the maximum potential impact fee funding divided by the total new PM peak hour trips. An adjustment factor is applied to the rate to reduce the rates and to reflect differences in tax revenues between commercial and residential development. The adopted 2007 TIF rates were \$2,000 per new PM peak hour trip for commercial projects and \$6,300 per new PM peak hour trip for residential projects.

As part of the 2008 Transportation Element, a detailed update of the traffic impact fee program was conducted. The methodology and findings are described in more detail in Appendix A (Traffic Impact Fees) of this Transportation Element. Appendix A identifies the specific improvement projects and costs included in the TIF.

The impact fees for the TRENDS scenario are based on an annual average of \$1.2 million per year. This estimate is based on expected annual revenues over the next several years. Based on the slowing of growth in the last year or so, the City expects reduced TIF revenues, at least in the near future. The slowing in growth would delay the need for some of the growth-related improvements, reducing the associated funding needs. This would generate approximately \$34 million in funding.

Applying the proposed 2008 impact fee rates of \$6,300 for residential and \$2,220 for commercial trip ends to the forecast housing and employment growth could generate up to \$149 million in TIF revenues. This is nearly \$115 million greater than the estimate based on the City's budget projection for 2008. The actual TIF revenues will be directly tied to the level of growth that occurs. The TIF allows the City to better match funding for growth-related improvements to the pace of growth.

Based on the 2008 maximum potential TIF rate of \$6,800 per PM peak hour growth trip, the City could generate up to \$282 million in funding. As noted above, it has been the City's policy to apply an adjustment factor to reduce the overall TIF to balance the proportion of improvements funded by new development.

The City will not actually collect all of the TIF funds because developers will be asked to construct some of the projects. Where a developer is conditioned to construct all or a portion of TIF project, the City will provide credits, consistent with GMA requirements.

### **Developer Commitments**

The City also implements its transportation improvements by requiring developers to construct frontage improvements, to mitigate their traffic impacts pursuant to the State Environmental Policy Act (SEPA), and/or to meet concurrency requirements. The City requires developments to fund and construct certain roadway improvements as part of their projects. These typically include constructing abutting local streets and arterials to meet the City's design standards. These improvements can include widening of pavement, drainage improvements, curbs, gutters, bicycle facilities and sidewalks.

The City evaluates impacts of development projects under SEPA. The SEPA review may identify adverse transportation impacts that require mitigation. These could include impacts related to safety, traffic operations, non-motorized travel, or other transportation issues. Many of these developer-funded improvements are also identified as specific projects in the Transportation Element.

Per GMA, the City requires an evaluation of transportation concurrency for development projects. The concurrency evaluation may identify impacts that make the facilities operate below the City's level of service standard. To resolve any deficiencies, the applicant can propose to fund and/or construct improvements to provide an adequate level of service. Alternatively, the applicant may decide to wait for the City, another agency, or another developer to fund and/or construct the needed improvements.

Several of the projects identified in the Transportation Element would be totally or partially funded by developer contributions exclusive of the TIF program. The plan identifies several new arterials and collectors that will be primarily constructed as part of adjacent developments. These would not be part of the TIF program. Table 11 estimates that a total of \$160 million of improvements would be funded through developer construction, exclusive of the TIF program under either the TRENDS or HIGH scenarios.

### **Transportation Benefit District**

While not part of existing funding programs, the City could decide to fund some of the transportation improvements through a Transportation Benefit District (TBD). A TBD allows cities to impose an array of taxes or fees either through a vote of the people or through council action. The revenue options subject to voter approval include levy on property taxes, increase of sales and use tax, annual vehicle fee (up to \$100 per year) or vehicle tolls. Revenue options not subject to voter approval include an annual vehicle fee of

less than \$20 and transportation impact fees. If the City decides to exercise the tax authority that does not require a public vote, the TBD must be citywide. The City of Marysville could also partner with other jurisdictions, including the County or other cities, in formation of a TBD. FY 2008 data indicates that about 57,500 vehicles are registered in Marysville and would be eligible for an annual vehicle fee under a citywide TBD. Assuming a \$20 fee, the City could generate over one million dollars per year or more than \$30 million over the 28-year life of the plan.

### Other Agency Funding

The City of Marysville will need to continue to partner with WSDOT, Snohomish County, City of Arlington, City of Lake Stevens and Tulalip Tribes to fund and implement projects identified in the Transportation Element. Funding of improvements along I-5 and SR 9 are expected to come mostly from WSDOT. These include three new I-5 interchanges (at 88<sup>th</sup> Street, 116<sup>th</sup> Street and 156<sup>th</sup> Street), interchange improvements at the 172<sup>nd</sup> Street interchange, as well as major widening and intersection improvements along SR 9. The Ebey Slough replacement bridge on SR 529 is also funded by WSDOT.

Some of the transportation improvements included in the Transportation Element are outside the City limits. The City should continue to partner with the County, adjacent cities and the Tulalip Tribes to fund these types of joint projects. One strategy for partnering would be Interlocal Agreements with these agencies on impact fees or other possible funding mechanisms.

### Financing Strategy

As noted in **Table 10**, in order to fully fund the transportation improvement projects and programs, the City would need approximately \$760 million (in 2008 dollars) between 2008 and 2035. The TRENDS and HIGH funding scenarios result in approximately \$390 to \$560 million (in 2008 dollars) in revenues or developer funding for the same time period, respectively. This results in a shortfall of \$200 - \$370 million (in 2008 dollars) over the life of the plan.

### Time Horizon Analyses

As discussed in the Transportation Systems Plan section, each project has been assigned to a relative time period for implementation. The time period analysis takes into account the relative project priority, availability of funding, and proximity to forecast growth throughout the City. **Table 12** summarizes the allocation of project and program costs for each of the three time horizons as presented in **Tables 7, 8, and 9**:

- Short-range (2008-2015)
- Mid-range (2016-2025)
- Long-range (2026-2035)

**Table 12** also allocates the forecast revenues and developer funding to the three time periods. Forecast revenues from each of the funding sources are evenly spread over the 28-year planning period, with two exceptions. Bond revenues are all included in the short-range



time period since the final bond proceeds will be received in 2008. The funding associated with developer construction of non-impact fee projects has been matched with the project timing. If a developer constructs the improvement in a different time horizon, both the revenues and the costs would shift to the other time period. This would not significantly affect the City's financial strategy.

**Table 12. Financing Summary by Planning Time Horizon**

|  | Short-Range <sup>1</sup><br>(2008-2015) | Mid-Range <sup>1</sup><br>(2016-2025) | Long-Range <sup>1</sup><br>(2026-2035) | Total<br>(2008-2035) |
|--|---|---------------------------------------|--|----------------------|
| <b>A. Projected Revenues<sup>1,2</sup></b> |   |                                       |  |                      |
| TRENDS Scenario                            | \$71,550                                | \$210,820                             | \$106,680                              | \$389,050            |
| HIGH Scenario                              | 120,130                                 | 271,550                               | 167,410                                | 559,090              |
| <b>B. Total Project and Program Costs</b>  |   |                                       |  |                      |
| Total Costs <sup>1,3</sup>                 | 132,080                                 | 423,530                               | 204,470                                | 760,080              |
| <b>C. Difference (A - B)<sup>1,4</sup></b> |   |                                       |  |                      |
| TRENDS Scenario                            | (60,530)                                | (210,710)                             | (97,790)                               | (371,030)            |
| HIGH Scenario                              | (11,950)                                | (151,980)                             | (37,060)                               | (200,990)            |

1. All values in \$1,000s of 2008 dollars

2. From Table 10

3. From Table 11

4. Subtract project and program costs from projected revenues (xxx) = denotes funding deficit

The shortfall in funding under either the TRENDS or HIGH scenarios would primarily affect the ability of the City to fund the capital improvements. The City is obligated to fund its debt service requirement to bond holders. The City also is committed to funding the maintenance and operations programs needed to preserve the integrity, safety, and efficiency of its existing transportation system. The maintenance and operations cost will expand with the future annexation of its UGA.

The most critical part of the funding program is the short-range time period. These improvements are needed to resolve existing deficiencies and safety issues. Furthermore, some of these improvements will add capacity needed to maintain the City's LOS standards to meet concurrency requirements for the next several years.

As shown in **Table 12**, the revenues in the short-range time horizon will be approximately \$12 - \$60 million less than the total costs. The City will seek additional funding to close the gap between short-range revenues and costs. These could include seeking additional grants, joint agency funding, formation of local improvement districts (LIDs), or adopting a Transportation Benefit District (TBD). In the future, the City also could consider reducing the adjustments to its TIF rates to generate additional revenues. If additional funding is not secured, the City could phase some of the improvements or simply delay improvements to beyond 2015. The City also could modify project level designs to help reduce costs.

Revenues for the mid-range horizon are \$150 to \$210 million less than the identified project costs for that 10 year period. The City can implement similar strategies for these projects as described for the short-range horizon. It is likely that many projects identified for the mid-range time horizon will be deferred to beyond 2025, unless significant new or expanded funding sources are identified. The success of programs to shift travel to other modes also

can reduce, or delay, the needs for some of the improvements. Some of the improvements may be dropped from the plan as part of future updates to the Transportation Element.

The long-range (2026-2035) funding program is projected to have a deficit of \$35 to \$100 million. This deficit would increase if projects are delayed from the short- and mid-range time horizons. The City will have a better idea of actual growth and impact fee revenues and potential regional transportation funding packages (such as TBD). Projects may be dropped, or delayed, in the plan. The City also could shift more of the costs to development projects.

## Reassessment Strategy

Although the financing summary recognizes the potential for a \$200 to \$370 million (in 2008 dollars) shortfall over the life of the plan, the City is committed to reassessing their transportation needs and funding sources each year as part of its Six-Year Transportation Improvement Program (TIP). This allows the City to match the financing program with the short term improvement projects and funding. The plan also includes goals and policies to periodically review land use growth, adopted level of service standards, and funding sources to ensure they support one another and meet concurrency requirement.

In order to implement the Transportation Element, the City will consider the following principals in its transportation funding program:

- As part of the development of the annual Six-Year Transportation Improvement Program, the City will balance improvement costs with available revenues;
- Review project design standards to determine whether costs could be reduced through reasonable changes in scope or deviations from design standards;
- Fund improvements or require developer improvements as they become necessary to maintain LOS standards to meet concurrency;
- Explore ways to obtain more developer contributions to fund the improvements;
- Coordinate and partner with WSDOT, Tulalip Tribes, Snohomish County and local cities and vigorously pursue grants from state and federal agencies to fund and implement improvements to I-5 and SR 9.
- Work with Snohomish County to develop multi-agency grant applications for projects that serve growth in the City and its UGA;
- Review funding strategy to see if the transportation impact fees should be revised to account for the updated capital improvement project list and revised project cost estimates;
- If the actions above are not sufficient, the City could consider changes in its level of service standards and/or possibly limit the rate of growth in the City or UGA as part of future updates of its Comprehensive Plan;
- Some lower priority projects may be slid or deleted from the program.

The City of Marysville will use the annual update of the Six-Year Transportation Improvement Program (TIP) to re-evaluate priorities and timing of projects. Throughout the planning period, projects will be completed and priorities will be revised. This will be accomplished by annually reviewing traffic growth and the location and intensity of land use growth in the City and the UGA. The City will then be able to direct funding to areas that

are most impacted by growth or to arterials that may fall below the City's level of service (LOS) standards. The development of the TIP will be an ongoing process over the life of the Plan and will be reviewed and amended annually.

## E. Goal and Policies

The overall goal of the City of Marysville Transportation Element is:

*“The City will have a safe, cleaner, integrated, sustainable, and highly efficient multi-modal transportation system that supports the City land use plan and regional growth strategy and promotes economic and environmental vitality and improves public health.”*

The following policies provide guidance in implementing the plan. The policies build from state requirements, the regional Vision 2040 policies, Snohomish County’s Countywide Planning Policies, and City of Marysville objectives. They are organized into the following categories:

- Transportation System Efficiency and Safety
- Public Involvement and Agency Coordination
- Land Use and Economic Development
- Mobility Options
- Sustainable Transportation Systems and the Environment
- Levels of Service Standards and Concurrency Program
- Financing and Implementation

### Transportation System Efficiency and Safety

Policy T-1: Maintain and operate the transportation system to provide safe, efficient, and reliable movement of people, goods, and services.

Policy T-2: Protect the investment in the existing system and lower overall life-cycle costs through effective maintenance and preservation programs.

Policy T-3: Improve the safety of the transportation system for all travel modes.

Policy T-4: Reduce the need for new capital improvements through investments in operations, demand management strategies, and system management activities that improve the efficiency of the current system.

Policy T-5: Strategically expand capacity and increase efficiency of the transportation system to move goods, services, and people to and from, and within the City’s urban growth area. Focus on investments that produce the greatest net benefits to people and minimize the environmental impacts of transportation.

Policy T-7: Implement transportation improvements through adopted design standards, by roadway function, to meet the multi-modal needs of the City.

Policy T-8: Apply good access management practices to arterials to improve the safety and operational efficiency of the system.

Policy T-9: Work with WSDOT and other stakeholders to improve multi-modal access to the regional highway system.

Policy T-10: Implement an Intelligent Transportation System (ITS) to enhance the efficiency of the City's transportation system.

Policy T-11: Work with WSDOT and other agencies to ensure compatibility of traffic signal timing to improve efficiency of travel.

### **Public Involvement and Agency Coordination**

Policy T-12: Encourage and solicit public participation from user groups, such as Healthy Communities, in the planning, design, and implementation of a multi-modal transportation system.

Policy T-13: Coordinate the planning, implementation, and operation of a safe and efficient multi-modal transportation system with stakeholders including WSDOT, Snohomish County, neighboring cities, the Tulalip Tribes, and transit providers.

### **Land Use and Economic Development**

Policy T-14: Give funding priority to transportation improvements that serve growth centers and manufacturing and industrial centers.

Policy T-15: Prioritize investments in transportation facilities and services that support compact, pedestrian- and transit-oriented densities and development.

Policy T-16: Make transportation investments that improve economic and living conditions so that industries and skilled workers continue to be retained and attracted to the region.

Policy T-17: Ensure the freight system meets the needs of regional and local distribution.

Policy T-18: Maintain and improve the existing freight transportation system to increase reliability and efficiency and to prevent degradation of freight mobility.

Policy T-19: Coordinate planning with railroad capacity expansion plans and support capacity expansion that is compatible with local plans.

Policy T-20: Coordinate with the railroads and trucking industry to improve the safety and efficiency of freight movement and reduce the impacts on other travel modes.

Policy T-21: Apply livable urban design principles for growth centers and transit areas.

Policy T-22: Implement transportation programs and projects in ways that prevent or minimize negative impacts to low income, minority, and special needs populations.

Policy T-23: Continue to review and update the City's truck route plan.

## **Mobility Options**

Policy T-24: Promote and incorporate bicycle and pedestrian travel as important modes of transportation by providing facilities and reliable connections.

Policy T-25: Improve local street patterns – including their design and how they are used – for walking, bicycling, and transit use to enhance communities, accessibility, connectivity, and physical activity.

Policy T-26: Encourage the connection of streets when considering subdivision or street improvement proposals, unless topographic or environmental constraints would prevent it. Limit the use of cul-de-sacs, dead-end streets, loops, and other designs that form barriers in the community. Recognize that increasing connections can reduce traffic congestion and increase neighborhood unity.

Policy T-27: Ensure mobility choices for people with special transportation needs, including persons with disabilities, the elderly, the young, and low-income populations.

Policy T-28: Complete and upgrade pedestrian and bicycle facilities.

Policy T-29: Support improvements to expand and improve access to the regional trail system.

Policy T-30: Work with Community Transit to expand transit and paratransit service to/from and within the City.

Policy T-31: Coordinate with Community Transit and other jurisdictions on Commute Trip Reduction programs for major employers in Marysville and the region.

Policy T-32: Monitor and expand on program to meet the goals and requirements of the Commute Trip Reduction Act.

Policy T-33: Work with Community Transit, WSDOT, and other stakeholders to locate, construct and operate transit centers, park-and-ride and park-and-pool lots.

## **Sustainable Transportation Systems and the Environment**

Policy T-34: Design transportation facilities to fit within the context of the built or natural environments in which they are located.

Policy T-35: Develop a transportation system that minimizes negative impacts to human health and promotes a healthy community.

Policy T-36: Support implementation of transportation modes and technologies that are energy efficient and improve system performance.

Policy T-37: Protect the transportation system against disaster, develop prevention and recovery strategies, and plan for coordinated responses.

Policy T-38: Identify and preserve rights-of-way for future transportation system needs.

## **Level of Service Standards and Concurrency**

Policy T-39: Establish concurrency standards for the City based on the Level Of Service of intersecting arterials and signalized intersections during weekday PM peak hour per the latest version of the *Highway Capacity Manual* (HCM), Transportation Research Board.

Policy T-40: Set the acceptable level of service (LOS) for signalized intersections and intersections of two (or more) arterials as follows:

- LOS E mitigated for:
  - SR 529/State Avenue/Smokey Point Boulevard within the City of Marysville
  - 4th Street/64th Street (SR 528) within the City
- LOS D for:
  - All other intersections of two or more arterials within the City

Policy T-41: Implement a transportation concurrency management program consistent with the 6 year horizons of GMA and the City TIP to ensure adequate transportation facilities are concurrent with development.



## Financing and Implementation

Policy T-42: Develop the annual Six-Year Transportation Improvement Program (TIP) so it is financially feasible, leverages available City funding, and is consistent with the Comprehensive Plan.

Policy T-43: Pursue grants for funding a range of multi-modal transportation improvements.

Policy T-44: Ensure growth mitigates its impacts through payment of transportation impact fees, State Environmental Policy Act (SEPA) conditions, concurrency, and other development regulations.

Policy T-45: Partner with other agencies to fund regional transportation improvement projects needed to serve the City.

Policy T-46: Work with adjoining agencies to mitigate development traffic impacts that cross jurisdictional boundaries.

Policy T-47: Support use of Local Improvement Districts (LID) or other public/private funding for upgrading existing transportation facilities.

Policy T-48: Maintain a transportation database to measure operations and safety, of the transportation system for use in defining improvement projects and priorities.

Appendix A: Traffic Impact Fee (TIF)  
Methodology

# **APPENDIX A: Traffic Impact Fees (TIF)**

The City of Marysville has adopted a transportation impact fee program defined in Chapter 18B (Traffic Impact Fees and Mitigation) of the City's Municipal Code. The ordinance was updated in May 2007 to revise the calculation of the City's traffic impact fees resulting from changes in the Capital Facilities Plan.

A detailed revision of the traffic impact fee program was prepared based on the 2008 Transportation Element of the Comprehensive Plan. The forecast year for the Transportation Element was set at 2035. This decision extends forecasting for the population and employment by 10 years compared to the prior Transportation Element. It also results in additional growth-related transportation improvement needs. The longer-range horizon year allows the City to better plan for and size transportation facilities that will be needed as the City grows.

The TIF analysis included the following steps:

- Identify growth-related improvement projects and eligible TIF costs
- Define TIF service area(s)
- Calculate potential maximum TIF rates
- Apply adjustments to the rate to reflect differences in taxes paid by commercial versus residential development and policy direction from the City Council.

## **Growth-Related Improvement Projects and TIF Costs**

Under GMA, the impact fees can be imposed upon new development for public facilities needed to serve new growth. The impact fees' improvements must be reasonably related to the new development. The resulting fees should represent a proportionate share of the costs of the facilities and must be used on facilities that reasonably benefit the new development.

GMA allows the impact fee program to include future growth-related improvements. It also allows for inclusion of costs for previously constructed improvements to the extent the projects serve growth.

The following summarizes the projects and costs included in the City of Marysville 2008 TIF program.

### **2008 Transportation Element Growth-Related Projects**

The list of transportation improvement projects (see Tables 7, 8, and 9) recommended in the 2008 Transportation Element needed to support growth forecasts through 2035 was reviewed to identify the projects eligible for inclusion in the Traffic Impact Fee program. These projects were identified as being needed to support growth in the City, as well as regionally generated traffic. These projects primarily included selected new roadways, major widening projects, minor widening improvements, and intersection improvements needed to provide system capacity and maintain the City's LOS standards. Due to the anticipated

annexation of the City's Urban Growth Area in the next one to two years, the TIF program includes projects that would likely be constructed by the City after annexation. (The growth in the annexation area is also included in the TIF calculation, as described later). The TIF projects do not include improvements that the City expects to fund through other separate developer contributions (frontage improvements, SEPA mitigation, or concurrency requirement). The TIF projects also do not include improvements that only resolve existing deficiencies, such as constructing a missing segment of a sidewalk or resolving a safety problem.

Attachment 1 presents the transportation improvement projects recommended in the 2008 Transportation Element update that are TIF eligible. The attachment also shows the share of the project costs that is TIF eligible. They include projects located within the existing City limits and the UGA. The TIF program would include almost \$429 million of the costs of these projects. The TIF costs include the City's contribution to two I-5 interchange projects. Of the \$429 million in costs included in the TIF, \$363 million (85%) is for projects within the existing City limits. The other \$66 million covers TIF projects within the City's UGA.

### Previously Completed Growth-Related Transportation Projects

Over the past several years, the City has constructed several growth-related transportation projects. These improvements have been included in the City's previous TIF programs and are included in the 2008 update. Table 1 summarizes the improvements and their costs. The four projects total approximately \$20 million.

**Table 1. Previously Completed TIF Projects and Costs**

| Project   | Description   | Project Cost        | Notes  |
|---|---|---------------------|--|
| State Avenue (Ebey Slough to Grove Street)        | Widen lanes (12-ft. outside and 11-ft. inside). Move the traffic signal from 5th Street to 6th Street; and remove left-turn lanes at the intersections of 5th Street and 7th Street | \$9,500,000         | Partially funded through 2003 bond                           |
| 67th Avenue NE and 84th Street NE                 | Install traffic signal  | \$250,000           | Project complete   |
| 116th St NE (I-5 to State Avenue)                 | Widen to 5 lanes and add a right-turn lane for eastbound traffic  | \$3,018,000         | Project complete   |
| State Avenue (116th Street NE to 136th Street NE) | Widen to 3 lanes with curb, gutter and sidewalk on west side, and an 8-ft. shoulder on the east side  | \$7,100,000         | Project completed and in debt service (3-lane widening only) |
| <b>Subtotal</b>                                   |   | <b>\$19,868,000</b> |  |

### Debt Service Interest

Recently, the City of Marysville has issued two bonds to allow it to advance funding for several growth-related improvements. The interest on these bonds owed by the City is included in the TIF program. The City is paying off two bonds issued in 2003 and 2007. The total interest due for these two bonds is \$6,760,000, as shown on Table 2, is included in the 2008 TIF program.

| <b>Table 2. Bond Debt Service Summary</b> |                            |                            |
|---|----------------------------|----------------------------|
| <b>Bond Year</b>                          | <b>Total Bond Proceeds</b> | <b>Total Bond Interest</b> |
| 2003                                      | \$3,612,500                | \$2,324,500                |
| 2007                                      | \$8,045,000                | \$4,435,700                |
| <b>Total</b>                              | <b>\$11,657,500</b>        | <b>\$6,760,200</b>         |

## Summary of Impact Fee Eligible Costs

The total maximum potential impact fee funding is summarized in Table 3. The revised TIF program includes \$455 million in costs through 2035.

| <b>Table 3. Summary of Impact Fee Eligible Costs</b> |   |
|--|---|
|  | <b>Traffic Impact Fee Eligible Cost</b> |
| Capital Projects in City                             | \$363,389,000                           |
| Capital Projects in UGA                              | \$65,169,000                            |
| Completed Projects                                   | \$19,868,000                            |
| Debt Service Interests                               | \$6,760,000                             |
| <b>Total</b>   | <b>\$455,186,000</b>                    |

## Service Areas

As part of the TIF program update, the City evaluated the option of using multiple service areas for its TIF program. A concept of four districts (three within the City and one for the UGA) was evaluated. The analysis showed that the differences between the maximum allowable fee rates for each district were relatively small (within 25% of the average). It was determined that this range did not just justify the application of a multi-service area system.

Because the UGA is expected to be annexed by the City in the near future, the City and its UGA are considered as a single service area for purposes of the 2008 TIF program.

## Maximum Impact Fee Rates

The travel forecasting model was applied to disaggregate the total travel forecasts into existing traffic and growth-related traffic. The model resulted in a forecast of 41,500 new PM peak hour growth trip ends between 2007 and 2035 for the City and its UGA. Of these growth trip ends, approximately 92 percent are within the existing City limits and 8 percent of the growth trips would occur within the UGA.

The model was used to separate the growth traffic into trips that have either an origin or destination within the City and its UGA, versus growth in through traffic. Approximately \$282 million of the TIF eligible cost (60%) was identified as being related to growth trips that have an origin or destination (or both) within the City or its UGA. Growth in regional traffic through the City and its UGA accounted for the remaining \$173 million (40%) of the costs. This reflects the large regional impact of traffic on the Marysville transportation system.

The **Maximum Possible Impact Fee** is calculated by dividing the total TIF cost allocation (\$281,989,000) by the total new PM peak hour trip ends (41,500), resulting in \$6,800 per new PM peak hour growth trip end as shown below.

$\$281,989,000 \text{ TIF cost share} / 41,500 \text{ PM peak hour growth trips} = \$6,800 \text{ fee per new PM peak hour growth trip end.}$

The resulting maximum possible impact fee is **\$6,800 per PM peak hour trip.**

## Impact Fee Adjustments

The City has chosen to adjust the maximum impact fee per new PM peak hour trip. Two adjustments are made. First, an adjustment to the TIF fees is made to account for the higher tax revenues generated by commercial properties compared to residential developments. The second adjustment reduces the overall TIFs based on policy direction to decrease the potential cost share for new developments.

### Tax Revenue Differential

In 2005, the City evaluated the relative tax revenues generated by commercial and residential properties within the City. The results showed that commercial properties generated substantially higher taxes for the City compared to residential properties.

The City updated and refined the evaluation as part of the 2008 Traffic Impact Fee Program. The process takes into account total sales taxes, general property taxes, and real estate excise tax (REET) revenues based on the 2008 budget. The revenues of each of these services were allocated to commercial and residential properties. The total tax revenues for commercial and residential properties were then converted to rates per \$1,000 in assessed valuation and tax revenues per acreage. The two factors were used because they take into account both developed and undeveloped properties.

Ratios of the commercial and residential tax revenues per \$1,000 in assessed valuation and per acre were averaged. The average of the ratios helps balance the impacts of developed and undeveloped properties and the overall higher density of commercial developments.

This process results in a ratio of commercial properties generating 2.84 times the tax revenues of residential properties. To balance this difference, this factor is inverted resulting in the ratio of traffic impact fees for residential development to commercial development being 2.84. Applying this ratio to the \$6,800 maximum trip rate per growth PM peak hour trip end for residential development results in a commercial impact fee rate of \$2,400 per new PM peak hour trip end.

### Impact Fee Discount Adjustment

The City has elected to reduce the maximum allowed impact fee of \$6,800 for residential and \$2,400 for commercial developments. The 2008 discount rate was set at 7 percent,

maintaining the residential rate at the 2007 rate of \$6,300 per new PM peak hour trip end. This results in the commercial rate being \$2,220 per new PM peak hour trip end.

The final proposed impact fee rates based on the 2008 program are:

- Residential \$6,300 per new PM peak hour trip end
- Commercial \$2,220 per new PM peak hour trip end

### Attachment 1. 2008 Transportation Element Growth-Related Projects Included in the TIF

| Project Name                       | Project Limits                                       | Project Description   | Project Cost (\$) <sup>1</sup> | TIF Cost <sup>1</sup> |
|------------------------------------|--|---|--------------------------------|-----------------------|
| Ingraham Blvd                      | 68th Ave NE to 74th Ave NE                           | Construct 4/5 lane arterial including bicycle and pedestrian facilities.  | \$5,585,239                    | \$5,585,239           |
| Ingraham Blvd                      | 81st Ave NE to 83rd Ave NE                           | Construct 4/5 lane arterial including bicycle and pedestrian facilities.  | \$2,057,055                    | \$2,057,055           |
| 40th St NE                         | 83rd Ave NE to SR 9                                  | Construct 4/5 lane arterial including pedestrian facilities.  | \$18,000,000                   | \$18,000,000          |
| Lakewood Triangle Access           | Twin Lakes to State Ave                              | Construct 4/5 lane arterial including bicycle and pedestrian facilities. Project includes I-5 overcrossing at 156th St NE | \$20,169,630                   | \$20,169,630          |
| 51st Ave NE                        | 84th St NE to 88th St NE                             | Construct 2/3 lane arterial including bicycle and pedestrian facilities.  | \$3,759,265                    | \$3,759,265           |
| 27th Ave Extension                 | Twin Lakes to 172nd St NE                            | Construct 2/3 lane arterial including bicycle and pedestrian facilities.  | \$11,828,235                   | \$11,828,235          |
| 156th/152nd St                     | Smokey Point Blvd to 51st St                         | Construct 4/5 lane arterial including bicycle and pedestrian facilities.  | \$17,821,570                   | \$17,821,570          |
| 44th Street                        | 83rd Ave to East Sunnyside School Road/Densmore Road | Construct 2/3 lane arterial including bicycle and pedestrian facilities.  | \$3,137,440                    | \$3,137,440           |
| Downtown Bypass                    | State Ave/1st Street to 47th Ave/Sunnyside Blvd      | Construct 4/5 lane arterial including pedestrian facilities.  | \$31,477,989                   | \$31,477,989          |
| 27th Ave Extension                 | 140th St NE to 156th Ave NE                          | Construct 2/3 lane arterial including bicycle and pedestrian facilities.  | \$20,692,415                   | \$20,692,415          |
| 156th St NE Extension <sup>2</sup> | 31st (SEE 177) to 23rd Ave                           | Construct 2/3 lane arterial including bicycle and pedestrian facilities.  | \$11,233,505                   | \$5,616,752           |
| 67th Ave Connector                 | 67th Ave NE/44th St NE to 71st Ave NE/40th St NE     | Construct 2/3 lane arterial including bicycle and pedestrian facilities.  | \$4,707,459                    | \$4,707,459           |
| State Avenue                       | 116th St NE to 136th St NE                           | Widen to 4/5 lane arterial including pedestrian facilities.   | \$11,613,030                   | \$11,613,030          |
| State Avenue <sup>3</sup>          | 136th St NE to 152nd St NE                           | Widen to 4/5 lane arterial including pedestrian facilities.   | \$10,781,000                   | \$12,013,000          |
| SR 528                             | Allen Creek to East of 67th Ave NE                   | Widen to 4/5 lane arterial including pedestrian facilities.   | \$524,000                      | \$524,000             |
| State Avenue                       | 100th St NE to 116th St NE                           | Widen to 4/5 lane arterial including pedestrian facilities.   | \$17,115,202                   | \$17,115,202          |
| 84th St NE                         | 83rd Ave NE to SR 9                                  | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.   | \$4,226,820                    | \$4,226,820           |



| Project Name            | Project Limits  | Project Description   | Project Cost (\$)¹ | TIF Cost¹    |
|-------------------------|---|---|--------------------|--------------|
| Sunnyside Blvd          | 47th Ave NE to South of 52nd St NE                      | Widen to 4/5 lane arterial including bicycle and pedestrian facilities. Include traffic control and intersection geometry | \$15,540,356       | \$15,540,356 |
| 88th St NE              | State Ave to 51st Ave                                   | Widen to 4/5 lane arterial including pedestrian facilities. Bike lanes may be included in project or along separate but   | \$16,765,853       | \$16,765,853 |
| 88th St NE              | 51st Ave to 67th Ave                                    | Widen to 4/5 lane arterial including pedestrian facilities. Bike lanes may be included in project or along separate but   | \$24,158,966       | \$24,158,966 |
| 152nd St NE⁴            | 51st Ave to 67th Ave NE                                 | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.   | \$10,803,741       | \$7,202,854  |
| 51st Ave NE             | 152nd to 160th  | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.   | \$7,180,407        | \$7,180,407  |
| 51st Ave NE             | 160th to Arlington City Limits                          | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.   | \$4,265,820        | \$4,265,820  |
| 172nd St (SR 531)       | 27th Ave NE to 11th Ave NE                              | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.   | \$11,640,473       | \$11,640,473 |
| Ingraham Blvd           | 74th Ave NE to 81st Ave NE                              | Widen to 4/5 lane arterial including bicycle and pedestrian facilities.   | \$5,250,830        | \$5,250,830  |
| 40th St NE              | Sunnyside Blvd to 83rd Ave NE                           | Reconstruct and widen to 2/3 lanes, and construct missing segments for 2/3 lane arterial including pedestrian facilities. | \$13,100,000       | \$13,100,000 |
| 52nd Street             | Sunnyside Blvd to 67th St                               | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$1,529,661        | \$1,529,661  |
| 51st Ave NE             | 108th St NE to 136th St NE                              | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$11,977,128       | \$11,977,128 |
| 51st Ave NE             | 88th St NE to 108th St NE                               | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$7,461,724        | \$7,461,724  |
| 51st Ave NE             | 136th St NE to 152nd St NE                              | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$6,979,310        | \$6,979,310  |
| 67th Ave NE             | 88th St NE to 108th St NE                               | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$7,589,140        | \$7,589,140  |
| 71st Ave NE             | Sunnyside Blvd/Soper Hill Road to 40th St NE            | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$4,588,984        | \$4,588,984  |
| E Sunnyside School Road | 87th Ave NE to East Sunnyside School Road/Densmore Road | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$588,331          | \$588,331    |
| E Sunnyside School Road | East Sunnyside School Road/Densmore Road to SR 9        | Reconstruct and widen to 2/3 lane arterial including pedestrian facilities.   | \$882,497          | \$882,497    |
| Soper Hill Road         | 71st Ave NE to 83rd Ave NE                              | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                                   | \$6,189,983        | \$6,189,983  |

| Project Name                              | Project Limits                                | Project Description  | Project Cost (\$)¹ | TIF Cost¹   |
|---|---|--|--------------------|-------------|
| Soper Hill Road                           | 83rd Ave NE to SR 9                           | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                            | \$3,035,906        | \$3,035,906 |
| Sunnyside Blvd                            | 71st Ave NE to 40th St                        | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                            | \$6,983,226        | \$6,983,226 |
| Sunnyside Blvd                            | South of 52nd Ave NE to 40th St               | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                            | \$4,588,984        | \$4,588,984 |
| 67th Avenue                               | 44th St NE to SR 528                          | Reconstruct and widen to 2/3 lane arterial including bicycle and pedestrian facilities.                            | \$7,765,973        | \$7,765,973 |
| 87th Ave                                  | Soper Hill Rd to 35th St                      | Reconstruct and widen to 2/3 lane arterial including pedestrian facilities.  | \$2,580,630        | \$2,580,630 |
| Intelligent Transportation System Program | City-wide                                     | Implement Intelligent Transportation Systems Program to improve signal coordination and management, roadway        | \$421,000          | \$421,000   |
| Jennings Park Entrance Improvements       | Jennings Park Entrance and 53rd Ave NE/SR 528 | Realign Jennings Park Entrance driveway with 53rd Ave NE, and install traffic signal when warranted.               | \$464,750          | \$464,750   |
| 172nd St NE & 27th Ave NE                 | Intersection                                  | Construct turn lane(s) and modify traffic signal.  | \$1,098,487        | \$1,098,487 |
| 88th St NE & 67th Ave NE                  | Intersection                                  | Construct turn lane(s) and modify traffic signal.  | \$841,789          | \$841,789   |
| Grove St & 67th Ave NE                    | Intersection                                  | Construct turn lane(s).  | \$180,534          | \$180,534   |
| 152nd St NE & 51st Ave NE                 | Intersection                                  | Construct turn lane(s) and install traffic signal when warranted.  | \$1,482,790        | \$1,482,790 |
| 88th St NE & 51st Ave NE                  | Intersection                                  | Construct turn lanes and install traffic signal when warranted. Short term fixes include the addition of a EB left | \$1,326,341        | \$1,326,341 |
| 156th St NE & Smokey Point Blvd           | Intersection                                  | Construct turn lane(s) and install traffic signal when warranted.  | \$1,384,841        | \$1,384,841 |
| 116th St NE & State Ave                   | Intersection                                  | Construct turn lane(s), modify traffic signal, add second WB thru lane, and extend EB right-turn lane.             | \$1,517,978        | \$1,517,978 |
| 88th St NE & 55th Ave NE                  | Intersection                                  | Construct turn lanes and install traffic signal when warranted. Short term fixes include the addition of a EB left | \$990,288          | \$990,288   |
| Grove St & Alder Ave (43rd Ave NE)        | Intersection                                  | Install traffic signal.  | \$200,000          | \$200,000   |
| 40th St & Sunnyside Blvd                  | Intersection                                  | Construct turn lane(s) and install traffic signal when warranted.  | \$893,009          | \$893,009   |
| 40th St & 71st Ave NE                     | Intersection                                  | Construct turn lane(s) and install traffic signal when warranted.  | \$946,088          | \$946,088   |

| Project Name                             | Project Limits | Project Description  | Project Cost (\$)¹ | TIF Cost¹   |
|--|----------------|--|--------------------|-------------|
| SR 9 & SR 92                             | Intersection   | Construct turn lane(s) and modify traffic signal. (SEE Project 59)                               | \$300,000          | \$300,000   |
| 88th St NE & State Ave                   | Intersection   | Add thru lanes, turn lanes, and modify traffic signal.   | \$894,719          | \$894,719   |
| SR 528 & State Avenue                    | Intersection   | Construct turn lane(s) and modify traffic signal.  | \$1,084,740        | \$1,084,740 |
| SR 528 & 47th Ave NE³                    | Intersection   | Intersection improvements included as part of an associated roadway widening project.            | \$169,000          | \$604,000   |
| 3rd St & 47th Ave NE³                    | Intersection   | Construct turn lane(s) and modify traffic signal.  | \$521,000          | \$917,000   |
| SR 528 & 83rd Ave NE                     | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$1,232,221        | \$1,232,221 |
| SR 528 & 87th Ave                        | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$1,262,641        | \$1,262,641 |
| 84th Street & State Avenue/Rail Crossing | Intersection   | Construct rail crossing at 84th St NE and install traffic signal. Close adjacent rail crossings. | \$2,212,516        | \$2,212,516 |
| 53rd Ave NE at Sunnyside Blvd            | Intersection   | Install traffic signal when warranted.   | \$503,620          | \$503,620   |
| Sunnyside Blvd & 52nd St NE              | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$1,157,059        | \$1,157,059 |
| 172nd St NE & 19th Ave NE                | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$742,784          | \$742,784   |
| 108th St NE & 67th Ave NE                | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$923,839          | \$923,839   |
| 100th St NE & 67th Ave NE                | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$400,000          | \$400,000   |
| 116th St NE & 38th Ave NE                | Intersection   | Construct turn lane(s) and modify traffic signal.  | \$726,404          | \$726,404   |
| 100th St NE & Shoultes Rd                | Intersection   | Intersection/operational improvements to be coordinated with State Ave/100th St intersection.    | \$380,250          | \$380,250   |
| 100th St NE & 48th Dr NE                 | Intersection   | Install traffic signal when warranted.   | \$464,750          | \$464,750   |
| 52nd St (Evans Rd) & 67th Ave NE         | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$464,750          | \$464,750   |
| Soper Hill Rd & Sunnyside Blvd           | Intersection   | Construct turn lane(s) and install traffic signal when warranted.                                | \$1,424,826        | \$1,424,826 |

| Project Name                            | Project Limits | Project Description  | Project Cost (\$)¹   | TIF Cost¹            |
|---|----------------|--|----------------------|----------------------|
| Soper Hill Rd & 83rd Ave NE             | Intersection   | Construct turn lane(s) and install traffic signal when warranted.  | \$943,488            | \$943,488            |
| 164th St NE & 51st Ave NE               | Intersection   | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | \$1,149,707          | \$1,149,707          |
| 160th St NE & 51st Ave NE               | Intersection   | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | \$1,149,707          | \$1,149,707          |
| 157th St & 51st Ave NE                  | Intersection   | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | \$1,149,707          | \$1,149,707          |
| 156th St NE & 43rd Ave NE               | Intersection   | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | \$1,149,707          | \$1,149,707          |
| 156th St NE & 152nd St Connector        | Intersection   | Install traffic signal when warranted per Smokey Point Master Plan.  | \$464,750            | \$464,750            |
| 152nd St NE & 43rd Ave NE               | Intersection   | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | \$945,939            | \$945,939            |
| 152nd St NE & 54th/55th Ave             | Intersection   | Construct turn lane(s) and add traffic signal when warranted per Smokey Point Master Plan.                     | \$923,839            | \$923,839            |
| 1st St & State Ave                      | Intersection   | Construct turn lane(s) and modify traffic signal.  | \$606,119            | \$606,119            |
| 88th St NE & 36th Ave NE                | Intersection   | Construct turn lane(s) and modify traffic signal.  | \$839,339            | \$839,339            |
| 108th St NE & 51st Ave NE               | Intersection   | Construct turn lane(s) and install traffic signal when warranted.  | \$1,599,956          | \$1,599,956          |
| City Center Access Improvement Projects | City Center    | Construct intersection, arterial, or interchange improvements recommended as part of City Center Access Study. | \$20,000,000         | \$20,000,000         |
| 116th St NE & I-5 SB Ramps⁵             | Interchange    | Construct single-point urban interchange (SPUI)  | \$40,600,000         | \$500,000            |
| 156th St NE & I-5 Ramps⁵                | Interchange    | Construct single-point urban interchange (SPUI)  | \$40,600,000         | \$1,500,000          |
| <b>TOTAL</b>                            |                |  | <b>\$514,913,043</b> | <b>\$428,558,404</b> |

1. All costs in 2008 dollars.

2. TIF cost represents the City's share which is estimated at one-half of total project cost. Remaining section of corridor is in Snohomish County

3. 2007 bond proceeds deducted from total project cost in Project Cost column. These costs are accounted for in the bond proceeds in the financial analysis and should not be double-counted. The total project cost (including bond proceeds) can be included in the TIF program, as shown in the TIF Cost column.

4. TIF cost represents the City's share which is estimated at two-third of total project cost. Remaining section of corridor is in Snohomish County

5. TIF cost includes City's share only.

Appendix B: 2007 Existing and  
2035 Plan Traffic  
Operations Summary

**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

| Synchro ID |                                 | Intersection | LOS Standard <sup>1</sup> | STATE AVENUE CORRIDOR |                  |                    |                                     |                      |              |                  |                    | Channelization Comparison           |                 |                 |           |  |
|------------|---------------------------------|--------------|---------------------------|-----------------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|-----------------|-----------------|-----------|--|
|            |                                 |              |                           | 2007 Existing         |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | 2007 Existing   |                 | 2035 Plan |  |
|            |                                 |              |                           | Control Type          | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                 |                 |           |  |
| 2035       | 1st St & State Ave              | E            | Signal                    | B                     | 17.8             | 0.52               | E                                   | Signal               | C            | 33               | 0.85               | EB                                  | EBT/L, EBR      | EBL, EBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | WBL, WBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | NBL, NBTT, NBR  |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | SBL, SBTT, SBR  |           |  |
| 2036       | 3rd St & State Ave              | E            | Signal                    | D                     | 37               | 0.63               | E                                   | Signal               | C            | 33.6             | 0.76               | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 2017       | SR 528 & State Ave              | Exempted     | Signal                    | C                     | 30.6             | 0.71               | E                                   | Signal               | D            | 41.1             | 0.77               | EB                                  | EBL, EBTT/R     | EBL, EBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | NBL, NBTT, NBR  |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 2126       | 6th Ave & State Ave             | E            | Signal                    | A                     | 9.7              | 0.49               | E                                   | Signal               | B            | 11.1             | 0.6                | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 2031       | 8th St & State Ave              | E            | Signal                    | A                     | 7.5              | 0.4                | E                                   | Signal               | B            | 13.6             | 0.62               | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 2012       | Grove St & State Ave            | E            | Signal                    | C                     | 20.9             | 0.74               | E                                   | Signal               | C            | 31.9             | 0.94               | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 2030       | 76th St NE & State Ave          | E            | Signal                    | A                     | 9.6              | 0.61               | E                                   | Signal               | B            | 11               | 0.75               | EB                                  | ---             | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBR        | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBTT/R          | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT       | ---             |           |  |
| 2029       | 80th St NE & State Ave          | E            | Signal                    | B                     | 15.3             | 0.77               | E                                   | Signal               | C            | 25.3             | 0.87               | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 2008       | 88th St NE & State Ave          | Exempted     | Signal                    | E                     | 58.5             | 0.88               | E                                   | Signal               | E            | 63.8             | 1.04               | EB                                  | EBL, EBT, EBR   | EBL, EBTT, EBR  |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | WBL, WBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | SBL, SBTT, SBR  |           |  |
| 1030       | 92nd St NE & State Ave          | E            | Signal                    | B                     | 15.3             | 0.69               | E                                   | Signal               | C            | 27.1             | 0.83               | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 1029       | 100th St NE & State Ave         | E            | Signal                    | C                     | 20.7             | 0.48               | E                                   | Signal               | C            | 21.7             | 0.69               | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/L, WBR | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT, NBR  | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 1028       | 116th St NE & State Ave         | E            | Signal                    | D                     | 35.6             | 0.75               | E                                   | Signal               | D            | 51.6             | 0.95               | EB                                  | EBL, EBT/L, EBR | EBL, EBT, EBR   |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | WBL, WBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT/R     | NBL, NBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBT, SBR   | SBL, SBTT, SBR  |           |  |
| 1027       | 128th St NE & Smokey Point Blvd | E            | Signal                    | B                     | 17.4             | 0.75               | E                                   | Signal               | C            | 34.1             | 0.86               | EB                                  | EBL, EBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | WBL, WBT/R      |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBT/R      | NBL, NBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBT/R      | SBL, SBTT/R     |           |  |
| 1026       | 136th St NE & Smokey Point Blvd | E            | Signal                    | C                     | 22.7             | 0.71               | E                                   | Signal               | E            | 63.8             | 1.02               | EB                                  | EBL, EBT, EBR   | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBT/R      | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBT, NBR   | NBL, NBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBT, SBR   | SBL, SBTT, SBR  |           |  |
| 1025       | 152nd St NE & Smokey Point Blvd | E            | TWSC                      | F                     | 77               | EB                 | E                                   | Signal               | B            | 15.4             | 0.71               | EB                                  | EBL, EBT/R      | EBL, EBT/R      |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBT/L, WBR      | WBL, WBT/R      |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBT, NBR   | NBL, NBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT/R     | ---             |           |  |
| 1024       | 156th St NE & Smokey Point Blvd | E            | PSC                       | B                     | 14.4             | EB                 | E                                   | Signal               | E            | 57.6             | 1.06               | EB                                  | EBL/R           | EBLL, EBTT/R    |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | ---             | WBLL, WBTT, WBR |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT       | NBL, NBTT/R     |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBTT/R          | SBL, SBTT, SBR  |           |  |
| 1006       | 172nd St NE & Smokey Point Blvd | Exempted     | Signal                    | F                     | 150              | 1.11               | D                                   | Signal               | F            | >100             | 1.26               | EB                                  | EBL, EBTT, EBR  | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | WB                                  | WBL, WBTTT, WBR | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | NB                                  | NBL, NBTT, NBR  | ---             |           |  |
|            |                                 |              |                           |                       |                  |                    |                                     |                      |              |                  |                    | SB                                  | SBL, SBTT, SBR  | ---             |           |  |

Notes:  
1 Current LOS Standard as understood from City Comprehensive Plan.  
2 Level of service, based on 2000 Highway Capacity Manual methodology.  
3 Average delay in seconds per vehicle.  
4 Volume-to-capacity ratio reported for signalized intersections.  
5 Worst movement reported for unsignalized intersections.  
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T = thru lane, LL = double left turn lanes, TT = two thru lanes  
/ = shared lane, "—" = no change from previous.  
Example: NBL/T/R = shared northbound left/thru/right

**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

| Synchro ID |                                       | Intersection | LOS Standard <sup>1</sup> | 51st AVENUE CORRIDOR |                  |                    |                                     |                      |              |                  |                    | Channelization Comparison  |   |  |           |  |
|------------|---------------------------------------|--------------|---------------------------|----------------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|--|---|--|-----------|--|
|            |                                       |              |                           | 2007 Existing        |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |  | 2007 Existing   |  | 2035 Plan |  |
|            |                                       |              |                           | Control Type         | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup>                                    |   |  |           |  |
| 2055       | 172nd St NE & 51st Ave NE             | Exempted     | ---                       | ---                  | ---              | ---                | D                                   | Signal               | C            | 28.5             | 0.87               | EB EBL, EBT/R<br>WB WBL, WBT/R<br>NB NBL, NBT, NBR<br>SB SBL, SBT/R    | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R          |  |           |  |
| 1051       | 164th St NE & 51st Ave NE             | D            | ---                       | ---                  | ---              | ---                | D                                   | Signal               | A            | 6.5              | 0.38               | EB ---<br>WB ---<br>NB ---<br>SB ---                                   | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R          |  |           |  |
| 1052       | 160th St NE & 51st Ave NE             | D            | ---                       | ---                  | ---              | ---                | D                                   | Signal               | B            | 16.7             | 0.67               | EB ---<br>WB ---<br>NB ---<br>SB ---                                   | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R          |  |           |  |
| 1053       | 47th Ave NE/157th St NE & 51st Ave NE | D            | ---                       | ---                  | ---              | ---                | D                                   | Signal               | A            | 7.7              | 0.54               | EB ---<br>WB ---<br>NB ---<br>SB ---                                   | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R          |  |           |  |
| 1017       | 152nd St NE & 51st Ave NE             | D            | AWSC                      | B                    | 12.4             | NB                 | D                                   | Signal               | D            | 35.2             | 0.79               | EB EBL/T/R<br>WB WBL/T/R<br>NB NBL/T/R<br>SB SBL/T/R                   | EBL, EBT, EBR<br>WBL, WBT, WBR<br>NBL, NBT/R<br>SBL, SBT, SBR |  |           |  |
| 1018       | 136th St NE & 51st Ave NE             | D            | AWSC                      | E                    | 49.9             | NB                 | D                                   | Signal               | D            | 38               | 1.06               | EB EBL/R<br>WB ---<br>NB NBT/L<br>SB SBT, SBR                          | EBL, EBR<br>WBL/T/R<br>NBL, NBT<br>---                        |  |           |  |
| 1019       | 122nd PI NE & 51st Ave NE             | D            | PSC                       | C                    | 22.3             | EB                 | D                                   | Signal               | D            | 43               | 1.07               | EB EBL/R<br>WB ---<br>NB NBT/L<br>SB SBT/R                             | EBL/R<br>---<br>NBL, NBT<br>---                               |  |           |  |
| 1020       | 108th St NE & 51st Ave NE             | D            | Roundabout                | A                    | 7.4              | 0.73               | D                                   | Signal               | C            | 20.5             | 0.74               | EB EBL/T/R<br>WB WBL/T/R<br>NB NBL/T/R<br>SB SBL/T/R                   | EBL, EBT/R<br>WBL, WBT, WBR<br>NBL, NBT/R<br>SBL, SBT, SBR    |  |           |  |
| 1021       | 100th St NE & 51st Ave NE             | D            | AWSC                      | E                    | 43.2             | EB                 | D                                   | Signal               | C            | 26.6             | 0.83               | EB EBL/T/R<br>WB WBL/T/R<br>NB NBL/T/R<br>SB SBL/T/R                   | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R          |  |           |  |
| 1022       | 88th St NE & 51st Ave NE              | D            | AWSC                      | F                    | 114.8            | EB                 | D                                   | Signal               | D            | 42.2             | 0.99               | EB EBT/L<br>WB WBT/R<br>NB ---<br>SB SBL/R                             | EBL, EBT/R<br>WBL, WBT, WBR<br>NBL, NBT/R<br>SBL, SBT/R       |  |           |  |
| 1023       | 72nd St NE (Grove St) & 51st Ave NE   | D            | Signal                    | B                    | 16.9             | 0.67               | D                                   | Signal               | C            | 21.1             | 0.75               | EB EBL, EBT/R<br>WB WBL, WBT/R<br>NB NBL, NBT, NBR<br>SB SBL, SBT, SBR | ---<br>---<br>---<br>---                                      |  |           |  |

Notes:  
<sup>1</sup> Current LOS Standard as understood from City Comprehensive Plan  
<sup>2</sup> Level of service, based on 2000 Highway Capacity Manual methodology.  
<sup>3</sup> Average delay in seconds per vehicle.  
<sup>4</sup> Volume-to-capacity ratio reported for signalized intersections.  
<sup>5</sup> Worst movement reported for unsignalized intersections.  
<sup>6</sup> N = north, S = south, E = east, W = west, L = left turn lane, R = right turn lane  
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/ = shared lane, "—" = no change from previous.  
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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

|            |                                     | 67th AVENUE CORRIDOR      |               |                  |                    |                                     |                      |              |                  |                    |                                     |                           |  |   |  |
|------------|-------------------------------------|---------------------------|---------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---------------------------|--|---|--|
| Synchro ID | Intersection                        | LOS Standard <sup>1</sup> | 2007 Existing |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | Channelization Comparison |  |   |  |
|            |                                     |                           | Control Type  | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing             |  | 2035 Plan   |  |
| 1009       | 172nd St NE & 67th Ave NE           | Exempted                  | Signal        | B                | 19.2               | 0.73                                | D                    | Signal       | D                | 51                 | 1.04                                | EB<br>WB<br>NB<br>SB      | EBL, EBT, EBR<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R          | EBL, EBTT, EBR<br>WBL, WBT/R<br>NBL, NBT, NBR<br>SBL, SBT, SBR    |  |
| 1010       | 152nd St NE & 67th Ave NE           | E                         | PSC           | C                | 16.2               | EB                                  | D                    | Signal       | D                | 45.2               | 0.97                                | EB<br>WB<br>NB<br>SB      | EBL/R<br>---<br>NBT/L<br>SBT/R                                   | EBL, EBR<br>---<br>NBL, NBT<br>SBT/R                              |  |
| 1011       | 132nd St NE & 67th Ave NE           | E                         | PSC           | B                | 11.8               | EB                                  | D                    | Signal       | C                | 32.5               | 0.9                                 | EB<br>WB<br>NB<br>SB      | EBL/R<br>---<br>NBT/L<br>SBT/R                                   | EBL, EBR<br>---<br>NBL, NBT<br>---                                |  |
| 1012       | 108th St NE & 67th Ave NE           | E                         | AWSC          | C                | 15.9               | SB                                  | D                    | Signal       | C                | 28.2               | 0.93                                | EB<br>WB<br>NB<br>SB      | EBL/T/R<br>WBL/T/R<br>NBL, NBT/R<br>SBL, SBT/R                   | EBL, EBT/R<br>WBL, WBT/R<br>---<br>---                            |  |
| 1013       | 100th St NE & 67th Ave NE           | E                         | AWSC          | C                | 16.9               | SB                                  | D                    | Signal       | C                | 27.7               | 0.9                                 | EB<br>WB<br>NB<br>SB      | EBL/T/R<br>WBL/T/R<br>NBL, NBT/R<br>SBL/T/R                      | EBL, EBT/R<br>WBL, WBT/R<br>---<br>SBL, SBT/R                     |  |
| 1014       | 88th St NE & 67th Ave NE            | E                         | Signal        | B                | 14.1               | 0.53                                | D                    | Signal       | D                | 48.2               | 0.98                                | EB<br>WB<br>NB<br>SB      | EBL, EBT, EBR<br>WBL, WBT, WBR<br>NBL, NBT, NBR<br>SBL, SBT, SBR | EBL, EBTT, EBR<br>WBL, WBT, WBR<br>NBL, NBT, NBR<br>SBL, SBT, SBR |  |
| 1015       | 84th St NE & 67th Ave NE            | E                         | Signal        | B                | 14.5               | 0.6                                 | D                    | Signal       | B                | 17                 | 0.7                                 | EB<br>WB<br>NB<br>SB      | ---<br>WBL, WBR<br>NBT, NBR<br>SBL, SBT                          | ---<br>---<br>---<br>---  |  |
| 1016       | 76th St NE (Grove St) & 67th Ave NE | E                         | Signal        | C                | 20.9               | 0.85                                | D                    | Signal       | C                | 27.2               | 0.84                                | EB<br>WB<br>NB<br>SB      | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT, SBR          | EBL, EBT, EBR<br>---<br>---<br>---                                |  |
| 2019       | SR 528 & 67th Ave NE                | Exempted                  | Signal        | C                | 21.6               | 0.69                                | E                    | Signal       | D                | 51.7               | 0.97                                | EB<br>WB<br>NB<br>SB      | EBL, EBTT/R<br>WBL, WBT, WBR<br>NBL, NBT/R<br>SBL, SBT/R         | EBL, EBTT, EBR<br>WBL, WBT/R<br>---<br>---                        |  |
| 1043       | 52nd St (Evans Rd) & 67th Ave NE    | D                         | AWSC          | B                | 13.9               | EB                                  | D                    | Signal       | D                | 45.7               | 1.13                                | EB<br>WB<br>NB<br>SB      | EBL/T/R<br>WBL/T/R<br>NBL/T/R<br>SBL/T/R                         | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R              |  |

Notes:  
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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

|            |                                 | 172nd STREET CORRIDOR (SR 531) |               |                  |                    |                                     |                      |              |                  |                    |                                     |   |   |           |  |
|------------|---------------------------------|--------------------------------|---------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---|---|-----------|--|
| Synchro ID | Intersection                    | LOS Standard <sup>1</sup>      | 2007 Existing |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | Channelization Comparison   |   |           |  |
|            |                                 |                                | Control Type  | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing   |   | 2035 Plan |  |
| 1001       | 172nd St NE & 11th Ave NE       | Exempted                       | TWSC          | C                | 23.9               | SB                                  | D                    | TWSC         | C                | 16.8               | SB                                  | EB EBL/T/R<br>WB WBL, WBT/R<br>NB NBL/T/R<br>SB SBL/T/R                         | EBL, EBTT/R<br>WBL, WBTT/R<br>---                               |           |  |
| 1002       | 172nd St NE & 19th Ave NE       | Exempted                       | PSC           | D                | 25.5               | SB                                  | D                    | Signal       | A                | 7.8                | 0.54                                | EB EBT/L<br>WB WBT/R<br>NB ---<br>SB SBL/R                                      | EBL, EBTT<br>WBTT/R<br>---                                      |           |  |
| 1003       | 172nd St NE & 27th Ave NE       | Exempted                       | Signal        | D                | 37.3               | 0.68                                | D                    | Signal       | D                | 54                 | 0.88                                | EB EBL, EBTT/R<br>WB WBL, WBT/R<br>NB NBL/T, NBR<br>SB SBL/T/R                  | EBL, EBTT, EBR<br>WBL, WBTT, WBR<br>NBL, NBT, NBR<br>SBL, SBT/R |           |  |
| 1004       | 172nd St NE & I-5 SB Ramps      | Exempted                       | Signal        | C                | 23.7               | 0.68                                | D                    | Signal       | C                | 20                 | 0.76                                | EB EBTT, EBR<br>WB WBL, WBTT<br>NB ---<br>SB SBT/L, SBR                         | WBTT, WBR<br>---  |           |  |
| 1005       | 172nd St NE & I-5 NB Ramps      | Exempted                       | Signal        | E                | 70.2               | 1.14                                | D                    | Signal       | E                | 58.4               | 1.07                                | EB EBL, EBT<br>WB WBTTT, WBR<br>NB NBL, NBT/L, NBR<br>SB ---                    | EBL, EBTT<br>---  |           |  |
| 1006       | 172nd St NE & Smokey Point Blvd | Exempted                       | Signal        | F                | 150                | 1.11                                | D                    | Signal       | F                | >100               | 1.26                                | EB EBL, EBTT, EBR<br>WB WBL, WBTTT, WBR<br>NB NBL, NBT, NBR<br>SB SBL, SBT, SBR | ---   |           |  |
| 1007       | 172nd St NE & 43rd Ave NE       | Exempted                       | PSC           | E                | 40                 | SB                                  | D                    | Signal       | E                | 79.8               | 1.8                                 | EB EBL, EBT<br>WB WBT/R<br>NB ---<br>SB SBL/R                                   | EBL, EBTT/R<br>WBL, WBTT/R<br>NBL, NBT/R<br>SBL/T/R             |           |  |
| 2055       | 172nd St NE & 51st Ave NE       | Exempted                       | ---           | ---              | ---                | ---                                 | D                    | Signal       | C                | 28.5               | 0.87                                | EB EBL, EBT/R<br>WB WBL, WBT/R<br>NB NBL, NBT, NBR<br>SB SBL, SBT/R             | EBL, EBTT/R<br>WBL, WBTT/R<br>NBL, NBT/R<br>SBL, SBT/R          |           |  |
| 1008       | 172nd St NE & 59th Ave NE       | Exempted                       | Signal        | C                | 31.8               | 0.83                                | D                    | Signal       | E                | 74.3               | 1.06                                | EB EBL, EBT/R<br>WB WBL, WBT/R<br>NB NBL, NBT/R<br>SB SBL, SBT/R                | EBL, EBTT/R<br>WBL, WBTT/R<br>NBL, NBT, NBR<br>SBL, SBT, SBR    |           |  |
| 1009       | 172nd St NE & 67th Ave NE       | Exempted                       | Signal        | B                | 19.2               | 0.73                                | D                    | Signal       | D                | 51                 | 1.04                                | EB EBL, EBT, EBR<br>WB WBL, WBT/R<br>NB NBL, NBT/R<br>SB SBL, SBT/R             | EBL, EBTT, EBR<br>WBL, WBTT/R<br>NBL, NBT, NBR<br>SBL, SBT, SBR |           |  |

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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

|            |                                 | 156th STREET / 152nd STREET CORRIDOR |               |                  |                    |                                     |                      |              |                  |                    |                                     |                           |   |   |  |
|------------|---------------------------------|--------------------------------------|---------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---------------------------|---|---|--|
| Synchro ID | Intersection                    | LOS Standard <sup>1</sup>            | 2007 Existing |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | Channelization Comparison |   |   |  |
|            |                                 |                                      | Control Type  | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing             |   | 2035 Plan   |  |
| 1050       | 156th St NE & I-5 Ramps         | Exempted                             | ---           | ---              | ---                | ---                                 | D                    | Signal       | C                | 34.5               | 0.84                                | EB<br>WB<br>NB<br>SB      | ---   | EBLL, EBTT, EBR<br>WBLL, WBTT, WBR<br>NBLL, NBR<br>SBL, SBR       |  |
| 1024       | 156th St NE & Smokey Point Blvd | E                                    | PSC           | B                | 14.4               | EB                                  | E                    | Signal       | E                | 57.6               | 1.06                                | EB<br>WB<br>NB<br>SB      | EBL/R<br>---  | EBLL, EBTT/R<br>WBLL, WBTT, WBR<br>NBLL, NBTT/R<br>SBL, SBTT, SBR |  |
| 1025       | 152nd St NE & Smokey Point Blvd | E                                    | TWSC          | F                | 77                 | EB                                  | E                    | Signal       | B                | 15.4               | 0.71                                | EB<br>WB<br>NB<br>SB      | EBL/T/R<br>WBT/L, WBR<br>NBL, NBT, NBR<br>SBL, SBTT/R | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBTT/R<br>---                    |  |
| 1056       | 152nd St NE & 43rd Ave NE       | D                                    | ---           | ---              | ---                | ---                                 | D                    | AWSC         | B                | 11.2               | WB                                  | EB<br>WB<br>NB<br>SB      | ---   | EBL, EBT<br>WBT/R<br>---  |  |
| 1054       | 156th St NE & 43rd Ave NE       | D                                    | ---           | ---              | ---                | ---                                 | D                    | Signal       | C                | 24.5               | 0.89                                | EB<br>WB<br>NB<br>SB      | ---   | EBL, EBTT/R<br>WBL, WBTT/R<br>NBL, NBT/R<br>SBL, SBT, SBR         |  |
| 1055       | 156th St NE & 152nd St NE       | D                                    | ---           | ---              | ---                | ---                                 | D                    | Signal       | A                | 9.3                | 0.51                                | EB<br>WB<br>NB<br>SB      | ---   | EBTT/R<br>WBL, WBTT<br>NBL/R<br>---                               |  |
| 1017       | 152nd St NE & 51st Ave NE       | D                                    | AWSC          | B                | 12.4               | NB                                  | D                    | Signal       | D                | 35.2               | 0.79                                | EB<br>WB<br>NB<br>SB      | EBL/T/R<br>WBL, WBT/R<br>NBL/T/R<br>SBL, SBT/R        | EBL, EBTT, EBR<br>WBL, WBT, WBR<br>NBLL, NBTT/R<br>SBL, SBT, SBR  |  |
| 1057       | 152nd St NE & 54th/55th         | D                                    | ---           | ---              | ---                | ---                                 | D                    | Signal       | B                | 16.5               | 0.85                                | EB<br>WB<br>NB<br>SB      | ---   | EBL, EBT<br>WBT/R<br>---  |  |
| 1010       | 152nd St NE & 67th Ave NE       | E                                    | PSC           | C                | 16.2               | EB                                  | D                    | Signal       | D                | 45.2               | 0.97                                | EB<br>WB<br>NB<br>SB      | EBL/R<br>---  | EBL, EBR<br>---   |  |

Notes:  
<sup>1</sup> Current LOS Standard as understood from City Comprehensive Plan  
<sup>2</sup> Level of service, based on 2000 Highway Capacity Manual methodology.  
<sup>3</sup> Average delay in seconds per vehicle.  
<sup>4</sup> Volume-to-capacity ratio reported for signalized intersections.  
<sup>5</sup> Worst movement reported for unsignalized intersections.  
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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

| 116th STREET CORRIDOR |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     |                           |                 |                 |  |
|-----------------------|----------------------------|---------------------------|---------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---------------------------|-----------------|-----------------|--|
| Synchro ID            | Intersection               | LOS Standard <sup>1</sup> | 2007 Existing |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | Channelization Comparison |                 |                 |  |
|                       |                            |                           | Control Type  | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing             |                 | 2035 Plan       |  |
| 1032                  | 116th St NE & Quil Ceda    | D                         | Signal        | B                | 18.4               | 0.36                                | D                    | Signal       | D                | 50.7               | 0.73                                | EB                        | EBL, EBTT/R     | ---             |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBLL, WBT, WBR  | ---             |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBT, NBRR  | ---             |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBLL, SBT/R     | ---             |  |
| 1033                  | 116th St NE & I-5 SB Ramps | Exempted                  | Signal        | B                | 17.1               | 0.54                                | D                    | Signal       | D                | 52                 | 0.99                                | EB                        | EBT, EBR        | EBLL, EBTT, EBR |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBT        | WBLL, WBTT, WBR |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | ---             | NBLL, NBR       |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT/R      | SBLL, SBR       |  |
| 1034                  | 116th St NE & I-5 NB Ramps | Exempted                  | Signal        | C                | 30.8               | 0.66                                | ---                  | ---          | ---              | ---                | ---                                 | EB                        | EBL, EBT        | SEE SB Ramps    |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBT, WBR        | SEE SB Ramps    |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBT/L, NBR      | SEE SB Ramps    |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | ---             | SEE SB Ramps    |  |
| 1035                  | 116th St NE & 38th Ave NE  | D                         | Signal        | B                | 10.1               | 0.41                                | D                    | Signal       | D                | 41.5               | 0.89                                | EB                        | EBL, EBTT/R     | EBL, EBTT/R     |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBTT, WBR  | WBL, WBTTT/R    |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/T/R         | NBL, NBT/R      |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT/L, SBR | ---             |  |
| 1028                  | 116th St NE & State Ave    | E                         | Signal        | D                | 35.6               | 0.75                                | E                    | Signal       | D                | 51.6               | 0.95                                | EB                        | EBL, EBT/L, EBR | EBL, EBT, EBR   |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBT/R      | WBL, WBTT/R     |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBTT/R     | NBLL, NBTT/R    |  |
|                       |                            |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT, SBR   | SBLL, SBTT, SBR |  |

Notes:  
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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

| 100th STREET CORRIDOR |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     |               |                 |            |
|-----------------------|---------------------------|---------------------------|---------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---------------|-----------------|------------|
| Synchro ID            | Intersection              | LOS Standard <sup>1</sup> | 2007 Existing |                  |                    |                                     | 2035 Plan            |              |                  |                    | Channelization Comparison           |               |                 |            |
|                       |                           |                           | Control Type  | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | Revised LOS Standard | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing | 2035 Plan       |            |
| 1029                  | 100th St NE & State Ave   | E                         | Signal        | C                | 20.7               | 0.48                                | E                    | Signal       | C                | 21.7               | 0.69                                | EB            | EBL/T/R         | ---        |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB            | WBL, WBT/L, WBR | ---        |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB            | NBL, NBTT, NBR  | ---        |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB            | SBL, SBTT/R     | ---        |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | EB            | EBT/R           | ---        |
| 1037                  | 100th St NE & 48th Dr NE  | D                         | AWSC          | C                | 19                 | EB                                  | D                    | Signal       | C                | 20.2               | 0.62                                | WB            | WBT/L           | ---        |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB            | NBL/R           | ---        |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB            | ---             | ---        |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | EB            | EBL/T/R         | EBL, EBT/R |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB            | WBL/T/R         | WBL, WBT/R |
| 1021                  | 100th St NE & 51st Ave NE | D                         | AWSC          | E                | 43.2               | EB                                  | D                    | Signal       | C                | 26.6               | 0.83                                | NB            | NBL/T/R         | NBL, NBT/R |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB            | SBL/T/R         | SBL, SBT/R |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | EB            | EBL/T/R         | EBL, EBT/R |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB            | WBL/T/R         | WBL, WBT/R |
|                       |                           |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB            | NBL, NBT/R      | ---        |
| 1013                  | 100th St NE & 67th Ave NE | E                         | AWSC          | C                | 16.9               | SB                                  | D                    | Signal       | C                | 27.7               | 0.9                                 | SB            | SBL/T/R         | SBL, SBT/R |

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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

|            |                          |                           | 88th STREET / 84th STREET CORRIDOR |                  |                    |                                     |                      |              |                  |                    |                                     |  |  |           |  |  |
|------------|--------------------------|---------------------------|------------------------------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|--|--|-----------|--|--|
| Synchro ID | Intersection             | LOS Standard <sup>1</sup> | 2007 Existing                      |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | Channelization Comparison  |  |           |  |  |
|            |                          |                           | Control Type                       | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing  |  | 2035 Plan |  |  |
| 2114       | 88th St NE & 27th Ave NE | Exempted                  | AWSC                               | B                | 12.9               | NB                                  | D                    | Signal       | D                | 45                 | 0.88                                | EB ---<br>WB WBL, WBR<br>NB NBT/R<br>SB SBT/L                                | EBL, EBT/R<br>WBL, WBT/R<br>NBL, NBT/R<br>SBL, SBT/R                 |           |  |  |
| 2115       | 88th St NE & 31st Ave NE | Exempted                  | Signal                             | A                | 4.9                | 0.42                                | D                    | Signal       | C                | 25.2               | 1.02                                | EB EBL, EBT<br>WB WBT, WBRR<br>NB ---<br>SB SBLL, SBR                        | ---<br>---<br>---<br>---   |           |  |  |
| 2113       | 88th St NE & I-5 SB Ramp | Exempted                  | Signal                             | C                | 22.3               | 0.5                                 | D                    | Signal       | B                | 18.1               | 0.73                                | EB EBTT/R, EBR<br>WB WBLL, WBTT<br>NB ---<br>SB SBT/L, SBR                   | EBLL, EBTT, EBR<br>WBLL, WBTT, WBR<br>NBLL, NBR<br>SBLL, SBR         |           |  |  |
| 2085       | 88th St NE & I-5 NB Ramp | Exempted                  | Signal                             | C                | 34.8               | 0.77                                | D                    | ---          | ---              | ---                | ---                                 | EB EBL, EBTT<br>WB WBTT/R<br>NB NBL, NBT/L, NBR<br>SB ---                    | SEE SB Ramps<br>SEE SB Ramps<br>SEE SB Ramps<br>SEE SB Ramps         |           |  |  |
| 2117       | 88th St NE & 36th Ave NE | Exempted                  | Signal                             | B                | 16.1               | 0.53                                | D                    | Signal       | C                | 34.4               | 0.89                                | EB EBL, EBTT/R<br>WB WBL, WBTT/R<br>NB NBL, NBT/R<br>SB SBL, SBT/R           | EBL, EBTT, EBR<br>WBL, WBTT, WBR<br>---<br>---                       |           |  |  |
| 2008       | 88th St NE & State Ave   | Exempted                  | Signal                             | E                | 58.5               | 0.88                                | E                    | Signal       | E                | 63.8               | 1.04                                | EB EBL, EBT, EBR<br>WB WBL, WBT/R<br>NB NBL, NBTT/R<br>SB SBL, SBTT/R        | EBL, EBTT, EBR<br>WBL, WBTT/R<br>---<br>SBL, SBTT, SBR               |           |  |  |
| 1022       | 88th St NE & 51st Ave NE | D                         | AWSC                               | F                | 114.8              | EB                                  | D                    | Signal       | D                | 42.2               | 0.99                                | EB EBT/L<br>WB WBT/R<br>NB ---<br>SB SBL/R                                   | EBL, EBTT/R<br>WBL, WBTT, WBR<br>NBL, NBT/R<br>SBL, SBT/R            |           |  |  |
| 1038       | 88th St NE & 55th Ave NE | D                         | AWSC                               | E                | 47                 | EB                                  | D                    | Signal       | D                | 47.9               | 0.99                                | EB EBL/T/R<br>WB WBL/T/R<br>NB NBL/T/R<br>SB SBL/T/R                         | EBL, EBTT<br>WBL, WBTT/R<br>---<br>---                               |           |  |  |
| 1014       | 88th St NE & 67th Ave NE | E                         | Signal                             | B                | 14.1               | 0.53                                | D                    | Signal       | D                | 48.2               | 0.98                                | EB EBL, EBT, EBR<br>WB WBL, WBT, WBR<br>NB NBL, NBT, NBR<br>SB SBL, SBT, SBR | EBL, EBTT, EBR<br>WBL, WBTT, WBR<br>NBLL, NBT, NBR<br>SBLL, SBT, SBR |           |  |  |
| 1015       | 84th St NE & 67th Ave NE | E                         | Signal                             | B                | 14.5               | 0.6                                 | D                    | Signal       | B                | 17                 | 0.7                                 | EB ---<br>WB WBL, WBR<br>NB NBT, NBR<br>SB SBL, SBT                          | ---<br>---<br>---<br>---   |           |  |  |
| 1041       | 84th St NE & SR 9        | Exempted                  | Signal                             | C                | 28.7               | 0.72                                | D                    | Signal       | F                | >100               | 1.27                                | EB EBL, EBT/R<br>WB WBL, WBT/R<br>NB NBL, NBT, NBR<br>SB SBL, SBT/R          | EBL, EBT, EBR<br>WBL, WBT, WBR<br>---<br>SBL, SBT, SBR               |           |  |  |

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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

| Synchro ID | Intersection                        | LOS Standard <sup>1</sup> | 72nd STREET CORRIDOR |                  |                    |                                     |                      |              |                  |                    | Channelization Comparison           |               |               |           |
|------------|-------------------------------------|---------------------------|----------------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---------------|---------------|-----------|
|            |                                     |                           | 2007 Existing        |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | 2007 Existing |               | 2035 Plan |
|            |                                     |                           | Control Type         | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |               |               |           |
| 2012       | Grove St & State Ave                | E                         | Signal               | C                | 20.9               | 0.74                                | E                    | Signal       | C                | 31.9               | 0.94                                | EB            | EBL, EBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | WB            | WBL, WBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | NB            | NBL, NBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | SB            | SBL, SBTT/R   | ---       |
| 1039       | 72nd St NE & 43rd Ave NE            | D                         | TWSC                 | E                | 46.2               | SB                                  | D                    | Signal       | A                | 8.2                | 0.56                                | EB            | EBL, EBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | WB            | WBL, WBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | NB            | NBL, NBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | SB            | SBL, SBLT/R   | ---       |
| 1040       | 72nd St NE (Grove St) & 47th Ave NE | D                         | Signal               | B                | 19.1               | 0.74                                | D                    | Signal       | C                | 22.5               | 0.75                                | EB            | EBL, EBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | WB            | WBL, WBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | NB            | NBL, NBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | SB            | SBL, SBT/R    | ---       |
| 1023       | 72nd St NE (Grove St) & 51st Ave NE | D                         | Signal               | B                | 16.9               | 0.67                                | D                    | Signal       | C                | 21.1               | 0.75                                | EB            | EBL, EBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | WB            | WBL, WBT/R    | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | NB            | NBL, NBT, NBR | ---       |
|            |                                     |                           |                      |                  |                    |                                     |                      |              |                  |                    |                                     | SB            | SBL, SBT, SBR | ---       |

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**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

|            |                      |                           | 4th STREET CORRIDOR (SR 528) |                  |                    |                                     |                      |              |                  |                    |                                     |                           |                 |           |  |
|------------|----------------------|---------------------------|------------------------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---------------------------|-----------------|-----------|--|
| Synchro ID | Intersection         | LOS Standard <sup>1</sup> | 2007 Existing                |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | Channelization Comparison |                 |           |  |
|            |                      |                           | Control Type                 | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing             |                 | 2035 Plan |  |
| 2129       | SR 528 & 27th Ave NE | Exempted                  | Signal                       | C                | 21.7               | 0.69                                | E                    | Signal       | C                | 34.5               | 0.93                                | EB                        | EBL, EBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBT, WBR   | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/T/R         | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBT/L, SBR      | ---       |  |
| 2103       | 31st Ave NE & SR 528 | Exempted                  | Signal                       | B                | 12.6               | 0.5                                 | E                    | Signal       | B                | 15.9               | 0.66                                | EB                        | EBL, EBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBT/R      | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBT/L, SBR      | ---       |  |
| 2102       | SR 528 & 33rd Ave NE | Exempted                  | Signal                       | C                | 20.8               | 0.39                                | E                    | Signal       | C                | 20.3               | 0.46                                | EB                        | EBL, EBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBT/L, NBR      | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBL/T/R    | ---       |  |
| 2050       | SR 528 & I-5 SB Ramp | Exempted                  | Signal                       | D                | 41.5               | 0.77                                | E                    | Signal       | E                | 77                 | 0.94                                | EB                        | EBT, EBR        | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBT        | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | ---             | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBT/L, SBR      | ---       |  |
| 2015       | SR 528 & I-5 NB Ramp | Exempted                  | Signal                       | C                | 32.4               | 0.76                                | E                    | Signal       | F                | >100               | 1.36                                | EB                        | EBL, EBT        | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBTT/R          | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBT/R, NBR | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | ---             | ---       |  |
| 2138       | SR 528 & Beach Ave   | Exempted                  | TWSC                         | C                | 23.9               | NB                                  | E                    | TWSC         | E                | 47.9               | NB                                  | EB                        | EBTT/R          | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBTT/R          | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBR             | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBR             | ---       |  |
| 2016       | SR 528 & Cedar Ave   | Exempted                  | Signal                       | C                | 23.6               | 0.7                                 | E                    | Signal       | C                | 31                 | 0.76                                | EB                        | EBL, EBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT, SBR   | ---       |  |
| 2141       | SR 528 & Delta Ave   | Exempted                  | TWSC                         | B                | 12                 | NB                                  | E                    | TWSC         | B                | 13.8               | EBL                                 | EB                        | EBL, EBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBTT/R          | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBR             | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBR             | ---       |  |
| 2017       | SR 528 & State Ave   | Exempted                  | Signal                       | C                | 30.6               | 0.71                                | E                    | Signal       | D                | 41.1               | 0.77                                | EB                        | EBL, EBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBTT/R     | ---       |  |
| 2018       | SR 528 & 47th Ave NE | Exempted                  | Signal                       | C                | 33.3               | 0.9                                 | E                    | Signal       | E                | 79.7               | 1.08                                | EB                        | EBL, EBT, EBR   | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBT/R      | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBT/R      | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT/R      | ---       |  |
| 1042       | SR 528 & 58th Dr NE  | Exempted                  | TWSC                         | C                | 21                 | SB                                  | E                    | TWSC         | C                | 18.5               | SB                                  | EB                        | EBL, EBT        | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBTT/R          | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | ---             | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL/R           | ---       |  |
| 2111       | SR 528 & 60th Dr NE  | Exempted                  | Signal                       | A                | 8.2                | 0.59                                | E                    | Signal       | B                | 11.6               | 0.7                                 | EB                        | EBL, EBTT       | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBT/R           | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | ---             | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBR        | ---       |  |
| 2019       | SR 528 & 67th Ave NE | Exempted                  | Signal                       | C                | 21.6               | 0.69                                | E                    | Signal       | D                | 51.7               | 0.97                                | EB                        | EBL, EBTT/R     | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBT, WBR   | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBT/R      | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT/R      | ---       |  |
| 2032       | SR 528 & 83rd Ave NE | Exempted                  | TWSC                         | D                | 34.9               | NB                                  | E                    | Signal       | C                | 32.7               | 0.91                                | EB                        | EBL, EBT, EBR   | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBT/L, WBR      | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/T/R         | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT, SBR   | ---       |  |
| 2068       | SR 528 & 87th Ave    | Exempted                  | PSC                          | C                | 17.4               | NB                                  | E                    | Signal       | C                | 20.8               | 0.61                                | EB                        | EBT/R           | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBT/L           | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/R           | ---       |  |
|            |                      |                           |                              |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | ---             | ---       |  |

Notes:  
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2 Level of service, based on 2000 Highway Capacity Manual methodology.  
3 Average delay in seconds per vehicle.  
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T = thru lane, LL = double left turn lanes, TT = two thru lanes  
/ = shared lane, "----" = no change from previous.  
Example: NBL/T/R = shared northbound left/thru/right

**Appendix B**  
**City of Marysville Transportation Element 2008**  
**2007 Existing and 2035 Plan Traffic Operations Summary**

| MISCELLANEOUS STUDY INTERSECTIONS |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     |                           |               |               |  |
|-----------------------------------|--------------------------------|---------------------------|---------------|------------------|--------------------|-------------------------------------|----------------------|--------------|------------------|--------------------|-------------------------------------|---------------------------|---------------|---------------|--|
| Synchro ID                        | Intersection                   | LOS Standard <sup>1</sup> | 2007 Existing |                  |                    |                                     | Revised LOS Standard | 2035 Plan    |                  |                    |                                     | Channelization Comparison |               |               |  |
|                                   |                                |                           | Control Type  | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> |                      | Control Type | LOS <sup>2</sup> | Delay <sup>3</sup> | V/C <sup>4</sup> or WM <sup>5</sup> | 2007 Existing             |               | 2035 Plan     |  |
| 2020                              | 40th St NE & 83rd Ave NE       | ---                       | ---           | ---              | ---                | ---                                 | D                    | Signal       | B                | 13.4               | 0.56                                | EB                        | EBL/T/R       | EBL, EBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL/T/R       | WBL, WBT, WBR |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/T/R       | NBL, NBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL/T/R       | SBL, SBT/R    |  |
| 2021                              | 3rd St & 47th Ave NE           | D                         | AWSC          | F                | 70.7               | EB                                  | D                    | Signal       | A                | 7.3                | 0.39                                | EB                        | EBL/T/R       | EBL, EBT, EBR |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBT/L, WBR    | WBL, WBT, WBR |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBT/L, NBR    | NBL, NBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT/R    | SBL, SBT, SBR |  |
| 2148                              | 74th St & 27th Ave NE          | D                         | AWSC          | B                | 12.3               | NB                                  | D                    | Signal       | A                | 5.7                | 0.5                                 | EB                        | EBL/T/R       | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL/T/R       | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/T/R       | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL/T/R       | ---           |  |
| 1031                              | 136th St NE & 34th Ave NE      | D                         | Signal        | B                | 14.1               | 0.74                                | D                    | Signal       | C                | 24.6               | 0.89                                | EB                        | EBT, EBR      | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL, WBT      | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBR      | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | ---           | ---           |  |
| 1044                              | 40th St & Sunnyside Blvd       | D                         | PSC           | B                | 10.3               | WB                                  | D                    | Signal       | B                | 11.5               | 0.8                                 | EB                        | ---           | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL/R         | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBT/R         | ---           |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBT/L         | SBL, SBT      |  |
| 1045                              | 40th St & 71st Ave NE          | D                         | TWSC          | A                | 9.4                | EB                                  | D                    | Signal       | B                | 17.6               | 0.78                                | EB                        | EBL/T/R       | EBL, EBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL/T/R       | WBL, WBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/T/R       | NBL, NBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL/T/R       | SBL, SBT/R    |  |
| 1046                              | Soper Hill Rd & Sunnyside Blvd | D                         | AWSC          | B                | 11.1               | NB                                  | D                    | Signal       | D                | 47.9               | 1                                   | EB                        | EBL/T/R       | EBL, EBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL/T/R       | WBL, WBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBR      | NBL, NBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL/T/R       | SBL, SBT/R    |  |
| 1047                              | Soper Hill Rd & 83rd Ave NE    | D                         | TWSC          | C                | 16.8               | SB                                  | D                    | Signal       | B                | 19.6               | 0.83                                | EB                        | EBL/T/R       | EBL, EBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL/T/R       | WBL, WBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL/T/R       | NBL, NBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL/T/R       | SBL, SBT/R    |  |
| 1048                              | Soper Hill Rd & SR 9           | Exempted                  | Signal        | B                | 13.9               | 0.76                                | D                    | Signal       | E                | 62.5               | 1.03                                | EB                        | EBT/L, EBR    | EBL, EBT, EBR |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | WB                        | WBL/T/R       | WBL, WBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | NB                        | NBL, NBT/R    | NBL, NBT/R    |  |
|                                   |                                |                           |               |                  |                    |                                     |                      |              |                  |                    |                                     | SB                        | SBL, SBT, SBR | SBL, SBT, SBR |  |

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