Transportation Element

Background

Purpose

The purpose of the Transportation Element is to guide the development of the City’s transportation system in a manner that supports the Bothell Vision Statement and goals of the Imagine Bothell Comprehensive Plan. It establishes the framework for the City’s transportation system and focuses on the policies and actions needed to implement and manage the City’s transportation infrastructure and services. It serves as a guide for the development of the City’s Transportation Improvement Program (TIP), concurrency requirements, and other planning processes. The Transportation Element represents the City’s long-range transportation planning and policy document.

Relationship to GMA

This Transportation Element has been developed in accordance with the Growth Management Act (GMA) to address the transportation needs of the City of Bothell. Specifically, Section 36.70A.070(6)(a) of the Revised Code of Washington (RCW) requires that comprehensive plans contain a transportation element consisting of the following:

1. Land use assumptions used in estimating travel.

2. Estimated traffic impacts to state owned transportation facilities resulting from land use assumptions to assist the Department of Transportation in monitoring the performance of state facilities, to plan improvements for the facilities, and to assess the impacts of land use decisions on state-owned transportation facilities.

3. Facilities and service needs, including:
   a. An inventory of air, water, and ground transportation facilities and services, including transit alignments and general aviation airport facilities, to define existing capital facilities and travel levels as a basis for future planning. This inventory must include state-owned transportation facilities within the city or county’s jurisdiction boundaries;
   b. Level of service (LOS) standards for all locally owned arterials and transit routes to serve as a gauge to judge performance of the systems. These standards should be regionally coordinated;
   c. LOS standards for all state highways to serve as a gauge to judge performance of the state system. The purposes of reflecting LOS standards for state highways in the local comprehensive plan are to monitor the performance of the system, to evaluate improvement strategies, and to facilitate coordination between the county’s or city’s six-year street, road, or transit program and the department of transportation’s six-year investment program.
   d. Specific actions and requirements for bringing into compliance any facilities or services that are below an established LOS standard;
   e. Forecasts of traffic for at least 10 years based on the adopted land use plan to provide information on the location, timing, and capacity needs of future growth; and
f. Identification of state and local system needs to meet current and future demands. Identified needs on state-owned transportation facilities must be consistent with the state-wide multimodal transportation plan.

4. Finance, including:

   a. An analysis of funding capability to judge needs against probable funding resources;
   b. A multiyear financing plan based on the needs identified in the comprehensive plan, the appropriate parts of which shall serve as the basis for the six-year street, road or transit programs required for cities, counties, and public transportation systems. The multiyear financing plan should be coordinated with the six-year improvement program developed by the department of transportation; and
   c. If probable funding falls short of meeting identified needs, a discussion of how additional funding will be raised, or how land use assumptions will be reassessed to ensure that LOS standards will be met.

5. Intergovernmental coordination efforts, including an assessment of the impacts of the transportation plan and land use assumptions on the transportation systems of adjacent jurisdictions.

6. Identification of Transportation Demand Management (TDM) Strategies to reduce travel demand and encourage use of non-auto travel.

**Relationship to Citywide Elements and Subarea Plans**

This Transportation Element identifies the transportation system that is needed to support the existing and proposed land uses identified in the Land Use Element and in the subarea plans. The Transportation Element also addresses issues and policies identified in other citywide elements such as the Parks and Recreation, Urban Design, and Capital Facilities Elements.

The traffic analysis in this Element is based upon conservative (“worst case”) land use assumptions developed by City staff for the subarea plans. The Transportation Element focuses on transportation issues and policies on a citywide basis while the subarea plans address transportation issues and policies related to specific areas or neighborhoods of the city. It should also be noted that the subarea plans include specific information about the existing transportation facilities and services within each subarea as well as a description of planned transportation projects, particularly the Downtown Subarea Plan which includes roadway rerouting, new streets, mixed-use redevelopment, and civic investment. SR 522 would be realigned to the south and SR 527 would be extended southward to intercept SR 522 at a “T” intersection. SR 527 would become a multiway boulevard allowing through lanes and access lanes. Main Street and NE 185th Street would be extended to the west and other transportation features would be implemented.

**Organization of Transportation Element**

This element is divided into four sections:

1. Regional Transportation Setting - This section describes intergovernmental coordination efforts with regional agencies, neighboring jurisdictions, and transit providers.
2. Local Transportation Setting - This section describes existing and future conditions and levels of service for each type of transportation mode - streets and highways, public transit, bicycle, and pedestrian.

3. Transportation Financing - This section addresses future transportation project costs and funding sources.

4. Transportation Goals, Policies, and Actions - This section lists the goals, policies, and actions to guide City transportation decisions.
Regional Transportation Setting

The City works closely with several regional transportation agencies and groups, neighboring jurisdictions, and transit providers to address transportation issues and problems on a regional basis. The plans and policies, and key projects developed by these agencies and their relevance to Bothell are briefly reviewed below. The goals, policies, and actions in this Transportation Element are intended to be consistent with these regional plans and policies within the context of Bothell's regional and local comprehensive planning goals.

Puget Sound Regional Council Plans and Policies

The Puget Sound Regional Council (PSRC) is designated under state law as the Regional Transportation Planning Organization (RTPO) and under federal law as the Metropolitan Planning Organization (MPO) for the central Puget Sound region, which encompasses Snohomish, King, Pierce, and Kitsap counties. The PSRC has developed “VISION 2020”, which is the long-range growth management, economic, and transportation strategy for this region. The PSRC is also responsible for preparing the Metropolitan Transportation Plan (“Destination 2030”), which serves as the region’s transportation action plan for the next thirty years and implements the regional vision put forth under VISION 2020. The regional policies of VISION 2020 and Destination 2030 fall into these four broad areas:

• Improve efficiency through effective transportation system management;

• Use transportation demand management measures to reduce travel demand, provide new sources of revenue, and help meet environmental objectives;

• Focus transportation investments to support transit and pedestrian oriented land use patterns; and

• Add transportation capacity where appropriate to provide alternatives to automobile travel, enhance safety and access, and improve freight and goods mobility.

Both VISION 2020 and Destination 2030 call for locating development in urban growth areas and support the creation of “urban centers”, which are places that contain a mix of commercial, residential, and cultural activity within a compact area. Urban centers are considered places where walking and bicycling as well as transit use are viable transportation options. Canyon Park is designated as an urban center in Destination 2030.

It is important to note that the PSRC must certify that the transportation element of a local jurisdiction is consistent with Destination 2030 in order for the local jurisdiction to be eligible for transportation funding under the Regional Transportation Improvement Program (TIP).

Among the transportation projects identified in Destination 2030 for Bothell include High Occupancy Vehicle (HOV) facilities on SR-522, High Capacity Transit (HCT) along the I-405 corridor, and roadway improvements on SR-524, SR-527 and I-405. In addition, it identified the need for Park-and-Ride improvements at Canyon Park. Once funded and determined to be consistent with Destination 2030, these projects are programmed by the PSRC in the Regional TIP.
State Transportation Plan and Route Studies

The Washington State Department of Transportation (WSDOT) is responsible under state law for the planning, construction, operation, and maintenance of the four state routes within Bothell. However, with the exception of the state freeway (I-405), the City of Bothell is responsible under state law for the installation, maintenance, and operation of the traffic signals, signs, and traffic control devices on the state highways (SR-522, SR-524, and SR-527). The City has historically secured funding for these state highways and has also been authorized by WSDOT through agreements and/or permits to perform planning, design, and construction activities on these state highways.

WSDOT is also responsible for preparing the Washington Transportation Plan (WTP), which satisfies both state and federal requirements to develop a statewide transportation plan that covers a period of at least twenty years. The planning factors and policy emphasis areas in the WTP include:

- Relief of congestion;
- Preservation of existing investments;
- Preservation of Downtowns;
- Ability to attract or accommodate planned population and employment growth;
- Improvement of traveler safety;
- Efficient movement of freight and goods; and
- Improvement and integration of all transportation modes to create a seamless intermodal transportation system for people and goods.

WSDOT, in coordination with Sound Transit and local jurisdictions, recently completed the I-405 Corridor Program to develop strategies to reduce traffic congestion and improve mobility on I-405 from Tukwila to Lynnwood. The major elements in this program included the following improvements within Bothell: add general purpose, auxiliary and HOV/express lanes on I-405 and provide HCT on I-405 with stations at both interchanges at NE 195th Street and SR-527; expand capacity on SR-527 with general purpose lanes and with lanes, intersection queue jumps, and signals that provide priority to HOVs and transit; add HOV direct access ramps between I-405 and SR-522; expand the Park-and-Ride lots at Canyon Park and Downtown Bothell; extend SR-202 across SR-522 to 120th Avenue NE; and provide a safer pedestrian/bicycle crossing over I-405 to North Creek Trail at some location physically separated, where possible, from the I-405/NE 195th Street interchange.

Since the time of the 1996 Comprehensive Plan Update, WSDOT and the City of Bothell has completed the SR-527 Route Development Plan and the SR-522 Multi-Modal Study to identify capacity, operational, and non-motorized improvements on SR-527 and SR-522 respectively. The recommendations from these studies and the input from community outreach efforts have been incorporated into several projects identified in the City’s Transportation Improvement Program (TIP). These projects along with other state highway projects in the City’s 2005-2010 Six-Year TIP are listed in Table TR-11. Once funded and determined to be consistent with the WTP, these projects are programmed in the State Transportation Improvement Program (STIP).

In 2009 the City amended the Downtown Subarea Plan to create a new land use and transportation framework that implements a form-based development code to revitalize downtown. The Downtown Plan amendment included new transportation modeling based upon a reconfigured street network which includes realignment of SR 522 to the south, extending SR 527 southward to intercept the relocated SR 522 at a "T" intersection, reconstruction of SR 527 into a multiway boulevard that would
allow for through lanes and access lanes, and extension of Main Street and NE 185th Street to the west, supporting a compact, walkable mixed-use area.

**Snohomish and King Countywide Planning Policies**

Because Bothell is located in both Snohomish County and King County, it is subject to the Countywide Planning Policies that have been adopted in both counties. Adopted countywide planning policies are designed to ensure that city and county comprehensive plans are consistent. Each local comprehensive plan should demonstrate that such policies have been followed in its development.

Although no major projects are planned at this time in the unincorporated King County area south of Bothell, there are several noteworthy projects proposed for the unincorporated Snohomish County area north of Bothell. These projects include the widening of SR-524 to five lanes from Lynnwood to SR-527, possible widening of the 35th Avenue SE/39th Avenue SE from Seattle Hill Road to 228th Street SE, and the completion of the North Creek Trail connection to the Interurban Trail at McCollum Park north of Mill Creek.

**Neighboring Cities**

In August 1998, the City of Kenmore incorporated just to the west of Bothell. Because of its location at the King-Snohomish county border, it shares similar issues as Bothell when coordinating with the two counties and multiple transit agencies. The SR-522 corridor is of particular interest for both cities. The Kenmore Comprehensive Plan includes several policies regarding the importance of coordination with local, regional, state, and federal agencies in the development and operation of the City’s transportation system. The City of Kenmore has identified the following proposed projects near Bothell: improvement of SR-522 from 73rd Avenue NE to the City eastern limits; installation of a traffic signal on SR-522 at 83rd Avenue NE; and reconstruction of 80th Avenue NE as a three-lane roadway with bicycle lanes from SR-522 to the north City limits.

The City of Woodinville is located east of Bothell. The SR-522 and I-405 corridors serve both cities. As a result, the Woodinville Comprehensive Plan also includes transportation policies that emphasize cooperation and partnerships with neighboring cities (Bothell), WSDOT, PSRC, Sound Transit, King and Snohomish Counties, and the private sector. The City of Woodinville in coordination with WSDOT and the City of Bothell has developed the Corridor Congestion Relief Project (CCRP), which would involve improvements to the existing SR-522/SR-202 interchange area and the construction of an overpass over SR-522 to connect SR-202 in Woodinville to 120th Avenue NE in Bothell.

To the north, the City of Mill Creek's urban Planning Area borders Bothell’s urban Planning Area. Currently, a two-mile stretch of unincorporated Snohomish county land lies in between the two city limits. This area is rapidly developing and will need to coordinate transportation plans and actions between the two jurisdictions to address this growth. In its policies, the City also emphasizes coordination with surrounding jurisdictions to ensure consistency among local transportation plans as well as the planning, design and financing of transportation facility improvements. The Cities of Mill Creek and Bothell have been working together over the past few years on SR-527 improvements and the North Creek Trail connection to the Interurban Trail.

The City of Kirkland is located one mile south of Bothell. Currently, the area between the two cities is unincorporated King County and is referred to as Juanita/Kingsgate. In the near future, Kirkland is expected to annex the Juanita/Kingsgate area. Until this occurs, Kirkland has no specific transportation projects that will directly affect Bothell, although both cities share common concerns about the need for regional improvements to the I-405 corridor and other Eastside arterials.
Transit Agencies

Sound Transit serves as the Regional Transit Authority (RTA) for Snohomish, King, and Pierce counties. Sound Transit has developed a Regional Transit Long Range Vision to identify a regional program of commuter rail, light rail, and express bus service to connect the region’s cities and jobs. Sound Transit is currently implementing its Ten-Year Regional Transit Plan (“Sound Move”), which is the first phase of the Long Range Vision. Projects identified for funding in this first phase within Bothell include HOV and transit improvements on SR-522, a transit freeway station and pedestrian bridge at the Canyon Park Park-and-Ride lot, and improvements at the I-405/NE 195th Street interchange to facilitate transit access to the University of Washington Bothell/Cascadia Community College (UWB/CCC) campus.

Sound Transit is currently in the process of developing Phase 2 of its Long Range Vision update. Potential Phase 2 projects for Bothell include increased express bus service and other transit improvements along SR-522, Bus Rapid Transit (BRT) along I-405 with possible stations at North Creek Business Park and the UWB/CCC campus, and expansions of the Canyon Park and Brickyard Road Park-and-Ride lots.

In addition to the regional transit service provided by Sound Transit, local transit service is also provided by Community Transit and King County Metro for the Snohomish County and King County portions of Bothell respectively. Each transit agency is required by state law to prepare a Six-Year Transit Development Plan (TDP) for its respective county. It identifies the objectives and strategies for transit, paratransit, rideshare services, and supporting capital facilities that are needed to provide congestion relief and improved mobility. The plans for both Community Transit and King County Metro recognize the need for new or expanded Park-and-Ride lot locations, increases in transit service frequency in urban areas, and better integration with Sound Transit regional express service.

A description of the existing transit routes and services provided by these transit agencies is included in the Public Transit section of this Transportation Element.

Subarea Transportation Boards

The City of Bothell is a member of Eastside Transportation Partnership and the SeaShore Transportation Forum. Originally formed to review and recommend services and projects on the King County Metro Transit Development Plan, these subarea transportation boards have become a forum for information sharing, advocacy, consensus building, and coordinating to resolve transportation issues on a subregional basis. In addition to making recommendations on transit priorities to King County Metro as well as to Sound Transit, these subarea transportation boards develop recommendations on the regional project selection process and on regional funding issues.

The City of Bothell is also a member of Snohomish County Tomorrow and the Snohomish County Infrastructure Coordinating Committee (ICC).

Other Laws and Regulations

The goals, policies, and actions in this Transportation Element must also be consistent with applicable federal and state laws and regulations, including the Transportation Equity Act (TEA) reauthorization, the federal and state Clean Air Acts, and the State Commute Trip Reduction (CTR) Law.
Local Transportation Setting

Parks, schools, commercial retail, and public facilities all require a sound transportation system providing connection to and from residential neighborhoods. Bothell has many unique geographical features and watercourses that challenge the transportation system as shown in Figure TR-1. Bothell's topography is typical of the Puget Sound Region with long north/south valleys scoured by glaciers. The valleys are often bordered by steep hillsides. Hillsides that have limited development of roads include: the west side of SR-527 from NE 190th to 240th Street SE; the east side of SR-527 from NE 190th Street to 228th Street SE; the west side of I-405 from Ross Road to 228th Street SE; and the east side of 120th Avenue SE from SR-522 to 240th Street SE. Just south of SR-522, the Sammamish River divides the City once again. The hilly terrain funnels SR-527 through the center of the City with no east/west connections from 240th Street SE to NE 190th Street.

The street pattern laid out in the early 1900's still predominates much of the area of Bothell located in and around Downtown. The arterial street system is based on the former farm-to-market roads. As a result of topographical and historical factors, Bothell residents are often forced to drive circuitous routes.

Downtown Bothell is bordered by three regional state facilities: SR-522, SR-527, and I-405. State routes 522 and 527 are regional transportation corridors that pass through the Downtown Subarea. I-405 is directly east of Downtown and has connections to the City via SR-527, Beardslee Boulevard, and SR-522. These highway systems serve high traffic volumes in and around the City during peak AM and PM peak commuting periods, which cause periods of significant congestion and delays on City streets. I-405 and SR-522 also serve as barriers between neighborhoods within the City. There are few east-west crossings of I-405. SR-522 and the parallel Sammamish River serve as a north-south barrier to travel in the south portion of the City.

Overview

This section analyzes existing and future operation and needs of Bothell’s transportation system. The section provides discussion, analysis, and review of the following:

1. Streets and Highways;
2. Public Transit;
3. Transportation Demand Management/Transportation System Management (TDM/TSM) Strategies;
4. Bicycle Facilities; and
5. Pedestrian Facilities.

Streets and Highways

The streets and highways of Bothell serve residents and businesses with a transportation system that provides connections and mobility to all users. The following section describes this street system, identifies a way to measure system performance, and forecasts the street system conditions in the planning year 2030.
**Functional Classification**

Streets in Bothell have been classified according to a hierarchy of function, from least intensive to most intensive, as follows:

1. Neighborhood or local access streets (average daily traffic of less than 2,000);
2. Collectors (average daily traffic between 2,000 and 8,000);
3. Minor arterials (average daily traffic between 6,000 and 20,000);
4. Principal arterials (average daily traffic between 15,000 and 50,000); and
5. Limited access highways (average daily traffic of more than 40,000).

Roadway classifications are shown in Figure TR-2. Typical street sections are shown in Figures TR-3A and TR-3B. Existing mileage within the Planning Area for each type of street or roadway is listed below in Table TR-1.

<table>
<thead>
<tr>
<th>Roadway Classification</th>
<th>2004 Miles (Approximate) of Each Roadway Classification Within Planning Area</th>
<th>2004 Percentages of Total Roadway Miles Within Planning Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood or Local Access Street</td>
<td>115</td>
<td>70%</td>
</tr>
<tr>
<td>Collector</td>
<td>20</td>
<td>12%</td>
</tr>
<tr>
<td>Minor Arterial</td>
<td>14</td>
<td>9%</td>
</tr>
<tr>
<td>Principal Arterial</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Limited Access Highway</td>
<td>6</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>164</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Neighborhood or Local Access Streets**

Neighborhood or local access streets are intended to provide direct access to residences. These streets are not included in the arterial system, except where an arterial may include a link to a neighborhood street to complete a connection and function. Local access streets connect the arterial system to the driveways and parking areas for individual residences.

Neighborhood or local access streets are generally designed for automobiles and vans. The right of way (ROW) may include two traffic lanes, planter strips, and sidewalks. On-street parking is generally permitted on one or both sides of the street, depending on the width of ROW. Demarcated bicycle lanes are not provided on neighborhood or local access streets. Neighborhood or local access streets within the Planning Area comprise about 115 miles of roadway, or 70% of total road mileage. The mileage of neighborhood or local access streets has increased due to new developments and inclusion of the larger Planning Area for analysis.

**Collectors**

Collector streets connect minor and principal arterials to neighborhoods and subdivisions. They are intended to be the lowest level classification for an arterial and are not intended to provide through connections except between neighborhoods within Bothell. Truck through-traffic on neighborhood or local access streets and collectors is not allowed where alternative arterials exist. This prohibition does not include trucks making deliveries to residences. Collectors within the Planning Area comprise about 20 miles of roadway, or 12% of total road mileage.
**Minor Arterials**

Minor arterials generally provide through connections between employment centers, commercial areas, residential areas and principal arterials. They may interconnect other jurisdictions with employment centers and commercial areas in Bothell. Generally, they are designed for slower traffic and fewer vehicles than for principal arterials. Minor arterials within the Planning Area comprise about 14 miles of roadway, or 9% of total road mileage.

**Principal Arterials**

Principal arterials accommodate mostly through traffic and interconnect jurisdictions, employment centers, commercial areas and the regional freeway network. They are generally designed for heavier vehicles and the speed limit is generally higher than on other streets. Principal arterials are intended to be the truck routes through Bothell. The principal arterials in Bothell are the SR-522, SR-524, and SR-527 state highway system links and do not include any portions that may function as a freeway. Principal arterials within the Planning Area comprise about 9 miles of roadway, or 5% of total road mileage.

**Limited Access Highways**

Also referred to as freeways, roadways under this classification include I-405 and a segment of SR-522 east of about 112th Avenue NE. The portion of I-405 within the Planning Area is oriented in a northwest-southeast direction, generally along the west edge of the North Creek Valley. I-405 and the limited access segment of SR-522 comprise about 6 miles of roadway, or 4% of total road mileage.

Four I-405 interchanges serve Bothell. The interchange at SR-527 provides convenient access to the Canyon Park business park and the adjacent commercial area. This interchange connects directly to SR-527 to distribute and collect traffic from the area between Mill Creek and 228th Street SE.

The interchange at NE 195th Street provides direct access to the North Creek business park and convenient access to the UWB/CCC campus and the commercial areas located in Downtown Bothell.

The interchange at SR-522 interconnects the interstate system and the SR-522 transportation shed. Trips to and from the Northshore area and the area of metropolitan Seattle located between the Ship Canal and Lynnwood are served by the SR-522 interchange.

The interchange at NE 160th Street is located outside of the Bothell City Limits but is also used by Bothell residents. This interchange provides access to the interstate system for Bothell and Kirkland residents from the area approximately bounded by NE 155th Street, 124th Avenue NE, NE 132nd Street and Lake Washington.

**Traffic Signals and Signs**

Traffic signals are located in Bothell on principal arterials at interchanges and at congested intersections. There are 40 intersections with traffic signals in Bothell’s Planning Area, including the two ramp intersections at the I-405/SR-527 and I-405/NE 195th Street interchanges. Twelve signalized intersections are located on SR-522 and SR-527, and nine are located on 228th Street SE. Traffic signals outside the City limits but within the Planning Area are located at the I-405/NE 160th Street interchange, at 112th Avenue NE and NE 145th Street on Juanita-Woodinville Way NE and at 121st Avenue NE and 124th Avenue NE on NE 160th Street.
Additional signals may be added along 228th Street SE at 29th Drive SE and 31st Avenue SE and at the intersection of Riverside Drive and 102nd Avenue NE in the near future. Other intersections under consideration for signalization include: Beardslee Boulevard and NE 185th Street; NE 180th Street and 132nd Avenue NE; and Main Street at Kaysner Way and 102nd Avenue NE. Traffic movements are controlled at all intersections. Flashing stop and caution signals are provided on Meridian Avenue and Main Street. All other intersections are controlled by stop signs or the right-hand rule, which gives precedence to the first vehicle stopping at the intersection street on the right.

High Occupancy Vehicle (HOV) and Business Access and Transit (BAT) Lanes

There are currently HOV lanes located on I-405 through the Bothell Planning Area. HOV lanes are provided by WSDOT throughout the entire length of I-405 from Lynnwood to Tukwila. HOV lanes are located in the far left lane for both directions. HOV operations are in effect between the hours of 5 AM and 7 PM for all seven days of the week. During these hours, only vehicles with two or more people are allowed including buses, vanpools, and carpools. Motorcycles and emergency vehicles are also permitted regardless of the number of passengers. Trucks with three or more axels are prohibited regardless of the number of passengers.

Ramp meters and queue bypass ramps are installed at the NE 160th Street, NE 195th Street and SR-527 interchanges on I-405, concurrent with development of HOV lanes on the segments including these interchanges. Traffic signals will meter the flow of traffic onto I-405. Queues may form at these metered interchanges and traffic may back-up through nearby intersections, causing delays and diverting traffic through areas near affected interchanges. An additional queue bypass is installed for the southbound I-405 on-ramp from eastbound SR-522. Queue bypass lanes are restricted to the same classes of vehicles as are allowed in HOV lanes.

Business Access and Transit (BAT) lanes will be located on portions of SR-522 and SR-527 through Bothell. BAT lanes are designed to improve transit service and traffic flow in the through lanes. For a BAT lane configuration, the shoulder lane is dedicated to transit use and other vehicles pulling in and out of local business driveways. It acts as a deceleration and acceleration lane that is separated from the main flow of traffic. These projects are being actively planned, but design and construction dates have not been set.

Levels of Service

When the State adopted the GMA, the region was facing rapid growth that was outstripping transportation capacity. One of the GMA goals was to guide development and protect transportation systems from deteriorating to unacceptable conditions.

“Concurrency” is a requirement of the state’s GMA. Concurrency means that a city or county must ensure new development is accompanied by transportation facilities or programs that maintain some standard of service even as traffic increases. Appropriate concurrency policies ensure a balance between population and employment growth, land development, and transportation capacity that allows residents of the City to enjoy the benefits of economic growth without suffering too greatly from its negative consequences.

Washington’s concurrency requirement requires the City to keep three elements in balance: development, transportation system capacity, and the level of service (LOS) of the transportation
system. The City has limited ability to adjust development or transportation system capacity. Development is affected by market factors beyond the City’s control. Building additional capacity is limited by funding, neighborhood preferences, and environmental constraints. LOS of the transportation system remains the most commonly used element to balance these demands.

In the Puget Sound region, city’s local concurrency policies have little control over two factors that have a big impact on their roads: state highways and through traffic. Concurrency can be adjusted to achieve different goals for transportation, land use, and economic development.

The GMA leaves the selection of the LOS standards to each jurisdiction. LOS standards have several components. One component is whether standards are based on capacity (how many lanes) or service (delay at intersections). Another component is whether standards exist for intersections or for the flow of traffic along corridors. Whether LOS standards are to be met at individual points of measurement (at every intersection) or on average at all points of measurement is another policy component. Finally, the stringency of the standards themselves (high or low) is obviously important.

The performance of streets and highways is most commonly measured in terms of delays at intersections, using an alphabetical scale from A to F, with A representing nearly ideal conditions, and F representing forced flow. This methodology varies somewhat for signalized and unsignalized intersections. For signalized intersections, LOS relates to the average delay experienced at the intersection. For unsignalized intersections, all-way stop-controlled intersections use an overall measure, while streets with stop controls only on the minor streets are measured based upon the worst individual turning movement.

The LOS criteria for each letter within the scale are presented in Table TR-2 below for signalized and unsignalized intersections. The table values represent the average delay experienced by drivers at the intersection during the time period evaluated. A one-hour period during peak commute times is typically chosen for analysis.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Signalized Control Delay per Vehicle (seconds)</th>
<th>Unsignalized Delay per Vehicle (seconds)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0-10</td>
<td>0-10</td>
<td>Little or no delay</td>
</tr>
<tr>
<td>B</td>
<td>&gt;10-20</td>
<td>&gt;10-15</td>
<td>Short delays</td>
</tr>
<tr>
<td>C</td>
<td>&gt;20-35</td>
<td>&gt;15-25</td>
<td>Average delays</td>
</tr>
<tr>
<td>D</td>
<td>&gt;35-55</td>
<td>&gt;25-35</td>
<td>Long delays</td>
</tr>
<tr>
<td>E</td>
<td>&gt;55-80</td>
<td>&gt;35-50</td>
<td>Very long delays</td>
</tr>
<tr>
<td>F</td>
<td>&gt;80</td>
<td>&gt;50</td>
<td>Failure - extreme congestion</td>
</tr>
</tbody>
</table>


City of Bothell LOS Policies

The City of Bothell has revised its methodology for evaluating LOS within the City. The first revision is to use a corridor LOS approach rather than measure individual intersection LOS. Because the delay experienced by drivers is the result of travel over a length of roadway, the City will evaluate the performance along a particular corridor. The corridor approach allows the City to focus transportation funds along the most important arterial routes. It also provides flexibility in applying concurrency mitigation in a more cost-effective manner where intersections have been built-out or may be too cost prohibitive. A 2001 survey by the Puget Sound Regional Council (PSRC) showed that 58% of cities
and counties in Washington State customize their approach for LOS standards similar to the corridor LOS approach that the City has adopted.

The corridor LOS approach combines the average delay at each of the intersections along the corridor and weights them based upon the traffic volumes experiencing the delay. For example, the delay at a traffic signal is experienced by all intersection volumes. Conversely, the delay at an unsignalized intersection is usually experienced by only one or two movements (typically a left turn coming from a side street). The corridor LOS emphasizes the higher volume signalized intersections over the lower volume unsignalized intersections.

Seven major corridors were evaluated for LOS operations. These corridors were selected because they represent the city’s key principal and minor arterials that run along primarily high density/commercial corridors. They are listed below (and are also depicted in Figure TR-5A and Figure TR-5B):

1. SR-524 (208th Street SE/Maltby Road) Corridor between 9th Ave. SE and 39th Ave. SE;
2. 228th Street SW/SE Corridor between 4th Avenue W and 39th Avenue SE;
3. SR-522 (NE Bothell Way) Corridor between 96th Avenue NE and Kaysner Way;
4. Beardslee Boulevard/NE 195th Street Corridor between NE 185th St. and 120th Ave. NE;
5. SR-527 Corridor between SR-524 and SR-522;
6. 39th/35th Ave. SE/120th Ave. NE/NE 180th St. Corridor between SR-524 and 132nd Ave. NE; and
7. NE 145th St./Juanita-Woodinville Way/NE 160th St. between 100th Ave. NE and 124th Ave. NE.

Within these corridors, certain intersections may operate at a lower LOS. The City will monitor those locations and identify appropriate actions as part of its annual TIP process. Other corridors may be included in the future as needs are identified. Potential new corridors include Waynita Way NE/100th Avenue NE, Meridian Avenue, and 240th Street SW/SE. Portions of Downtown Bothell may also be evaluated as a corridor during the Downtown master planning studies.

The second revision is to change the LOS standard from LOS D to LOS E. The lower LOS standard acknowledges that the City will tolerate some additional congestion for short time periods. Much of this congestion is due to regional traffic impacts over which the City has minimal control. This change also balances the need to manage congestion with the desire to have a healthy economy that attracts businesses and tries to protect residential quality of life. Finally, there is a regional trend towards accepting LOS E as a more realistic target in urban areas. Maintaining regional consistency is a goal of the GMA and will assist the City in coordinating transportation improvements and developer mitigations with nearby agencies.

The third and final revision is to eliminate the current ‘exception’ intersection provisions. These provisions become redundant with the corridor approach and LOS E standard changes.

Combined with the new LOS standards is an emphasis on focusing transportation investments within the arterial corridors. These investments will be added to the City’s impact fee program to obtain appropriate developer mitigation. Concurrently, efforts will be made to protect neighborhood streets by minimizing cut-through traffic.
State Highways LOS Policies

The goal of the Washington State Department of Transportation (WSDOT) is to maintain the acceptable operation of its key system corridors designated as ‘Highways of Statewide Significance’ (HSS). The WSDOT uses a LOS standard called the Average Capacity Ratio (ACR) to measure the severity of congestion over a 24-hour period. The ACR is the ratio of the Annual Average Daily Traffic to the one-hour capacity of a facility. Index volumes under this system will range from 2 (little to no congestion) to 24 (congestion over the entire 24-hour day). Both the I-405 and SR-522 freeways are designated as HSS. The current LOS standard for I-405 and SR-522 is ACR 10.

The Washington State Transportation Commission adopted the ACR as an index to measure facility performance and to establish thresholds for identifying deficiencies. The adopted threshold ARC index value is a 10 for urban highways and a 6 for rural highways. Highways that exceed these thresholds are considered deficient. The ACR thresholds approximate LOS D operations in urban areas and LOS C operations in rural areas.

The PSRC adopted LOS standards in the Fall 2003 for regionally significant state facilities also designated as ‘Non-HSS’. In Bothell, SR-524 and SR-527 are identified as Tier 1 Non-HSS roadways. Tier 1 is defined as an “inner” urban area, which is generally defined as a 3-mile buffer around the most heavily traveled freeways (I-5, I-405, SR-167, SR-520, and I-90) plus all designated urban centers (most are located in the freeway buffer already). The proposed standard for Tier 1 routes is LOS "E/mitigated", meaning that congestion should be mitigated (such as transit) when PM peak hour LOS falls below LOS E.

Other Local LOS Policies

Snohomish County’s LOS standards are based upon travel times on arterial segments, which form corridors throughout unincorporated Snohomish County. When arterial segments reach LOS D, it requires developers to provide a future LOS analysis. The LOS in unincorporated, rural Snohomish County is to be maintained at C. The LOS in unincorporated, urban areas is to be maintained at E. For these urban areas, the suburban standard for LOS E is to maintain an average speed of 13 miles/hour. The urban standard for LOS E is to maintain an average speed of 10 miles/hour.

King County’s concurrency is determined by the calculation of Transportation Adequacy Measure (TAM) and critical link standards. The critical link standards apply to specified monitored corridors in the County’s jurisdiction. For the interim period prior to the adoption of the 2004 Comprehensive Plan Update, a roadway segment volume-to-capacity measure would be used for these corridors. King County is considering a travel time approach for measuring transportation concurrency for adoption into its update.

Under the current TAM standards, the Bothell area is D or E depending on the location. The County proposes to change the standard to E for all of Bothell with the adoption of the King County Comprehensive Plan Update.

The City of Woodinville has adopted LOS E as a citywide standard. The City of Mill Creek uses LOS E or F for specific signalized intersections and LOS D or E for specific unsignalized intersections. The new LOS system for the City of Kenmore is as follows: LOS E for primary arterials; LOS D for minor arterials; and LOS C for collectors.
Existing Conditions

Traffic Volumes

Daily traffic volumes on the major roadway system are shown in Figure TR-4. Traffic volumes during a 24-hour period are highest on the major arterial network including I-405, SR-527, and SR-522. These roadways carry large amounts of traffic on a daily basis and are typically are affected by higher levels of congestion during peak periods. The primary north-south connections through the City are I-405, which carries in excess of 100,000 daily trips; SR-527, which carries between 11,000 and 38,400 trips depending on the section; and 120th Avenue NE corridor, which carries between 9,600 to 13,800 daily trips along its length.

The primary east-west corridor is SR-522, which carries between 26,600 and 87,000 daily trips. In the north, SR-524 carries between 14,100 and 17,200 daily trips. For 228th Street SE, the average daily traffic is between 15,900 and 23,400. Another important east-west connector, Main Street/Beardslee Boulevard/NE 195 Street, carries 9,300 and 17,800. These roadways act as key distribution points between I-405 and surrounding areas.

Traffic volumes are affected by a combination of local and regional trips. More information on how these trip patterns affect City of Bothell traffic is discussed in the Future Traffic Conditions section. In general, the limited access highways and principal arterials carry the highest volumes of regional travel through the City of Bothell.

Existing Level of Service

The LOS was calculated for each of the corridors within the City using existing PM peak hour traffic volumes. PM peak hour traffic volumes, which amount to 7-10% of daily traffic, represent traffic conditions during the most congested period of the day. The PM peak hour volumes were developed from a variety of sources, including City counts, WSDOT counts, and developer traffic impact studies. Existing traffic counts were entered into the Synchro traffic software (Version 6) that allows the analysis of intersection operations as a traffic system. The Synchro inputs include intersection turning movements, lane configurations, signal timing, signal phasing, and intersection coordination to fully provide an analysis of area traffic operations.

The Synchro intersection analysis program includes calculation methodologies that account for queuing factors. Where queues extend past one intersection, the program will reduce capacity and increase delay to account for the delay. Similarly, where queues create blocking issues (e.g. a left turn lane backup blocks the through lane), the program reduces the through capacity of the intersection, resulting in an increased delay for the movement.

The effect of pedestrians at intersections was included either as a dedicated signal phase or as an actuated phase of the signal timing. In Downtown Bothell, a pedestrian phase was assumed with each signal cycle.

Results of the analysis were used to calculate the operation of each of the seven analysis corridors. Figure TR-5A shows the intersection LOS and corridor boundaries used for analysis. Table TR-3 summarizes the corridor results. Appendix I contains the detailed calculations.
Currently within the Planning Area, all study corridors operate at LOS D or better. Of the seven corridors, the SR-527 corridor has the highest delays with an average vehicle delay of 44 seconds. Traffic operations for individual intersections or for individual turning movements will vary within each corridor. The NE 145th Street/Juanita-Woodinville Way NE/NE 160th Street corridor has the lowest delays with 21 seconds of delay per vehicle. There are eight unsignalized intersections that currently operate at LOS F. Each of these intersections is currently planned to have traffic signals installed to correct these deficiencies. Other intersections operate at LOS E or better.

### Parking

There is an ample supply of on and off-street parking within the City. In the Downtown core of Bothell, parking demand has been growing in recent years. The on-street parking along Main Street is heavily used and the use of the parking lots one block north and south of Main Street have a frequent turnover of vehicles as customers shop or eat. Many businesses are within walking distances of available parking areas, and there are pedestrian walkways within the core. Several of the off-street parking spaces (parking lots) are designated for users of specific businesses or residential usage and may not be available as parking for the public. A recent study of the Downtown traffic circulation (March 2003) found that the Downtown core had more than 50% of the total spaces (1328) available during the noon hour (11 AM to 1 PM) and late afternoon (3 PM to 5 PM).

Various parking restrictions are in place throughout the Downtown area - such as two-hour parking and no parking signs. In some of the residential areas, there is only on-street parking on one side of cul-de-sacs. Parking at the Canyon Park shopping center and the North Creek and Canyon Park business parks appear to be ample. The three regional Park-and-Ride lots are used heavily during weekdays and are discussed in the Public Transit section.

### Accidents

Existing accident data for the City of Bothell was assembled from the Bothell Police Department and analyzed for the period between January 1, 2000 and December 31, 2003. The data was limited to arterial routes within the City. Accidents on I-405 and the freeway portion of SR-522 were not included.
The accident data revealed that just over half of all accidents within the four-year period occurred on state facilities. Out of all the accidents on state facilities, 69% took place on SR-527, the major north-south arterial through the City of Bothell. Another 5% of the accidents occurred either at the intersections of SR-527 at SR-522 or SR-527 at SR-524. SR-522 had 20% of all accidents on state facilities. A high number of accidents were located to the north along the heavily commercialized section of SR-527 and 228th Street SE. There were also many accidents documented in the Downtown area and in the vicinity of freeway interchanges.

There has been a slight decrease in the total number of accidents over the past four years to a level which is similar to the baseline year of 2000.

**Emergency Response Services**

The time it takes emergency vehicles to arrive at their destination in a timely manner is key to fire, emergency medical, and police services. This issue is addressed further in the Capital Facilities Element.

**Freight**

Bothell is at the confluence of four state routes, including I-405. Freight truck traffic is focused in Bothell on these state routes. SR-522 is a designated strategic freight corridor by the state and is listed as a T-1 facility (annual gross tonnage of over 10 million tons) because it carries more than 21 million tons annually. This is equal to 62% of the freight carried on I-405 and 36% of the annual freight carried on I-5. The SR-520 bridge carries only slightly more tons than SR-522. While these other roads are freeways with restricted access, SR-522 does not control vehicular movements into and out of the many commercial driveways and side streets located along the route.

There are no freight truck terminals in Bothell. However, individual businesses have their own freight facilities. Freight to and from businesses in this area is frequently routed through terminals in Seattle for consolidation, breakdown and dispatching.

Principal arterials are the unofficially identified routes for freight trucks through the City of Bothell. The LOS standards for streets and highways will affect the movement of freight to and through the City.

**Water, Air and Rail Facilities**

There are no water ports, docks, airports, or rail service facilities in Bothell. Waterborne passenger and freight service was provided to Bothell (Bothell Landing) into the early 1900's and ended when rail service was provided through Bothell and the road network was developed to a level that made this service unprofitable. Rail passenger service to Bothell was terminated in the 1930's and rail freight service was terminated in the mid 1960's.
Future Traffic Conditions

The transportation system represents a balance between demand, capacity, and capital resources. The City is constantly attempting to balance these three variables. A computer model representation of the operation of the total system is the best tool for analyzing system interactions. A transportation planning model can indicate how trips will be distributed throughout the system based on the travel times on the various system facilities and transportation services. Trip demands are determined and compared to available capacity to obtain a usable representation of the conditions throughout the system.

A computer program (VISSIM) was used to develop a model of the Bothell transportation system. Demographic characteristics for 2000 were analyzed using the model to determine the trip demand on roadway facilities located in Bothell, its future potential annexation areas and surrounding cities. The model is based on land use information from the City of Bothell and from the Puget Sound Regional Council (PSRC) for surrounding areas. It represents vehicular traffic during the one-hour afternoon peak period.

The model consists of 195 internal zones covering the City of Bothell and surrounding areas and 34 external zones. The model uses trip rates derived from national sources, a gravity model for trip distribution, and an integrated distribution and multi-point assignment methodology. The model was validated against existing traffic counts; overall, the modeled volumes were within 7% of the actual counts.

Future (2030) travel forecasts used land use projections from the City and the PSRC. The model produced peak hour traffic growth estimates on streets throughout the City and surrounding areas. Data collection for the model development included conducting peak-period traffic counts, speed-delay travel runs, and other studies used to validate the model.

Table TR-4 summarizes the forecasted growth in Bothell area PM peak hour traffic between 2000 and 2030. These trips represent the entire traffic passing through or within the street system included in the travel model.

<table>
<thead>
<tr>
<th>Table TR-4</th>
<th>PM Peak Hour Traffic (2000,2030)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>2000</td>
</tr>
<tr>
<td>City of Bothell Planning Area</td>
<td>19,050</td>
</tr>
<tr>
<td>Surrounding Areas</td>
<td>83,620</td>
</tr>
<tr>
<td>Total</td>
<td>102,670</td>
</tr>
</tbody>
</table>

Peak hour traffic growth is forecasted to increase by over 70% within the City of Bothell, a slightly higher growth rate than the surrounding areas.

Peak hour trips beginning and/or ending in Bothell can be further broken down by the places at which those trips began or ended. Table TR-5 shows the percentages of total peak hour trips. These trips include a combination of work, shopping, educational, and recreational trips. By 2030, a slightly higher proportion of Bothell trips is expected to be oriented to the Eastside rather than Seattle. Otherwise, trip patterns will be similar to current trends.
Looking specifically at commute (i.e. work) trips, there are different travel patterns for people who live or work in Bothell. Table TR-6 compares the origins and destinations of commuters using data from the 2000 Census. For people working in Bothell, a high proportion originates in Snohomish County followed by a variety of Eastside origins. In comparison, people who live in Bothell are more likely to work in Seattle and the Eastside than in Snohomish County. These work trip trends are expected to continue to 2030.

Given the variety of travel patterns in the Bothell area, the street system carries a combination of local and regional trips. Table TR-7 shows the percentage of through trips forecasted on selected roadways in 2030. Through trips are those that neither begin nor end in the City of Bothell. For example, 66% of the vehicles on SR-527 just south of SR-524 are through vehicles not stopping in Bothell. On the other hand, the section of SR-527 south of 240th Street SE carries more local traffic since only 41% is through traffic.
Many of the state highways carry high proportions of through traffic consistent with their function. Most of the through trips that directly impact Bothell are on state highways. The through traffic on I-405 impacts Bothell at congested interchanges by causing delays and local congestion. However, trips on the other state highways (SR-524, SR-527, and SR-522) impact Bothell traffic at the many intersections located along these routes. Other arterial routes within Bothell carry mostly locally generated traffic. Examples include 120th Avenue NE and 228th Street SE.

**Future Street Network**

The 2030 travel forecasts were based on a street network that included a variety of local and regional improvements. A number of facility improvements were assumed to be completed by 2030. Table TR-8 shows several of these major roadway improvements in Bothell, Snohomish County, and Woodinville that affect the future traffic forecasts. These street network changes affect the travel forecasts by shifting traffic to or from corridors based on available capacity.

| **Table TR-8** |
| **Transportation Projects Planned or Programmed by 2030** |
| **City of Bothell 2005-2010 Six-Year TIP Projects** |
| SR-522: Add Business Access and Transit (BAT) lanes and make intersection improvements |
| SR-522: Realign through Downtown Bothell and create revised street system |
| SR-524: Widen to 5 lanes from the western City limits to SR-527 |
| Beardslee Boulevard: Widen to 4/5 lanes from NE 185th Street to I-405 |
| 120th Avenue: Widen to 5 lanes from North Creek Pkwy. to County Line |
| Ross Road Realignment: Connect to Beardslee Blvd. near UWB/CCC |
| SR-527: Widen to 4/5 lanes from NE 183rd Street to 228th Street SE |
| SR-527: Add third southbound lane from SR-524 to I-405 |
| Bothell Connector: Construct new 3-lane section between 228th and 240th Streets SE |

| **Snohomish County** |
| 35th Ave SE: Widen to 3 lanes from SR-96 to Seattle Hill Road |
| 35th Ave SE: Widen to 3 lanes from SR-96 to 116th Street SE |
| SR-524: Widen to 5 lanes from Lynnwood to SR-527 |
| 228th St SE: Widen to 4 lane urban arterial from 39th Ave. SE to 45th Ave. SE |

| **WSDOT Projects** |
| UWB/CCC: Construct South Campus Access interchange on SR-522 |
| I-405: Add up to 2 freeway lanes in each direction from Lynnwood to Tukwila |
| I-405: Construct new interchange near Monte Villa Pkwy. and improve NE 195th St. Interchange |
| SR 9: Widen to 5 lanes from SR-522 to SR-92 (Lake Stevens) |

| **City of Woodinville, City of Bothell and WSDOT** |
| Extend 120th Ave. over SR-522 and connect to a wider SR-202 through Woodinville |

* Refer to Table TR-11 for a complete list of projects, including the City’s 2005-2010 Six-Year TIP projects
Source: Mirai Associates

Table TR-9 shows the resulting future growth in PM peak hour volumes on key City streets. The growth rates vary widely depending on the patterns of forecasted land use changes, street network changes, and the degree of congestion within the corridor. The highest traffic growth tends to be on roads to the north and east of I-405 in the expanding residential and commercial areas.
Table TR-9
2002 and 2030 PM Peak Hour Volumes

<table>
<thead>
<tr>
<th>Location</th>
<th>2002</th>
<th>2030</th>
<th>Percent Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>SR-522 (west of NE 180th St)</td>
<td>3,320</td>
<td>3,930</td>
<td>18%</td>
</tr>
<tr>
<td>SR-522 (east of Kaysner Way)</td>
<td>3,260</td>
<td>4,890</td>
<td>50%</td>
</tr>
<tr>
<td>SR-524 (west of SR-527)</td>
<td>1,580</td>
<td>3,750</td>
<td>138%</td>
</tr>
<tr>
<td>SR-524 (east of SR-527)</td>
<td>1,570</td>
<td>2,640</td>
<td>69%</td>
</tr>
<tr>
<td>SR-527 (north of 220th St SE)</td>
<td>3,690</td>
<td>4,280</td>
<td>16%</td>
</tr>
<tr>
<td>SR-527 (north of 240th St SE)</td>
<td>1,710</td>
<td>3,200</td>
<td>87%</td>
</tr>
<tr>
<td>SR-527 (south of NE 190th St)</td>
<td>1,430</td>
<td>2,480</td>
<td>74%</td>
</tr>
<tr>
<td>228th St SE (east of Meridian Ave)</td>
<td>1,650</td>
<td>1,920</td>
<td>16%</td>
</tr>
<tr>
<td>228th St SE (west of Fitzgerald Rd)</td>
<td>1,970</td>
<td>2,240</td>
<td>14%</td>
</tr>
<tr>
<td>39th Ave/120th Ave NE (south of 212th St SE)</td>
<td>780</td>
<td>1,660</td>
<td>113%</td>
</tr>
<tr>
<td>39th Ave/120th Ave NE (south of 240th St SE)</td>
<td>1,120</td>
<td>2,810</td>
<td>48%</td>
</tr>
<tr>
<td>39th Ave/120th Ave NE (south of North Creek Pkwy S)</td>
<td>850</td>
<td>2,250</td>
<td>166%</td>
</tr>
<tr>
<td>Beardslee Blvd (east of 110th Ave NE)</td>
<td>1,270</td>
<td>1,990</td>
<td>57%</td>
</tr>
<tr>
<td>NE 195th St (east of N Creek Pkwy)</td>
<td>1,540</td>
<td>1,530</td>
<td>0%</td>
</tr>
<tr>
<td>Juanita-Woodinville Way (south of 112th Ave NE)</td>
<td>1,929</td>
<td>2,297</td>
<td>19%</td>
</tr>
</tbody>
</table>

Source: Mirai Associates, TMODEL

Future Level of Service

Utilizing the forecasted PM Peak Hour volumes from VISSIM, a 2030 LOS was calculated for each of the corridors within the City. Future forecasted traffic volumes were entered into the Synchro traffic software (Version 6) that allows the analysis of intersection operations as a traffic system. The model inputs include intersection turning movements, lane configurations, pedestrian signal timing, signal phasing, and intersection coordination, to fully provide a working model of area traffic operations. The future roadway network assumed currently funded and additional planned transportation projects described in Table TR-11 in the “Recommended Improvements” section that follows. Figure TR-5B and Table TR-10 summarizes the corridor LOS results. Appendix I contains the detailed corridor LOS calculations.

Table TR-10
Existing and 2030 Corridor LOS

<table>
<thead>
<tr>
<th>Corridor</th>
<th>Existing Average Corridor Delay (seconds/vehicle)</th>
<th>LOS</th>
<th>2030 Average Corridor Delay (seconds/vehicle)</th>
<th>LOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 SR-524 (208th Street SE/Maltby Road) Corridor between 9th Avenue SE and 39th Avenue SE</td>
<td>40</td>
<td>D</td>
<td>69</td>
<td>E</td>
</tr>
<tr>
<td>2 228th Street SE Corridor between 4th Avenue W and 39th Avenue SE</td>
<td>34</td>
<td>C</td>
<td>35</td>
<td>C</td>
</tr>
<tr>
<td>3 SR-522 (NE Bothell Way) Corridor between 96th Avenue NE and Kaysner Way</td>
<td>42</td>
<td>D</td>
<td>53</td>
<td>D</td>
</tr>
<tr>
<td>4 Beardslee Boulevard/NE 195th Street Corridor between NE 185th Street and 120th Avenue NE</td>
<td>26</td>
<td>C</td>
<td>36</td>
<td>D</td>
</tr>
<tr>
<td>5 SR-527 Corridor between SR-524 and SR-522</td>
<td>44</td>
<td>D</td>
<td>65</td>
<td>E</td>
</tr>
<tr>
<td>6 39th/35th Avenue SE/120th Avenue NE/NE 180th Street Corridor between SR-524 and 132nd Avenue NE</td>
<td>29</td>
<td>C</td>
<td>33</td>
<td>C</td>
</tr>
<tr>
<td>7 NE 145th Street/Juanita-Woodinville Way/NE 160th Street Corridor between 100th and 124th Avenues NE</td>
<td>21</td>
<td>C</td>
<td>55</td>
<td>E</td>
</tr>
</tbody>
</table>
By 2030, all study corridors are estimated to operate at LOS E or better. Out of the seven corridors, five will degrade from current levels and the remaining two will stay relatively the same. Within the corridors, individual intersections may have one or more failing movements. Individual intersections with a LOS F will be the focus of further evaluation for improvements.

1. **SR-524 (208th Street SE/Maltby Road) Corridor:** When compared to existing conditions, the corridor LOS drops from D to E mainly due to spillover traffic from SR-527. In 2030, the anticipated growth at the intersection of SR-527 will overwhelm the capacity even with additional improvements. Congestion along SR-527 will likely shift some vehicles onto 9th Avenue SE. This will increase the delay at the 9th Avenue SE intersection with SR-524. New developments in the northeastern section of the City and Snohomish County will also increase the delays at the 39th Avenue SE intersection with Maltby Road.

2. **228th Street SW/SE Corridor:** The 228th Street corridor will remain at LOS C due to the addition of three new signals and increasing the capacity from three to five lanes between 15th Avenue SE and 39th Avenue SE. Delays will continue to increase at the SR-527 intersection despite the addition of planned capacity. The remaining portions of the corridor would show minor increases in delays.

3. **SR-522 (NE Bothell Way) Corridor:** As the major east-west regional corridor, SR-522 can expect major growth. With the ‘Downtown Gateway’ improvements between NE 180th Street and SR-527 and the addition of the UWB/CCC Campus South Access interchange, the corridor delay is expected to remain at LOS D. Planned improvements at the Kaysner Way intersection will reduce delays at that location. The redesigned SR-527/SR-522 ‘Downtown Gateway’ intersection would experience LOS F with high levels of delay.

4. **Beardslee Boulevard/NE 195th Street Corridor:** The LOS in this corridor will degrade to LOS D due to increased development growth. Potential capacity enhancements and improvements on NE 195th Street and at the I-405 interchange would improve the intersection delays near I-405. The addition of the realigned Ross Road NE will have little impact upon the overall corridor delays. The addition of a new I-405 interchange near Monte Villa Parkway may reduce pressure along sections of this east-west corridor that access I-405.

5. **SR-527 Corridor:** The delays on this major north-south corridor are expected to worsen from LOS D to LOS E due to the forecasted 2030 growth. In the north, three heavily congested intersections (SR-524, 220th Street SE, and 228th Street SE) are expected to worsen to LOS F despite capacity improvements. Roadway and intersection capacity improvements along the corridor south of 228th Street SE will sustain the additional volumes through Bothell.

6. **39th/35th Avenue SE/120th Avenue NE/NE 180th Street Corridor:** This corridor will remain at LOS C. The addition of signals and facility improvements between 228th Street SE and NE 195th Street will accommodate the expected growth and development along the corridor. The Bothell Connector project will include new signals at 228th Street SE and 240th Street SE intersections and will provide added roadway capacity. The signal at the intersection of 132nd Avenue NE and NE 180th Street will also reduce delays at the south end of the corridor.

7. **NE 145th Street/Juanita-Woodinville Way/NE 160th Street Corridor:** The LOS along this corridor will worsen from LOS C to LOS E. These delays are related to traffic growth on I-405 and NE 100th Avenue NE. The intersection at the northbound I-405 ramps will degrade to LOS F but could be improved with the future I-405 Congestion Relief and Bus Rapid Transit Project (formerly
Recommended Improvements

A number of roadway projects have been identified in the City's 2005-2010 Six-Year Transportation Improvement Program (TIP). Many of these improvements will add capacity and improve traffic flow and safety. However, when forecasted 2030 volumes are factored, additional improvements are still needed to keep pace with growth. Table TR-11 summarizes the transportation improvement projects used in the concurrency modeling analysis. Figure TR-6 identifies their location.

Among the many corridor improvements, major projects will focus on the following major arterials: SR-522, SR-527, SR-524, and 228th Street SE. Capacity will be increased on SR-527 between 228th Street SE and NE 183rd Street to four or five lanes. An additional southbound lane between SR-524 and 220th Street SE will widen this section of SR-527 to seven lanes. At SR-524, the roadway west of SR-527 to the city limits will be widened to five lanes. To the east of SR-527, improvements on SR-524 will be limited to additional left turn pockets. Widening is also planned for areas along 120th Avenue NE, 124th Avenue NE, NE 195th Street, 9th Avenue SE and Beardslee Boulevard. Realignment projects include: Ross Road, the Bothell Connector and the SR-522/SR-527/Main Street intersection vicinity. The SR-522 realignment in Downtown Bothell is termed the 'Downtown Gateway' Project. This project will reconstruct SR-522 and will unify the Downtown area. Other improvements along SR-522 include the addition of Business Access and Transit (BAT) lanes to improve transit mobility.

The addition of new interchanges will improve accessibility to Bothell and surrounding areas. A new interchange at I-405 and the Monte Villa Parkway vicinity, which would not connect to 112th Avenue NE, will allow regional connections to the North Creek office parks and provide some relief to congested I-405 interchanges at NE 195th Street and SR-527. Capacity enhancements and improvements on NE 195th Street and at the I-405 interchange would reduce delays accessing I-405. The UWB/CCC Campus South Access interchange will improve access from I-405 and SR-522 to the campus. This will reduce the traffic pressure on Beardslee Boulevard.

The plan also includes several major intersection improvements focused upon heavily congested corridors. Improvements include additional turning lanes, extending turning pockets, and adding traffic signals.

Based upon available funding and Council priorities, the Six-Year TIP will be updated and revised within the planning horizon.

The 2005-2010 TIP which was the basis of the concurrency modeling analysis conducted in 2004 did not anticipate the Downtown Plan amendment approved in 2009. The Downtown Subarea Plan amendment implements a form-based development code to revitalize downtown and includes realignment of SR 522 to the south, extending SR 527 southward to intercept the re-located SR 522 at a “T” intersection, the construction of SR 527 into a multiway boulevard that would allow for through lanes and access lanes, extension of Main Street and NE 185th Street to the west, and other transportation improvements to support a compact, walkable mixed-use area.

The Downtown Plan amendment included new transportation modeling based upon the reconfigured street network described above which can be viewed within the Downtown Subarea Plan and Regulations Planned Action Final Environmental Impact Statement.
<table>
<thead>
<tr>
<th>Key #</th>
<th>Project Name</th>
<th>TIP #</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SR-522 Corridor Phase I: Wayne Curve Improvements at 96th Avenue NE</td>
<td>TC26</td>
<td>Realign the 96th Avenue approach adding an additional SB left (2 LT) lane and a dedicated NB right turn lane. Install curb, gutters and sidewalks.</td>
</tr>
<tr>
<td>2</td>
<td>SR-522 Corridor Phase III: NE 180th Street to 102nd Avenue NE</td>
<td>TC27</td>
<td>Construct additional WB travel lane from 102nd Avenue NE bridge to SR-527/Main Street intersection and realign WB and EB legs of SR-522. Create a new Main Street intersection that would extend west to 98th Avenue NE.</td>
</tr>
<tr>
<td>3</td>
<td>SR-522 Corridor Phase IV</td>
<td>TC46</td>
<td>Install Business Access and Transit (BAT) lanes, sidewalks, access management, signal prioritization and non-motorized connections on the SR-522 corridor.</td>
</tr>
<tr>
<td>4</td>
<td>SR-524 Corridor Improvements: SR-527 to West City Limits</td>
<td>TC5</td>
<td>Construct an additional eastbound and westbound lane to create a 5-lane section with bicycle lanes, sidewalks and shoulders.</td>
</tr>
<tr>
<td>5</td>
<td>SR-524 Safety and Access Improvements: SR-527 to 39th Avenue SE</td>
<td>SI1</td>
<td>Improving access through providing left turn pockets and improving sight distances. Install sidewalks between SR-527 and 23rd Avenue SE.</td>
</tr>
<tr>
<td>6</td>
<td>SR-527 Signal System Interconnect Project</td>
<td>RP5</td>
<td>Install Intelligent Transportation Systems (ITS) technologies for better traffic management.</td>
</tr>
<tr>
<td>7</td>
<td>SR-527: SR-524 to I-405 SB Lane and Intersection Improvement</td>
<td>TC29</td>
<td>Widen roadway from 2 to 3 lanes southbound from SR-524 (Filbert Road) to 220th Street SE.</td>
</tr>
<tr>
<td>8</td>
<td>SR-527 Widening: 240th Street SE to 228th Street</td>
<td>TC33</td>
<td>Widen SR-527 to 4-5 lanes between 240th Street and 228th Street and upgrading the signal at 240th Street SE. Install curb, gutter and sidewalk.</td>
</tr>
<tr>
<td>9</td>
<td>SR-527 Widening: NE 191st Street to 240th Street</td>
<td>TC34</td>
<td>Widen SR-527 to 4-5 lanes between 240th Street SE and NE 191st Street. Project would include bike lanes, curb, gutter and sidewalk improvements.</td>
</tr>
<tr>
<td>10</td>
<td>SR-527 Widening: NE 183rd Street to NE 191st Street</td>
<td>TC32</td>
<td>Widen SR-527 to 5 lanes between NE 183rd Street to NE 191st Street. Project would include bike lanes, curb, gutter, and sidewalks improvements.</td>
</tr>
<tr>
<td>11</td>
<td>SR-202 to 120th Avenue NE Bridge over SR-522: Feasibility Study</td>
<td>TC38</td>
<td>Study to evaluate new overpass over SR-522 connecting SR 202 and 120th Avenue NE/39th Avenue SE.</td>
</tr>
<tr>
<td>12</td>
<td>120th Avenue NE Improvements: South of North Creek Parkway North</td>
<td>TC30</td>
<td>Widen 120th Avenue SE from 1 to 2 lanes northbound south of the intersection at North Creek Parkway N.</td>
</tr>
<tr>
<td>13</td>
<td>124th Avenue NE Improvements</td>
<td>TC12</td>
<td>Construct center two-way left turn lane or a center median with turn pockets along the corridor.</td>
</tr>
<tr>
<td>14</td>
<td>NE 195th Street Widening: North Creek Parkway to I-405</td>
<td>TC36</td>
<td>Construct an additional westbound lane on NE 195th Street (3 lanes total) between North Creek Parkway and the NB I-405 ramps.</td>
</tr>
<tr>
<td>15</td>
<td>228th Street widening from 19th Avenue SE to 39th Avenue SE</td>
<td></td>
<td>Additional lane eastbound and westbound on 228th Street between 19th Avenue SE and 39th Avenue SE.</td>
</tr>
<tr>
<td>16</td>
<td>9th Avenue SE Widening: 228th Street SE to SR-524</td>
<td>TC37</td>
<td>Construct a center turn lane on 9th Avenue SE. Bicycle and pedestrian improvements.</td>
</tr>
<tr>
<td>17</td>
<td>Beardslee Boulevard Widening</td>
<td>TC10</td>
<td>Widen to a 4 or 5-lane section between NE 185th Street and I-405. Provide bicycle lanes, drainage, sidewalks, curbs and gutters.</td>
</tr>
<tr>
<td>18</td>
<td>Bothell Connector: 240th Street SE to 228th Street</td>
<td>TC8</td>
<td>Construct a new 3-lane section between 228th Street SE and 240th Street. 3 alternative alignments have been studied. Intersection improvements will occur at 228th St/35th Ave, 228th St/39th Ave, 240th St/35th Ave and 240th St/39th Ave as part of this project. Project elements include bicycle lanes, sidewalks and reconfigured and signalized intersections. Since the concurrency modeling for the 2004 Plan Update was completed, a 39th Avenue SE alignment has been selected for the Bothell Connector.</td>
</tr>
<tr>
<td>19</td>
<td>Ross Road Realignment</td>
<td>SI4</td>
<td>Construct a realigned section of Ross Road with access.</td>
</tr>
<tr>
<td>Key #</td>
<td>Project Name</td>
<td>TIP #*</td>
<td>Brief Description</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>--------</td>
<td>-------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Located between UWB/CCC campus and the I-405 ramps. Close existing access point.</td>
</tr>
</tbody>
</table>

**Interchange Improvements**

20  | SR-522/Campus South Access interchange | TC13   | Construct new interchange on SR-522 to serve UWB/CCC campus at South Campus Way. |
21  | I-405/NE 195th Street SB interchange |        | Construct capacity enhancements and improvements on NE 195th Street and at the I-405 interchange. Relocate intersection of SB off-ramp. |
22  | I-405/Monte Villa Parkway interchange |        | Construct a new interchange in the vicinity of Monte Villa Parkway and I-405 to connect to the North Creek Business Park. No connections to the west. (Proposed as part of I-405 Corridor Program). |

**Intersection Improvements**

23  | SR-524/9th Avenue SE Intersection Improvements |        | Construct additional NB left turn lane (2 LT) and create a dedicated EB right turn pocket on SR-524. |
24  | SR-524/SR-527 Intersection Improvements |        | Construct additional SB left turn lane (2 LT), additional WB left turn lane (2 LT) and convert NB right turn into thru lane and add new right turn lane. |
25  | SR-527/214th Street SE Intersection Improvements |        | Revise channelization from a L/LT/R to a L/TR/R. |
26  | SR-527/220th Street SE Intersection Improvements | TC40   | Construct additional WB left turn lane (3 LT) and a northbound right turn lane. Construct additional SB left turn lane (2 LT). |
27  | SR-527/228th Street SE Intersection Improvements | TC45   | Construct an additional EB left turn lane (2 LT). Construct EB right turn lane. Develop a free SB right turn movement by constructing an additional WB lane on 228th between SR-527 and 9th Avenue SE. |
28  | SR-527/NB I-405 Ramp Intersection Improvements |        | Construct dedicated WB left turn lane from the ramp and a dedicated NB right turn lane. (Proposed as part of I-405 Corridor Program) |
29  | NE 160th Street/Juanita-Woodinville Way NE Intersection Improvements |        | Install a signal at intersection. |
30  | NE 180th Street/132nd Avenue NE Intersection Improvements | TC20   | Construct channelization improvements and a signal. |
31  | NE 190th Street/100th Avenue NE Intersection Improvements | TC44   | Construct identified turn lanes at intersection. Consider signals. |
32  | NE 190th Street/104th Avenue NE Intersection Improvements | TC43   | Construct a NB left turn lane. |
33  | NE 195th Street/120th Avenue NE Intersection Improvements | TC31   | Construct an additional SB right turn lane. |
34  | 212th Street SE/39th Avenue SE |        | Install a signal at intersection. |
35  | 228th Street SE/9th Avenue SE Intersection Improvements |        | Construct WB right turn lane. Lane would extend to SR-527. Restripe SB right to a SB left-right lane. |
36  | 228th Street SE/29th Drive SE and 31st Avenue SE Intersection Improvements | TC41   | Install signals at 228th Street SE/29th Drive SE and 228th Street SE/31st Avenue SE. |
37  | 240th Street SE/Meridian Avenue SE Intersection Improvements | TC18   | Construct a WB right turn lane. |
38  | Beardslee Boulevard/NE 185th Street Intersection Improvements | TC42   | Install a signal or roundabout at intersection. |
39  | Main Street/102nd Avenue NE Intersection Improvements | TC39   | Install a signal at intersection. |
40  | Main Street/Kaysner Way Intersection Improvements | TC17   | Signalize intersection and provide channelization. Construct EB and WB left turn pockets. Construct WB right turn lane. |
41  | Riverside Drive/102nd Avenue NE Intersection Improvements | SI6    | Signalize and construct pedestrian crossings. |
<table>
<thead>
<tr>
<th>Key #</th>
<th>Project Name</th>
<th>TIP #*</th>
<th>Brief Description</th>
</tr>
</thead>
</table>

* The project identification numbers listed in the third column are from the 2005-2010 Six-Year TIP. Note: All improvements in italics are additional projects beyond the 2005-2010 Six-Year TIP.
Public Transit

Public transit offers an alternative for commuters and provides accessibility for the community's oldest and youngest residents to recreation, medical and retail locations. Today, approximately 5% of the daily work trips made by the residents of Bothell are made on transit (Source: 2000 U.S. Census). Approximately 80% of these transit trips are made to and from Downtown Seattle. The remaining transit trips are destined primarily to the Eastside (14%), with small percentages traveling to Snohomish County (3%), other locations in King County, or internally within Bothell. For workers traveling to work in Bothell, only about 1% use transit. About half of these riders are from Seattle, a third from South Snohomish County, and 10% from the Eastside. In the future, these travel patterns are expected to continue.

Existing Transit Service

Transit service in the Bothell area provides local connections and links to other urban centers in the Puget Sound. Transit routes serving the Bothell area are shown in Figure TR-7 and are also described in each of the Subarea Plans. Appendix J shows the hours of coverage, frequency, and weekday/weekend service.

King County Metro (Metro), Community Transit, and Sound Transit provide transit service in Bothell. The three transit agencies provide all-day and peak period service to Bothell residents and businesses at two locations: (1) the Downtown Bothell Park-and-Ride lot located on SR-522 and Kaysner Way; and (2) the UWB/CCC campus at Beardslee Boulevard. Sound Transit and Community Transit also provide services at the Canyon Park Park-and-Ride lot near the I-405/SR-527 interchange. Sound Transit and Metro provide service at the Brickyard Park-and-Ride lot at the I-405/NE 160th Street interchange.

The agencies provide service that is wheelchair accessible and accommodates bicycles. Bicyclists can catch a bus at any transit stop or Park-and-Ride lot location. All buses are equipped with bicycle racks and can carry up to two bikes at any time. In addition to transit service, the agencies also provide ride-matching, van pools, and information for alternative transportation options.

The following paragraphs describe the existing transit service provided by each agency:

Community Transit

Community Transit provides transit service to the Snohomish County portion of Bothell and also provides transit service to some areas in the King County portion under an existing interlocal agreement with King County Metro. Community Transit has 106 bus stops within the City limits. It currently operates six bus routes which run primarily between the Downtown Area, the North Creek and Canyon Park business centers, and the UWB/CCC campus. These routes also run to destinations outside Bothell.

King County Metro

King County Metro provides transit service to the King County portion of Bothell. Metro has 62 bus stops within the City limits. It currently operates six bus routes which run primarily between the Downtown Area, the North Creek business center, the Brickyard/Kingsgate area, and the UWB/CCC campus. These routes also run to destinations outside Bothell.
Sound Transit

Sound Transit operates four regional express bus routes in the Bothell area along I-405 and SR-522 to destinations outside of Bothell.

Transit Level of Service

The Growth Management Act requires jurisdictions to adopt a level of service (LOS) standard for all arterials and transit routes to serve as a gauge to judge performance of the system. Transit LOS for transit is based upon a number of factors. LOS can be measured by both the availability and the quality of transit service. Measures of availability look at the frequency of the service, hours of service, accessibility and service coverage. When looking at the quality of service, issues of reliability, safety and travel times are also of concern.

The first recommended transit LOS standard for the City of Bothell focuses on accessibility, measured by the proportion of residents living within a quarter-mile of a bus stop or within 1.5 miles from a Park-and-Ride lot. One-quarter mile is accepted as a comfortable walking distance for pedestrians to take a bus. This spacing is greatly dependent upon the availability of public right-of-way, pedestrian crossings, safety, and topography. Figure TR-7 depicts the quarter-mile coverage area around each bus stop in Bothell. While transit accessibility is good in Bothell, many residents must walk along streets with incomplete pedestrian facilities to reach the bus stops. For Park-and-Ride lot access, the LOS measure focuses on residents living within 1.5 miles of the parking facility. Figure TR-7 depicts a 1.5-mile radius around each Park-and-Ride lot. In addition, the Park-and-Ride lot located in nearby Kenmore (SR-522/NE 73rd Avenue NE) provides a 1.5-mile coverage to the residents in the western part of the city.

The second recommended transit LOS standard focuses on maintaining service frequency at the Park-and-Ride lots, which include the most heavily used transit stops. As shown in Appendix J, the average service frequency for the three transit agencies at the Park-and-Ride lots is 30 minutes for peak periods and 60 minutes for off-peak periods.

The recommended transit LOS standard for accessibility is that 90% of residents should live within a quarter-mile of a bus stop or within 1.5 miles of a Park-and-Ride lot. Using this measure, roughly 87% of Bothell residents are currently within a quarter-mile from a bus stop or within 1.5 miles from a Park-and-Ride lot. The recommended transit LOS standard for service frequency involves maintaining the existing peak and off-peak service frequencies at the Park-and-Ride lots.

Future Transit Service

Community Transit

Community Transit is planning to increase peak hour service frequency between Downtown Bothell and Lynnwood to every 20 minutes, subject to funding availability. Other potential changes in routes could occur when the Bothell Connector is completed between 240th and 228th Streets SE and in conjunction with the Downtown Plan transit route revisions.
King County Metro

Starting in early 2005, Metro will redirect one of its existing bus routes that run on I-405 and SR-522 between Brickyard (NE 160th Street) and Downtown Bothell to serve Bothell neighborhoods and senior centers along East Riverside Drive. Metro is also planning to increase service frequency on three other routes in Bothell, subject to funding availability and in conjunction with the Downtown Plan transit route revisions.

Sound Transit

Future improvements planned by Sound Transit for the Bothell area include increasing service frequency along SR-522 to 15 minutes in peak periods and expanding destinations to include the Eastgate Park-and-Ride lot and the new South Everett Park-and-Ride lot.

Planned Sound Transit facility improvements include a southbound freeway station stop at the I-405/SR-527 interchange with a covered pedestrian bridge connection to the Canyon Park Park-and-Ride lot. In addition, improvements under consideration at the UWB/CCC campus include transit signal priority at campus entrances, arterial HOV enhancements, and potential development of a transit hub with transit customer parking to serve both the campus and the community. Sound Transit is also considering transit improvements on SR-522 between Bothell and Kenmore to improve bus speed and reliability. Alternatives being considered include transit bypass lanes, interchange and intersection improvements, and Park-and-Ride lot improvements.

The Downtown Subarea Plan envisions a number of transit facilities associated with the redevelopment of the Downtown subarea including a potential transit center, additional transit stops and other improvements to accommodate transit within the Downtown Subarea.

Park-and-Ride Facilities

Area Park-and-Ride lot locations are shown in Figure TR-7 and described in Table TR-12.

There are two existing King County Metro Park-and-Ride lots and one Community Transit lot within and just outside the City of Bothell. Existing King County Metro lots are located in Downtown Bothell and at the NE 160th interchange of I-405 (Brickyard). The existing Community Transit Park-and-Ride lot is located at the I-405/SR-527 interchange. The Bothell lot has a capacity of 230 cars, the Brickyard lot has a current capacity of 247 cars, and the Canyon Park lot has 298 spaces. All three Park-and-Ride lots are heavily used by commuters with lot utilization rates ranging from 92% to 101% on average weekdays as shown in Table TR-12. The UWB/CCC campus is major transfer location in Bothell and is included in the table to show the regional connections provided at the campus location.
Table TR-12
Park-and-Ride Lot Capacity and Utilization

<table>
<thead>
<tr>
<th>Park-and-Ride Lot</th>
<th>Location</th>
<th>Capacity / Utilization Percentage</th>
<th>Number of Routes Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown Bothell</td>
<td>SR-522 / Kaysner Way</td>
<td>230 / 92%</td>
<td>3 KCM 2 CT 3 ST</td>
</tr>
<tr>
<td>Canyon Park</td>
<td>I-405 / SR-527</td>
<td>298 / 95%</td>
<td>6 CT 3 ST</td>
</tr>
<tr>
<td>Brickyard Road</td>
<td>I-405 / NE 160th St.</td>
<td>247 / 101%</td>
<td>8 KCM 3 ST</td>
</tr>
<tr>
<td>UW Bothell Campus Transfer Center</td>
<td>UWB/CCC Campus</td>
<td>N/A</td>
<td>4 KCM 4 CT 3 ST</td>
</tr>
</tbody>
</table>

KCM = King County Metro  CT = Community Transit  ST = Sound Transit

The Brickyard Park-and-Ride lot at NE 160th Street is often full by 9:00 a.m. during the weekdays. Community Transit surveys showed that the Canyon Park lot was heavily used by riders living north of Bothell. Community Transit added a new route to provide peak period service north of Bothell to intercept drivers before reaching the lot to free up additional parking spaces.

The transit agencies are pursuing expansion plans for the Brickyard and Canyon Park lots and the city and transit agencies are discussing a potential future park and ride facility to be located within the Downtown Subarea.

Transportation Demand Management (TDM) and Transportation System Management (TSM) Strategies

Transportation Demand Management (TDM) strategies are designed to reduce the quantity of trips in single-occupant vehicles (SOV) and increase the people-carrying capacity of existing roadways. The objective is to increase the return on capital investments in roads and transit and reduce pollution levels. TDM employs a number of techniques to influence travel mode choice, the time of day a trip is taken, and even whether or not a trip is made. Examples of TDM measures include:

1. Commute trip reduction programs;
2. Modal strategies such as vanpools and telecommuting;
3. Incentives such as bus pass subsidies charging for parking;
4. Specialized services such as transit shuttles;
5. Land Use design improvements such as bike lockers and preferential parking for ridesharing;
6. Programs that encourage flexible work hours or working from home or remote satellite offices.

The State Commute Trip Reduction (CTR) Act requires that local governments in those counties experiencing automobile-related air pollution and traffic congestion must develop and implement programs to reduce Vehicle Miles Traveled (VMT) and SOV commute trips. The City of Bothell has adopted its own CTR Ordinance to meet these requirements. The CTR Ordinance applies to employers with 100 or more full-time employees at a single worksite who begin their workday between 6:00 a.m. and 9:00 a.m. during the weekday. These employers are required, among other things, to
appoint an Employee Transportation Coordinator (ETC) and must submit annual CTR program reports to the City to document their progress in meeting their VMT and SOV reduction goals.

Free carpool and vanpool matching services are currently provided by Metro and Community Transit. Residents and workers in Bothell are encouraged to complete an application which describes their travel patterns and preferences. The transit agencies provide applicants with a list of prospective riders. Ride-match lists are updated quarterly. Workers can also form their own carpools and vanpools with co-workers, external to the formal matching service provided by Metro and Community Transit.

“Mode split” is one generally accepted way of measuring the effectiveness of TDM and other programs to shift people out of single-occupant vehicles. Mode split percentages compare the percent of trips (commute trips) made by ridesharing, bus, walking, or bicycling against trips made by single-occupant vehicles. Thus, a mode split of 25% means that one in four commute trips is not made by an SOV. To determine the mode split, the City uses survey data collected by the State under the CTR Law. These surveys are conducted every two years. Surveys conducted in 2001 showed that 80% of those working in Bothell at CTR sites drive alone to work, 8% use carpools, 3% ride in a vanpool, 2% take transit with the remaining walking, bicycling, or working from home. The mode split at CTR sites is slightly higher than the average mode split for the City of Bothell. This indicates that the CTR programs have been successful in promoting alternative mode usage. At the CTR employers, the number of people using carpool and vanpools has increased since 1997 due in part to extensive outreach by the City to encourage people to share a ride.

Transportation System Management (TSM) strategies are used to create more efficient use of existing transportation facilities through improved management and operation of vehicles and the roadway. Examples of TSM measures include but are not limited to:

1. widening intersections;
2. creating one-way streets;
3. installing separate lanes for turn movements;
4. two-way left turn lanes;
5. reversible lanes;
6. HOV lanes;
7. restricting turn movements;
8. coordinating signal timing;
9. the use of changeable message signs and television monitoring; and
10. dedicated transit lanes.

The City has employed or is pursuing TSM strategies on busy corridors such as SR-522 and SR-527.

Bicycle Facilities

Bicycling is an important aspect to Bothell’s transportation network. It offers residents and visitors the convenience of traveling to and through the city without the use of a motor vehicle. Bicycling not only potentially shifts the demand for roadway capacity but also provides a healthy form of exercise. The City of Bothell has already started the basis for a bicycle network and has begun building upon existing and regional trails. The following section gives an overview of bicycling.

The American Association of State Highway and Transportation Officials (AASHTO) define four types of bicycle facilities:
Unsigned Shared Roadway: Any roadway predominantly used by motor vehicles that is not signed to prohibit use by bicyclists and is not signed as a bicycle path or route. Bicyclists can use all roadways in Washington that are not signed to indicate that bicyclists are prohibited. Bicyclists are usually prohibited from freeways in urbanized areas and other unsafe freeway links, and they may be prohibited from other roadways that are uniquely unsafe for use by bicyclists.

Signed Shared Roadway: Signed shared roadways are designated by bicycle route signs, and serve to either provide bicycle route continuity or designate preferred routes through high-demand corridors. As with bicycle lanes (see below), signing of roadway links for bicyclists should indicate to bicyclists that these routes provide particular advantages as compared to alternative, unsigned routes. This means that responsible agencies have taken actions to assure that these routes are suitable for commuter bicyclists and will be maintained for safe use by motorists and commuter bicyclists. Signing also serves to advise motorists that bicyclists are present.

Bicycle Lane: Bicycle lanes are signed and striped, one on each side of the outside traffic lane (except at intersections), for use by bicyclists traveling with the direction of motor vehicles. Bicycle lanes are intended to delineate the portion of the roadway right-of-way that is reserved for bicyclists and to provide facilities for predictable movements by motorists and bicyclists. Bicycle lanes on Bothell roadways are 4 to 5 feet wide and located on the outside of the outside traffic lane.

Shared Use Path: Shared use paths are at least 8 feet wide and located independent of streets and other roadways. These paths serve commuter and recreation bicyclists and pedestrians and are frequently located along abandoned or functioning railroad right-of-way (ROW); along rivers and streams; through campuses; and in other locations that are minimally interrupted by driveways, streets and other diversions. Shared use paths are located and designed to provide a safe and relaxing environment for people using non-motorized commuter and recreational modes.

Typical roadway sections with bicycle facilities are shown in Figure TR-8.

Existing Conditions

At present, only a small percentage of Bothell's arterials have bicycle facilities. New development or redevelopment of properties will be required to construct such facilities as a part of frontage improvements, and major street projects will include construction of bikeways. However, many large gaps in the system will remain unless the City develops a comprehensive program to build arterial bicycle facilities.

Bothell is connected to the regional bicycle system via the Burke-Gilman/Sammamish River Trail and the North Creek Trail. The Burke-Gilman/Sammamish River Trail is a shared use path located along the Sammamish River through Bothell and makes connections to Seattle and Redmond. The North Creek Trail is a shared use path located along North Creek between the UWB/CCC campus and the North Creek business center. It interconnects with the Sammamish River Trail just south of the UWB/CCC campus through an SR-522 underpass.

The total length of shared use paths for bicycles in Bothell is around 6 miles. The total length of bicycle lanes in the Bothell Planning Area is 8.7 miles. Existing and proposed bicycle facilities are depicted in Figure TR-9.
Future Conditions

The proposed bicycle network will provide commuter bicycle routes that interconnect almost all Bothell neighborhoods with worksites, transit, shopping, other neighborhoods, and the shared use paths in Bothell (refer to Figure TR-9). Some of these proposed bicycle improvements, such as the northerly extension of North Creek Trail to McCollum Park in Snohomish County, are currently included in the City’s Transportation Improvement Program and are described in the subarea plans. Other proposed bicycle facilities have been identified as a result of public feedback during this Comprehensive Plan update process. The fully completed bicycle system will total over 48 miles.

Pedestrian Facilities

Pedestrian facilities are an important aspect of Bothell’s quality of life. The City of Bothell and its residents desire to have more opportunities for walking. The pedestrian system is a collection of neighborhood and school connectors and shared use trails. Safe routes to schools and walkable communities are important issues to Bothell residents.

Existing Conditions

Sidewalks are provided throughout the Downtown area of Bothell north to NE 190th Street in the Canyon Park retail area, within the Canyon Park and North Creek business parks, along some arterials, and throughout most subdivisions that have been developed since the 1970s. In addition, the Burke-Gilman/Sammamish River Trail and North Creek Trail offer pedestrian opportunities on these Shared use paths. The Burke-Gilman/Sammamish River Trail is part of the King County regional trail system and runs between Seattle and Redmond. The North Creek Trail spurs off the Sammamish Trail and provides connections to the North Creek business center. Several parks and recreational facilities are located near or adjacent to both of these trails.

At present, many of Bothell’s arterials have pedestrian facilities. With recent roadway construction and development, sidewalks have been installed along many arterials and collectors. However, especially within one-quarter mile of schools, many sidewalks and residential links are still missing.

Future Conditions

New development or redevelopment of properties will be required to construct sidewalks as a part of frontage improvements, and major street projects will include construction of sidewalks as well. However, many large gaps in the system will remain unless the City develops a comprehensive program to build arterial pedestrian facilities.

In the near future, the City of Bothell has planned funding for several pedestrian improvement projects. The 16.9 miles of identified funded projects will complete about 75% of the proposed pedestrian system to fill in several missing gaps in the pedestrian network, especially along residential streets.

Through the Plan update process, the public has expressed that the greatest need for sidewalks in the vicinity of schools, particularly elementary schools, and at locations where there are gaps in the pedestrian system. Residents have also expressed support for better linkages to the Burke-Gilman/Sammamish River Trail. Sidewalks are also needed to provide access from residential areas.
to retail and service activity centers, and to employment centers. The proposed pedestrian facilities are shown in Figure TR-10. The existing and proposed pedestrian network is shown in Figure TR-11.
Transportation Financing

Pursuant to GMA requirements, this section provides an overview of cost estimates and funding sources for future improvements to the City’s transportation system. It also includes an assessment of strategies that are needed to address any potential funding shortfalls to ensure that traffic levels of service standards are met. The policies and actions in this Transportation Element are intended to implement these strategies.

Future Expenditures

Future transportation costs have been identified by City staff for both near-term (years 2005-2010) and long-term (years 2011-2030) scenarios. The near-term costs for transportation improvements are based upon the cost estimates in the City’s Capital Improvement Program (CIP), which is included as the Capital Facilities Finance Plan in the Capital Facilities Element. The long-term cost estimates are derived from cost estimates extrapolated from the City’s Transportation Improvement Program (TIP) and the cost estimates developed for the other future projects recommended in this Element. Table TR-13 presents the estimated total costs of needed transportation improvements through the year 2030.

The full list of future projects and their estimated costs is shown in Appendix K.

The costs associated with the Downtown Subarea Plan amendment adopted in 2009 are not included within this analysis. For updated information please refer to the Downtown Subarea Plan.

<table>
<thead>
<tr>
<th>Table TR-13</th>
<th>Combined Transportation Project Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT CATEGORIES</td>
<td>2005-2010</td>
</tr>
<tr>
<td>Streets and Highways (including associated bicycle, pedestrian and transit facilities)</td>
<td>61.50</td>
</tr>
<tr>
<td>Freeways (State responsibility)</td>
<td></td>
</tr>
<tr>
<td>Other Bicycle Facilities</td>
<td>3.75</td>
</tr>
<tr>
<td>Other Pedestrian Facilities</td>
<td>0.60</td>
</tr>
<tr>
<td>Street, Signal, and Bridge Maintenance</td>
<td>5.68</td>
</tr>
<tr>
<td>TOTALS</td>
<td>71.53</td>
</tr>
</tbody>
</table>

Note: All dollar figures rounded to ten thousand (00,000s).

Funding Sources

The funding for transportation improvements in the city come from a variety of local, state and federal sources. The funding levels for these revenues can be highly variable depending on a large number of factors, including but not limited to the state and local economy, the amount of development activity,
the fiscal status of other agencies and jurisdictions, the availability of grant funding, the City’s success rate in securing grant funding, and the adoption of new taxes and fees. The following paragraphs describe the different funding sources used by the City for transportation purposes:

**Local Funding**

The primary sources of local funding for transportation come from the City’s motor vehicle fuel tax revenues, developer mitigation funds collected through the City’s transportation impact fee program, and contributions from other agencies (e.g. Sound Transit) and local jurisdictions (e.g. Snohomish County).

Other proposed sources of local funding for transportation are currently under consideration by the Regional Transportation Investment District (RTID). The RTID is a joint effort of King, Snohomish, and Pierce counties to identify specific road, transit, and rail projects of regional significance in the three counties. The RTID has the legal authority to propose ways to fund transportation projects through local taxes and fees (e.g. sales tax, vehicle license fee, motor vehicle excise tax, local option gas tax, tolls), which must be approved by the three counties’ voters. The preliminary list of projects proposed for funding by the RTID Executive Board includes SR-522, the Bothell Connector, and the Canyon Park Park-and-Ride Lot Expansion.

**State Funding**

The primary source of state funding for City transportation projects come from grants, including grants administered by the Transportation Improvement Board (TIB). The City has also received funding from the Washington State Department of Transportation (WSDOT) for state highway projects and through the State budget process for projects such as the SR-522 UWB/CCC Campus South Access interchange.

**Federal Funding**

The primary source of federal funding for City transportation projects come from grants, including funding programs from the Transportation Equity Act for the 21st Century (TEA-21). The City has previously secured TEA-21 funding from the Surface Transportation Program (STP) and the Congestion Mitigation and Air Quality (CMAQ) programs. Congress is currently considering TEA-21 reauthorization legislation, which would continue many of these federal funding programs and will also provide earmarked funding for projects such as widening SR-527 within Bothell.

In general, the above funding sources can be further broken down into the following categories: local (city); mitigation; other agencies and jurisdictions; grants; and new taxes and fees. Future near-term and long-term revenue projections for these funding sources have been developed by City staff. The near-term revenue projections are based upon the funding levels in the City’s CIP, which is included as the Capital Facilities Finance Plan in the Capital Facilities Element. The long-term revenue projections were also extrapolated from the CIP and from financial forecasts identified in the RTID financial plan. Table TR-14 identifies the anticipated funding sources for transportation projects in the city through the year 2030.
Table TR-14
Anticipated Transportation Funding Sources

<table>
<thead>
<tr>
<th>FUNDING SOURCES</th>
<th>ESTIMATED FUNDING LEVEL (in million dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005-2010</td>
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<tr>
<td>Local (City)</td>
<td>4.06</td>
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<tr>
<td>Mitigation (e.g. Transportation Impact Fees)</td>
<td>6.48</td>
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<tr>
<td>Other Agencies/Jurisdictions (State and Local)</td>
<td>14.66</td>
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<tr>
<td>Grants (State and Federal)</td>
<td>25.48</td>
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<tr>
<td>New Taxes and Fees (e.g. RTID)</td>
<td>20.85</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>71.53</strong></td>
</tr>
</tbody>
</table>

Note: All dollar figures rounded to ten thousand (00,000s).

**Funding Analysis**

Based upon the financial information in Table TR-13 and TR-14, the City should have adequate funding to meet future transportation expenditures through the year 2030. It should be noted that this conclusion is predicated on the assumption that existing revenues will increase based upon historical growth rates and that new single-purpose taxes or fees for transportation improvements will be adopted during this time period. In the event that new taxes or fees (e.g. RTID) are not realized, then the City would need to pursue other funding sources or consider increases to existing funding revenues. Other options for addressing any funding shortfalls may include downsizing (phasing) or eliminating proposed transportation projects (through the City’s CIP and TIP processes) or implementing land use changes to reduce traffic impacts (through the City’s Comprehensive Plan updates and concurrency review process). Given the 25-year timeframe of this funding analysis, the City can continue to monitor traffic conditions and reassess the need for future transportation projects.
Transportation Goals, Policies, and Actions

The Transportation Goals, Policies and Actions comprise the plan for providing the transportation system needed to accommodate the growth and development expected to be in place by 2030 and meet the requirements of the GMA. Transportation goals, policies and actions were developed during the Imagine Bothell . . . process to guide development of the transportation plan. The plan is the description of the program which is designed to accomplish these goals and implement these policies.

Goals

TR-G1 Develop a transportation system that promotes safety, efficiency, and mobility.
TR-G2 Minimize adverse traffic impacts to neighborhoods.
TR-G3 Create commercial areas which are pedestrian, bicycle and transit oriented, vibrant and inviting by design.
TR-G4 Provide a transportation system that supports existing land uses and accommodates expected growth.
TR-G5 Develop employment centers with land-use patterns that support access by transit, carpools, vanpools, pedestrians and bicyclists as well as automobiles.
TR-G6 Reduce the quantity and length of trips in single-occupant vehicles by encouraging the use of transit and non-motorized transportation modes.
TR-G7 Plan and develop a transportation system through intergovernmental coordination consistent within the context of Bothell's regional and local comprehensive planning goals.
TR-G8 Enhance the movement of people, goods, and services in order to promote economic prosperity and sustainability.

Policies

Regional Coordination Policies

TR-P1 Coordinate on a regular basis with neighboring jurisdictions, regional transportation agencies, and the Washington State Department of Transportation to address shared transportation needs and concerns.
Regional Coordination Actions

TR-A1  Pursue partnerships with Snohomish County, King County, and neighboring cities on the planning, funding, and implementation of transportation improvements with multi-jurisdictional benefits.

TR-A2  Work with Snohomish County, King County, and neighboring cities to ensure that projects outside of Bothell do not adversely impact the City’s transportation system and do not result in a diversion of traffic through City neighborhoods.

TR-A3  Work with Snohomish County, King County, and neighboring cities to ensure that new development outside of Bothell does not adversely impact the City’s transportation system and levels of service.

TR-A4  Continue cooperative efforts with Snohomish County, King County, and neighboring cities on multi-jurisdictional improvements such as the North Creek Trail, the Bothell Connector and the SR-202/120th Avenue NE corridor, and other key corridors.

TR-A5  Pursue partnerships with the Puget Sound Regional Council on the planning, funding, and implementation of transportation improvements of regional and local significance.

TR-A6  Work with the Puget Sound Regional Council to ensure that the City’s projects and policies are incorporated into regional transportation plans, including the Metropolitan Transportation Plan and the Regional Transportation Improvement Program.

TR-A7  Pursue partnerships with the Washington State Department of Transportation on the planning, funding, and implementation of improvements to the State Routes within Bothell.

TR-A8  Work with the Washington State Department of Transportation to ensure that the City’s projects and policies are incorporated into state transportation plans, including the Washington Transportation Plan, the State Transportation Improvement Program, and State Route Studies.

TR-A9  Continue to participate in the Eastside Transportation Partnership (ETP), SeaShore, Snohomish Community Tomorrow, and Snohomish County Infrastructure Coordinating Committee (ICC) subarea transportation boards.

Streets and Highways Policies

TR-P2  Maintain or achieve LOS E (based on the highest peak hour) on the following corridors:
1. SR-524 (208th Street SE/Maltby Road) between 9th Ave. SE and 39th Ave. SE;
2. 228th Street SW/SE between 4th Avenue W and 39th Avenue SE;
3. SR-522 (NE Bothell Way) between 96th Avenue NE and Kaysner Way;
4. Beardslee Boulevard/NE 195th Street between NE 185th St. and 120th Ave. NE;
5. SR-527 between SR-524 and SR-522;
6. 39th/35th Ave. SE/120th Ave. NE/NE 180th St. between SR-524 and 132nd Ave. NE;
7. NE 145th St./Juanita-Woodinville Way/NE 160th St. between 100th and 124th Ave. NE.

Future improvements to these designated corridors should focus on the construction of all feasible improvements in the corridor with special attention to the intersections operating at the worst level of service within the corridor.
The City shall require new development to mitigate site-specific impacts to the transportation system as required under the State Environmental Policy Act (SEPA). Mitigation may be required on local residential streets and will be coordinated with the Neighborhood Traffic Calming Program (refer to the Neighborhood Protection Policies and Actions).

In accordance with the concurrency requirements of the Growth Management Act (GMA), the City will monitor LOS within these designated corridors and will withhold development approvals for projects which would cause the level of service to decline below the adopted standard, unless improvements or strategies are implemented which maintain the standard. This provision does not apply to the SR-522 corridor since concurrency requirements do not apply to Highways of Statewide Significance. However, the corridor standard of LOS E should be used as a guideline for future improvements on the designated SR-522 corridor.

**TR-P3** Ensure that new development analyze and mitigate any traffic impacts to I-405 and SR-522 based upon State adopted LOS standards.

**TR-P4** The City shall continue to monitor and improve roadways and intersections outside of the designated corridors as part of the Transportation Improvement Program (TIP) and the State Environmental Policy Act (SEPA) processes.

**TR-P5** Maintain or achieve the following LOS guideline for roadway and bridge major maintenance:

1. Resurface City roadways at a rate which ensures that all City roadways are resurfaced at least once every 20 years.

2. Maintain bridge structures to maximize functional life, and replace when necessary.

**TR-P6** Improvements to address identified safety hazards should be given first priority for funding and should be implemented as soon as possible.

**TR-P7** Any future improvements to the State highways and City arterials designated under the Bothell Boulevard System (refer to Urban Design Element) should include median landscaped islands, landscaping between the street and sidewalks or walkways, a coordinated street tree program and meandering of sidewalks or walkways, if practical. The City should ensure that these improvements are properly maintained. In addition, the design of these improvements should be visually compatible with adjacent land uses and should include pedestrian connections. The multiway boulevard along SR 527 in the Downtown Subarea, while a part of the City-wide boulevard system, has a unique purpose and design separate from other boulevards in the City, and is described and illustrated in detail in the Downtown Subarea Plan and Regulations.

**TR-P8** Develop and adopt an ordinance which prohibits commercial truck through traffic on residential collectors and local access streets where alternative minor and principal arterials exist. This shall not apply to trucks making deliveries to residences.

**TR-P9** Require that new development mitigate any direct impacts to the transportation system. New development shall also pay its fair share towards transportation improvements and services in order to mitigate its cumulative traffic impacts.
TR-P10 Ensure that new development provides adequate parking on-site or within the development.

TR-P11 Continue to provide opportunities for public input on the City’s transportation priorities and projects. Outreach should include all age, minority, and disabled groups in order to comply with Environmental Justice regulations.

TR-P12 City of Bothell shall discourage new street connections from a surrounding jurisdiction into the City of Bothell unless it is specified in the City of Bothell’s TIP.

Streets and Highways Actions

TR-A10 Incorporate the projects and policies identified in this Element and in the subarea plans into the TIP and into the Capital Improvement Program (CIP) for future implementation.

TR-A11 Update the Transportation Impact Fee Program to include project improvements within the designated corridors identified in this Element.

TR-A12 Enforce regulations which prohibit development approval if the proposed development causes the LOS on the City’s designated corridors to decline below the adopted LOS, unless improvements or strategies to accommodate the impacts of development are made concurrent with the development. "Concurrent with the development" shall mean that improvements or strategies are in place at the time of development, or that a financial commitment is in place to complete the improvements or strategies within six years.

TR-A13 Develop a recommendations on street and roadway functional classification changes based upon the modeling results in this Element.

TR-A14 Ensure that new development pay its fair share of traffic impact fees.

TR-A15 Require dedication of right-of-way for future transportation projects as a condition of approval for new development. Easements and right-of-way donations should also be pursued whenever appropriate.

TR-A16 Install signage prohibiting through truck traffic on residential collectors where alternative arterials exist.

TR-A17 Update and develop codes to improve parking lot design and to identify innovative solutions in commercial areas including but not limited to shared parking, underground parking, and parking structures.

TR-A18 Maintain a traffic data collection system, including but not limited to traffic counts and accident data, for purposes of identifying safety improvements.

TR-A19 Develop and fund a maintenance, repair, and replacement program which ensures that City arterials are resurfaced at least once every 20 years and that bridges are maintained to maximize their functional life and are replaced when necessary.

TR-A20 Provide notification and perform outreach to City residents and businesses on any major transportation projects and programs.
Neighborhood Protection Policies

TR-P13 Initiate and implement a citywide Neighborhood Traffic Calming Program to address neighborhood traffic and parking concerns.

TR-P14 Due to the difficult topography within Bothell’s neighborhoods and the reality that a grid system within Bothell’s residential neighborhoods encourages cut-though traffic, it is the policy of the City of Bothell that the residential street pattern shall not emphasize a grid or connected network of streets that would promote neighborhood cut-through traffic but should accommodate non-motorized connections and emergency life safety access.

TR-P15 Promote traffic and pedestrian safety in residential neighborhoods.

TR-P16 Improvements to the existing street network shall be planned to restrict through traffic to arterials and to reduce the amount of through traffic on neighborhood streets.

TR-P17 Perform extensive notification and focused outreach on any proposed street connections or roadway reclassifications that may potentially affect neighborhoods.

TR-P18 Require new development to evaluate and mitigate impacts on neighborhood streets in accordance with the Neighborhood Traffic Calming Program.

Neighborhood Protection Actions

TR-A21 Pursue traffic calming measures in residential neighborhoods to reduce traffic speeds and to improve safety without diverting traffic into other residential neighborhoods. Traffic calming measures include but may not be limited to speed limit reduction, speed bumps, traffic circles, signage, access management, and increased enforcement.

TR-A22 Install landscaped medians, painted speed bumps, and other neighborhood traffic control devices at the entrance of neighborhoods to reinforce the residential character of the neighborhood and to discourage cut through traffic.

TR-A23 Regularly monitor traffic levels through residential neighborhoods in order to identify and implement traffic calming measures as early as possible.

TR-A24 Develop new codes or amend existing codes to provide more extensive notification to affected property owners and residents on proposed capital improvement projects, including any new street connections.

TR-A25 City of Bothell staff shall work closely with the abutting jurisdictions in the discussion of development proposals to discourage cut-through traffic in the City’s residential neighborhoods.

TR-A26 Enforce parking regulations to prevent spillover parking from schools and businesses into residential neighborhoods.

TR-A27 Work with citizens to develop a consensus for comprehensive programs which address neighborhood traffic and parking concerns.
TR-A28 Use neighborhood traffic control devices where necessary to divert through traffic to arterials classified and designed for that purpose.

TR-A29 Provide regular funding in the City’s budget to construct the improvements that are necessary to implement the neighborhood protection policies identified in this Element. Such funding can be used as a matching source to leverage additional funding that is available for these improvements through various grant programs.

TR-A30 Establish a procedure to review complaints and to propose remedies to neighborhood traffic and parking problems.

TR-A31 Develop and implement City Council approved criteria for evaluating traffic impacts on neighborhood streets. Such criteria will include considerations of traffic volumes, speed, and safety.

**Public Transit Policies**

TR-P19 To ensure efficient mobility, work with the transit agencies to provide bus pullouts on transit routes, except on dedicated transit lanes.

TR-P20 Work with the transit agencies to promote transit usage through coordination of bus routes and scheduling.

TR-P21 New development in the City activity centers should be designed and built to be transit oriented.

TR-P22 The City should explore candidate locations for a transit station/center in Bothell.

TR-P23 Work with the transit agencies to achieve or maintain a LOS standard for transit to provide service for residents and businesses within ¼ mile of bus stops or within 1½ miles from Park-and-Ride lots.

Weekday peak hour service frequency should be 30 minutes or better from Park-and-Ride lots. Weekday off-peak service frequency should be 60 minutes or better from Park-and-Ride lots.

TR-P24 Support a public transit system that will provide the majority of residences, businesses and community facilities with frequent and convenient transit service.

TR-P25 Continue to coordinate with King County Metro, Community Transit and Sound Transit to increase the frequency of existing transit service between Bothell and other regional destinations and activity centers.
Public Transit Actions

TR-A32 Coordinate on a regular basis with King County Metro, Community Transit, and Sound Transit on improving the transit routes and bus stops in the city.

TR-A33 Coordinate on a regular basis with King County Metro, Community Transit, and Sound Transit to improve pedestrian safety in and around transit areas such as bus stops and Park-and-Ride lots. Safety measures include but may not be limited to traffic signals, street lighting, sidewalks, and crosswalks.

TR-A34 Develop design standards and/or guidelines to ensure that any future development in City activity centers is transit oriented.

TR-A35 Pursue partnerships with King County Metro, Community Transit, and Sound Transit on the planning, funding, and implementation of transit improvements within Bothell.

TR-A36 Work with King County Metro, Community Transit, and Sound Transit to ensure that the City’s projects and policies are incorporated into their respective transit plans and programs.

TR-A37 Develop two types of transit service to provide the improved transit service for local and through trips. Local circulator service would be provided to interconnect residents with the regional transit service provided to area park and ride lots, in addition to achieving LOS standards for area covered and quality of service. Regional transit service would be improved by providing infrastructure improvements (such as a transit only transit way which served the travel patterns in the SR-522 transportation shed and the planned HOV network improvements).

TR-A38 Work with METRO, Community Transit, and Sound Transit to determine suitable locations for a future transit station/center within Bothell.

TR-A39 Develop codes that provide for the design of transit access in commercial and residential areas.

TR-A40 Support the expansion of the regional transit system, including Park-and-Ride facilities, transit service frequency, and new High Capacity Transportation (HCT) modes such as Bus Rapid Transit (BRT) consistent within the context of Bothell’s regional and local comprehensive planning goals.

TR-A41 Work with transit providers to provide safe, lighted, and weather protected passenger waiting areas at stops with high ridership, transfer points, and Park-and-Ride facilities.

TR-A42 Consider transit facilities and service as additional form of mitigation for new developments whose residents, employees, or patrons would benefit from public transportation.

TR-A43 Promote transit usage in roadway improvements by providing for bus pullouts and shelters.
Transportation Demand Management (TDM) and Transportation System Management (TSM) Policies

TR-P26 Implement and pursue the use of TDM strategies as a means of reducing traffic congestion.

TR-P27 Comply with the Commute Trip Reduction (CTR) Act and other regulations which require or encourage the use of TDM measures.

TR-P28 Support land use patterns that reduce the quantity and length of trips by single occupant vehicle trips.

TR-P29 Implement and pursue the use of TSM strategies as an alternative or supplement to roadway capacity improvements.

Transportation Demand Management (TDM) and Transportation System Management (TSM) Actions

TR-A44 Continue to implement the requirements of the State’s CTR Act and the City’s CTR Ordinance.

TR-A45 Work with King County Metro and Community Transit to implement employer outreach programs to promote the use of alternative transportation modes and other worksite-based strategies such as alternative work schedules.

TR-A46 Encourage all employers, whether through their CTR programs or on a voluntary basis, to provide financial incentives to employees who commute by transit, carpools and vanpools to reduce the quantity of commute trips by single occupant vehicles.

TR-A47 Encourage employers to form Transportation Management Associations to increase opportunities for carpooling and shared parking.

TR-A48 Support the development of High Capacity Transportation (HCT), Bus Rapid Transit (BRT), and High Occupancy Vehicle (HOV) lanes on the State highways that serve Bothell consistent within the context of Bothell's regional and local comprehensive planning goals.

TR-A49 Work with Sound Transit, King County Metro, and Community Transit to expand and improve existing Park-and-Ride lots and to explore locations for new Park-and-Ride lots.

TR-A50 Work with WSDOT and other regional planning agencies to assure regional TDM programs and measures are developed and that the policies developed are complementary to and consistent with the Bothell Comprehensive Plan.

TR-A51 In the activity and regional employment centers, encourage compact and mixed use development to reduce vehicle trips and to encourage transit use.
TR-A52 Work with Sound Transit, King County Metro, and Community Transit to provide dedicated transit lanes (also referred to as Business Access and Transit lanes) along key transit routes.

TR-A53 Work with WSDOT and neighboring cities to provide traffic signal synchronization along the State highways and arterials that run through Bothell.

TR-A54 Continue to pursue grant funding for TDM and TSM implementation.

**Bicycle Facilities Policies**

TR-P30 Existing bicycle routes should be signed as soon as possible to meet Shared Roadway standards until construction to Bicycle Lane standards is completed.

TR-P31 Bicycle access to activity centers such as Canyon Park and Downtown Bothell should be encouraged.

TR-P32 Land under transmission lines should be used for bicycle use.

TR-P33 The City should strive to include bicycle lanes in each direction of roadways, if practical. Priority should be given to bicycle facilities that provide access to schools and that fill in gaps in the bicycle system.

TR-P34 Develop bicycle facilities along key north-south and east-west corridors in conjunction with roadway improvements.

TR-P35 Complete the North Creek Trail either in conjunction with or independent of roadway improvements and as a condition of future development. The link between 228th and 240th Streets SE may follow 27th Avenue / Fitzgerald Road, but it should be constructed as a shared use path.

TR-P36 Unimproved public rights-of-way shall be preserved to assure they are available in the future for bicycle improvements.

TR-P37 Shared use path links located on steep slopes should be avoided whenever possible.

**Bicycle Facilities Actions**

TR-A55 Investigate the feasibility of providing continuous bicycle lanes or shared use paths on those roadways which are designated as bicycle routes in *Figure TR-9*.

TR-A56 Include bicycle facilities and amenities as components in future roadway construction and maintenance projects.

TR-A57 Erect signage on those roadways which are designated as existing bicycle routes in *Figure TR-9*.

TR-A58 Investigate bicycle connections between neighborhoods to improve neighborhood access and safety.
TR-A59 Investigate the feasibility of providing additional bicycle crossings or connections to the Burke-Gilman/Sammamish River Trail.

TR-A60 Work with easement benefactors and individual property owners to allow land under transmission lines to be used for bicycle use.

TR-A61 Update the Transportation Improvement Program to identify a priority list of proposed bicycle facilities for future implementation within the city.

TR-A62 Update design standards for bicycle facilities to include WSDOT Design Manual and, where appropriate, American Association of State Highway and Transportation Officials (AASHTO) design guidelines.

TR-A63 Promote participation by the Northshore School District in the planning and funding of bicycle facilities serving schools.

TR-A64 Encourage new employers and businesses to provide convenient bicycle parking facilities for employees and customers.

**Pedestrian Facilities Policies**

TR-P38 Except in limited circumstances, all new development will be required to install sidewalks. Sidewalks should be constructed of concrete for durability and to reduce long-term maintenance costs and should be separated from the street by landscaping whenever possible.

TR-P39 Pedestrian access between residential neighborhoods and employment and commercial areas should be encouraged. Pedestrian access should be provided to activity centers such as Canyon Park and Downtown Bothell.

TR-P40 Land under transmission lines should be used for pedestrian use.

TR-P41 The City should strive to complete pedestrian facilities (sidewalks or walkways), using the most cost-effective materials, on at least one side of all arterials. High priority should be given to sidewalks or walkways that provide access to schools. Sidewalk/walkway construction priorities around schools shall be to construct pedestrian facilities around elementary schools first, junior high schools second, and high schools third. In addition, priority should be given to sidewalks or walkways that fill in gaps in the pedestrian system.

TR-P42 A comprehensive network of sidewalks/walkways connecting with shared use paths should be developed to provide alternative routes to employment centers, shopping areas, transit stops, schools, and recreation facilities.

TR-P43 Unimproved public rights-of-way shall be preserved to assure they are available in the future for pedestrian improvements.

TR-P44 The Municipal Code shall include building and site design measures, such as reduced setback requirements and through easements for pedestrian and bicycle use which enhance pedestrian access to buildings.
TR-P45  Pedestrian-activated crosswalk signals shall be provided for pedestrian movements in all directions at all intersections where traffic signals are located.

TR-P46  Pedestrian crossings should be considered on each arterial and, where warranted, crosswalks should be provided on all roadways with sidewalks or walkways on only one side of the roadway. All crosswalks at signalized intersections, including crosswalks from islands across "free right turn" lanes, should be clearly marked.

Pedestrian Facilities Actions

TR-A65  Investigate and pursue construction of continuous sidewalks or walkways on those roadways designated in Figure TR-10.

TR-A66  Include pedestrian facilities and amenities as components in new or renovated arterials and collectors.

TR-A67  Investigate and pursue construction of pedestrian connections between neighborhoods to improve neighborhood access and safety.

TR-A68  Pedestrian connections and easements should be required of developers of subdivisions to provide convenient and direct connections to schools, bus stops, parks, and businesses.

TR-A69  Work with easement benefactors and individual property owners to allow land under transmission lines to be used for pedestrian use.

TR-A70  Update the Transportation Improvement Program to identify a priority list of proposed pedestrian facilities for future implementation within the city.

TR-A71  Develop codes that provide for flexibility in the design of pedestrian facilities.

TR-A72  Update design standards for pedestrian facilities to address Americans with Disabilities Act (ADA) requirements and American Association of State Highway and Transportation Officials (AASHTO) design guidelines.

TR-A73  Promote participation by the Northshore School District in the planning and funding of pedestrian facilities serving schools.

TR-A74  Provide regular funding in the City’s budget to construct the pedestrian improvements that are necessary to implement the pedestrian policies identified in this Element. Such funding can be used as a matching source to leverage additional funding that is available for these improvements through various grant programs.