

**CITY OF SAMMAMISH
WASHINGTON**

ORDINANCE NO. O2005 -192

AN ORDINANCE OF THE CITY OF SAMMAMISH, WASHINGTON, AMENDING THE CITY OF SAMMAMISH COMPREHENSIVE PLAN ELEMENTS: V TRANSPORTATION, VII UTILITIES & PUBLIC SERVICES/CAPITAL FACILITIES (RELATED TO FIRE AND EMERGENCY MEDICAL RESPONSE SERVICES) AND IX PARKS, RECREATION AND OPEN SPACE ELEMENTS. ALSO ESTABLISHING POLICY FOR THE COMPLETION OF TRANSPORTATION IMPROVEMENT PROJECTS, ADDING AND REVISING LEVELS OF SERVICE, ADDING CAPITAL FACILITY PLANS AND REVISING TEXT TO CORRECT TECHNICAL INFORMATION

WHEREAS, the City Council adopted the City's Comprehensive Plan on September 16, 2003; and

WHEREAS, each the Growth Management Act, RCW Chapter 36.70A, authorizes amendments or revisions of a comprehensive plan to be made annually; and

WHEREAS, the City as required to plan under the Growth Management Act (GMA) adopted GMA goals (RCW 36.70A.020) to guide the development of the Comprehensive Plan and the adoption of development regulations; and

WHEREAS, the Comprehensive Plan elements provide for a transportation system, fire and emergency medical services and park services; and

WHEREAS, the City desires to plan for improved city services by establishing levels of service, the timing for transportation improvement project completion, and capital facility plans; and

WHEREAS, amendments have been developed to implement this policy direction into the Comprehensive Plan to address these Plan elements; and

WHEREAS, in accordance with WAC 365-195-620, a notice of intent to adopt the proposed Comprehensive Plan amendments was sent to the State of Washington Department of Community, Trade and Economic Development on September 15, 2005 to allow for a 60 day review and comment period; and

WHEREAS, an environmental review of the proposed Comprehensive Plan amendments has been conducted in accordance with the requirements of the State Environmental Policy Act (SEPA), and a SEPA threshold determination of non-significance and notice of adoption was issued on September 19, 2005 and sent to state agencies and interest parties; and

WHEREAS, the public process for the proposed amendments has provided for early and continuous public participation opportunities as follows: a City Council briefing on July 12, 2005; a public meeting to present Comprehensive Plan amendments on July 28, 2005; a public informational meeting specifically directed towards the development community on August 8, 2005; and

WHEREAS, the Planning Commission also considered the proposed amendments to the Sammamish Comprehensive Plan at Planning Commission public hearings starting on September 22, 2005; and

WHEREAS, the Planning Commission has considered the public comment received and other information presented at the public hearing and voted to recommend adoption of the proposed amendments to the City Council; and

WHEREAS, the City Council has considered the Planning Commission's recommended amendments to Comprehensive Plan and the original proposed amendments; and

WHEREAS, the City Council has considered the goals of GMA as set forth in RCW 36.70A.020 and the amendments attached to this ordinance reflect the City's balancing of the public interests under the planning goals of the GMA.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SAMMAMISH, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1. Amendments to the Sammamish Comprehensive Plan Adopted. The Sammamish Comprehensive Plan Elements V, VII, and IX, as set forth in Attachment "A", "B", and "C" to this ordinance.

Section 2. Severability. Should any section, paragraph, sentence, clause or phrase of this Ordinance, or its application to any person or circumstance, be declared unconstitutional or otherwise invalid for any reason, or should any portion of this Ordinance be pre-empted by state or federal law or regulation, such decision or pre-emption shall not affect the validity of the remaining portions of this Ordinance or its application to other persons or circumstances.

Section 3. Effective Date. This Ordinance shall be published in the official newspaper of the City, and shall take effect and be in full force five (5) days after the date of publication.

ADOPTED BY THE CITY COUNCIL AT A SPECIAL MEETING THEREOF ON THE 13TH DAY OF DECEMBER 2005.

CITY OF SAMMAMISH



Mayor Donald J. Gerend

ATTEST/AUTHENTICATED:



Melonie Anderson, City Clerk

Approved as to form:



Bruce L. Disend, City Attorney

Filed with the City Clerk:	October 31, 2005
Public Hearing:	November 1, 2005
Public Hearing:	November 15, 2005
First Reading:	November 15, 2005
Passed by the City Council:	December 13, 2005
Date of Publication:	December 24, 2005
Effective Date:	December 29, 2005

V. TRANSPORTATION ELEMENT

The purpose of the Transportation Element is to establish goals and policies that will guide the development of surface transportation in the City of Sammamish, in a manner consistent with the overall goals of the Comprehensive Plan. Based upon existing and projected land use and travel patterns, the Transportation Element addresses roadway classifications, levels of service, transit and non-motorized modes, future travel forecasts, transportation system improvements, financing strategies, and concurrency management. It establishes policy for transportation system development, and for existing and future improvement of transportation programs and facilities.

PRIMARY ISSUES

Planning Context

The Plan's Transportation Element has been developed to be consistent with transportation policy and plans that have been adopted at the State and local levels, as described in the following sections.

State of Washington

Growth Management Act

Transportation planning at the State, County and local levels is mandated by the State of Washington Growth Management Act (GMA) [RCW 36.70A]. The GMA contains many requirements for the preparation of a Comprehensive Plan's Transportation Element. In addition to requiring consistency with the land use element, specific GMA requirements for a Transportation Element include [RCW 36.70A.070(6)]:

- Inventory of facilities by mode of transport.
- Level-of-service calculations to aid in determining the existing and future operating conditions of the facilities.
- Proposed actions to bring these deficient facilities into compliance with adopted level-of-service standards.
- Traffic forecasts, based upon land use.
- Identification of transportation infrastructure needs to meet current and future demands.
- Funding analysis for needed improvements, as well as possible additional funding sources.
- Identification of intergovernmental coordination efforts.
- Identification of transportation demand management strategies as available.

In addition to these elements, GMA mandates that development cannot occur unless existing infrastructure either exists or is built concurrent with development. In addition to construction of new capital facilities, infrastructure may include transit service, transportation demand management (TDM) strategies, or transportation system management (TSM) strategies.

Washington Transportation Plan

The Washington Transportation Plan (WTP) presents the State of Washington's strategy for implementation programs and budget development over a 20-year planning horizon. The WTP contains an overview of the current conditions of the statewide transportation system, as well as an assessment of the State's future transportation investment needs. The WTP policy framework sets the course for meeting those future needs. The goals of the WTP are grouped into three major categories: Vibrant Communities, Vital Economy, and Sustainable Environment.

- Under **Vibrant Communities**, goals are directed at maintaining and operating the transportation system to provide all citizens access to basic services; providing seamless multimodal statewide transportation system with minimal congestion; providing a transportation system that is safe and secure; and building communities through community-based design and collaborative decision-making.
- Under **Vital Economy**, goals are directed toward promoting the State's general prosperity through competitive freight movement and support for tourism.
- Under **Sustainable Environment**, goals are directed toward stewardship of the environment through maintenance of air quality, water quality, habitats, watershed quality, and connectivity; and by reuse and recycling resource materials.

The WTP addresses the essential and interconnected roles of the Regional Planning Organizations and their local jurisdictions, and the important transportation issues of tribal governments in Washington State. It highlights the role of the Washington State Department of Transportation (WSDOT) to maintain, preserve and improve the transportation system while meeting the other societal defined above. Although not included in the current update, future updates of the WTP will include a 10-year prioritized implementation plan for meeting the transportation needs of the people of Washington State.

Puget Sound Region

Puget Sound Regional Council – Destination 2030

Destination 2030 is the 30-year transportation plan for the central Puget Sound Region of Washington State, which is comprised of King, Pierce, Snohomish, and Kitsap Counties. The plan was developed to maintain and expand the regional vision of a growth management strategy supporting compact urban areas connected by a high capacity transportation system. *Destination 2030* focuses upon preserving and managing the existing transportation system; and ensuring development of a balanced multi-modal transportation system that includes choices for private vehicles, public transit, ride sharing, walking and bicycling, as well as freight modes. The plan coordinates the diverse ambitions of the region's counties, cities, towns and neighborhoods, and emphasizes the connection between land use and transportation to reduce long-term infrastructure costs and provide better links between home, work, and other activities.

The multi-county framework policies adopted by *Destination 2030* include concentrating development in urban growth areas to conserve natural resources; provision of necessary public facilities to support development and to implement local planning objectives; adequate consideration of alternatives to new facilities, including but not limited to TDM; preservation of the character of identified rural areas; support of effective and efficient mobility for people and goods that are consistent with the region's growth and transportation strategies; and development of a transportation system that emphasizes accessibility and includes a variety of mobility options. (PSRC 2001)

Sound Transit

Sound Move is the 10-year regional transit system plan adopted by Sound Transit, the Regional Transit Authority (RTA) that provides regional transit service to Snohomish, King, and Pierce Counties within the central Puget Sound Region. Sound Move is the first step toward a long range Regional Transit Vision, which is to expand the capability of the region's major transportation corridors by adding new high-capacity transportation services and facilities.

Sound Move includes a mix of transportation improvements that include high occupancy vehicle (HOV) expressways, regional express bus routes, commuter rail, and light rail. The principles and commitments of the RTA, as expressed by Sound Move, include recognition of regional as well as local transit needs throughout the three-county RTA district; equitable distribution of resources throughout the RTA district; simultaneous work on projects in all sub-areas; coordination between regional and local transit services; and public accountability. (Sound Transit 1996)

King County

King County Planning Policies

King County's Countywide Planning Policies provide direction for the County and the 39 jurisdictions contained within it. Policies are directed at providing a balanced multimodal transportation system within the County, based upon regional priorities and consistent with adopted land use plans. The County defines the balanced transportation system as one that promotes all modes, including automobiles, heavy trucks, rail, transit, bicycles, pedestrians, equestrian, and air travel, as efficiently as possible. TDM should be included in addition to capacity improvements. Movement of freight as well as people should be considered in comprehensive plans.

Washington State, King County, Puget Sound Regional Council (PSRC), and cities, as well as transit operators, airport officials, etc., should work together to provide an efficient region-wide transportation system. Transportation impacts to individual cities generated by the State, County, and/or neighboring jurisdictions must be taken into account. All levels of jurisdictions should coordinate when planning and financing projects to ensure State, regional, County, and city visions and land use plans are consistently achieved. Consistency of plans, projects, and thresholds with regional, State, and neighboring jurisdictions should also be considered.

Where appropriate, the County and its cities should adopt a clear definition of level-of-service and concurrency requirements, and structure impact fees to ensure that new development contributes its fair share of the resources needed to mitigate the impact on the transportation system. Future improvement needs for all modes should be considered and included in Comprehensive Plans, with special interest in completing the regional systems. Additionally, level-of-service calculations should be consistent with those of adjacent agencies to aid in determining accountability and impacts of projects. Mode-split goals for each mode of transportation should be determined by local agencies to ensure services are adequate.

Comprehensive plans should include timelines for all improvements, focusing on maintenance and preservation of existing infrastructure with additions as necessary to accommodate future growth. Furthermore, alternative funding sources should be sought when funding falls short of projected needs. Sources may include developer contributions, impact fees, and Local Improvement Districts (LIDS). (King County Growth Management Planning Council 2002)

King County Six-Year Transit Development Plan

The King County Six-Year Transit Development Plan provides the policy framework for identifying and prioritizing transit investments for the county, with a focus on congestion relief and improved mobility. The Six-Year Plan also emphasizes service efficiency, which includes improvement of capacity utilization, reducing duplication of services, improving or reallocating unproductive service, and creating transit-oriented development projects.

The objectives of the Six-Year Plan describe the areas of emphasis of the long-range vision for the transit system during the period from 2002 to 2007. The objectives, which form the basis for specific plan strategies, include:

- Improved public transportation access to travel destinations by reconfiguring current service, adding new services and facilities, and pursuing innovative solutions and partnerships,
- Higher levels of bus service to established urban and industrial activity centers within the County,
- Enhanced service to and within jurisdictions that aggressively implement local land use plans, growth management strategies, and transit-oriented development,
- Provision and support of TDM strategies for employers, local jurisdictions, and other agencies,
- Design and modification of services and infrastructure to be more efficient and effective,
- Coordinate with Sound Transit, Community Transit, Pierce Transit, and the Washington State Ferry System to provide integrated efficient service to major destinations throughout the region,
- Improve the transit operating environment in locations and along corridors where actual or potential for high ridership exists, and where local jurisdictions provide necessary supporting plans, policies, permits, and/or funding to do so; and
- Improve access for pedestrians (with and without disabilities) and bicyclists, as well as the waiting environment at transit facilities with the highest use.

Based upon these objectives, 27 strategies provide direction for service and system development. The current update of the Six-Year Plan places particular emphasis on strengthening transit service along the core freeway and arterial network that serves major destinations throughout the county, as well as continued expansion of Park-and-Ride lots in the suburban areas of the county. (King County Metro 2002)

Public Input

The input of the citizens of the City of Sammamish has been significant in the development of the Recommended Transportation Plan.

Planning Advisory Board

A Planning Advisory Board (PAB) made up of citizen volunteers has steered development of the City of Sammamish Comprehensive Plan. Specifically, the Transportation Sub-Committee of the PAB has guided development of the Transportation Element. The transportation sub-committee developed a list of transportation priorities by which the relative priority of transportation improvement projects will be determined. The transportation priorities are listed as follows:

Improve the ability of City of Sammamish residents to enter and exit the City via roadways (within and adjacent to the City), transit, and non-motorized facilities;

- Enter into inter-local agreements,
- Focus on commute routes.

Provide concurrency management;

- Mitigate development impacts within the time frame presented in the Transportation Plan,
- Develop a management system.

Improve traffic flow within the City;

- Improve the basic overall internal transportation system,
- Focus on major north-south and east-west corridors,
- Provide a balanced internal transportation system,
- Balance traffic flow across numerous routes rather than splitting the community with one or two, major routes.

Improve quality of life and safety concerns;

- Improve existing facilities to meet current standards,
- Consider community lifestyle impacts,
- Make safety improvements to existing facilities that may include but are not limited to sidewalks and sight lines.

Enhance internal connectivity of non-motorized facilities;

- Address connectivity of pathways, sidewalks, trails, and bicycle facilities,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

Enhance internal connectivity of roadways;

- Address connectivity within and between neighborhoods,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

Other Citizen Input

Citizens have had three other primary means by which to provide input to the development of the Transportation Element.

- Written or verbal comments regarding this document and the May 2002 Review Drafts of the Transportation Element, as provided to City staff.
- Written or verbal comments provided to City staff at the Open Houses that coincide with the completion of this document and the May 2002 Review Drafts.
- Results of the City of Sammamish 2002 Community Survey, which was mailed to 900 households in early May 2002, and is available at the City of Sammamish web site. In addition to relating their general level of satisfaction with regard to transportation in Sammamish, survey respondents identified which type of street, non-motorized, and transit improvements they favor.

Existing Conditions

The primary objective of this section of the report is to assess existing traffic conditions within and adjacent to the City of Sammamish. In order to identify existing traffic conditions, a comprehensive data collection process has been undertaken. The data was primarily collected from the City of Sammamish, King County, and WSDOT. The assessment of existing conditions serves as a baseline for measurement of capacity for future land use and transportation planning.

The following categories are included in this section:

- Identification of State Highways,
- Roadway Inventory,
- Traffic Signal Inventory,
- Roadway Design Standards,
- Traffic Level-of-Service Analysis,
- Accident Analysis,
- Analysis of Access to the City,
- Traffic Calming,
- Current Six-Year Transportation Improvement Program (TIP),
- Existing Transit Service,
- Existing Non-Motorized Conditions.

Identification of State Highways

Identification of State Highways

No state highways are located within the Sammamish city limits. However, three State-controlled highways, Interstate 90 (I-90), State Route 520 (SR 520), and State Route 202 (SR 202), run near or adjacent to Sammamish, providing the primary means of access into and out of the City. Improvements on these facilities will highly impact traffic conditions in Sammamish and in turn, conditions on the highways will be impacted by transportation conditions and improvements in Sammamish.

I-90 is a limited-access freeway that consists of three lanes in each direction and runs east-west, approximately one mile south of the southern Sammamish city limits. From just west of Issaquah to Seattle, I-90 also has an HOV lane in each direction. I-90 serves as the primary east-west freeway for regional travel within and beyond western Washington. To the west, it provides direct connection to the Cities of Bellevue, Mercer Island, and Seattle. To the east, it serves as the major east-west freeway across the State of Washington, connecting to Spokane at the eastern state border, and running beyond to the eastern coast of the United States.

SR 520 is a limited access freeway that consists primarily of two lanes in each direction and runs east west between the Cities of Redmond, Bellevue and Seattle. HOV lanes are present along various stretches of this highway, but are not continuous. SR 202, which runs adjacent to the northern Sammamish city limits, connects to SR 520 west of the City. SR 202 (also called Redmond-Fall City Road in the area adjacent to Sammamish) consists of one lane in each direction, widening to two lanes in each direction in the City of Redmond. SR 520/SR 202 is the primary east-west highway alternative to I-90. This highway

corridor provides direct connection to the Cities of Redmond, Bellevue, Kirkland, and Seattle to the west, and to the Cities of Fall City, Snoqualmie, and North Bend to the east.

Both I-90 and SR 520 connect directly to Interstate 405 (I-405) and Interstate 5 (I-5) to the west, which are the primary north-south freeways within the region.

Highways of Statewide Significance

In 1998, Highways of Statewide Significance (HSS) legislation was passed by the Washington State Legislature and codified as RCW 47.06.140. Highways of Statewide Significance are those facilities deemed to provide and support transportation functions that promote and maintain significant statewide travel and economic linkages. The legislation emphasizes that these significant facilities should be planned from a statewide perspective (WSDOT 2002). Thus, level-of-service requirements for HSS highways are established by WSDOT, not by local standards.

Adjacent to the City of Sammamish, I-90 carries the HSS designation (Washington State Transportation Commission 1998) and thus is controlled by State level-of-service requirements.

Roadway Inventory

Roadway Functional Classification System

Transportation roadway systems consist of a hierarchy of streets that provide the dual functions of access to land and development, and through movement for travelers. Streets are classified based upon the relative degree to which they provide these functions. Land use policies and street standards typically vary according to the street function. For example, most jurisdictions designate minimum right-of-way requirements, stopping and entering sight distances, roadway width, design speed, design traffic volumes, access control, and sidewalk requirements in accordance with an adopted classification system. These requirements are usually codified in the jurisdiction's municipal code and/or adopted as street standards.

Based on state law, cities and counties are required to adopt a street classification system that is consistent with state and federal guidelines. In the State of Washington, these requirements are codified in RCW 35.78.010 and RCW 47.26.090. Each local jurisdiction is responsible for defining its transportation system into the following functional classifications: freeway, principal arterial, minor arterial, and collector. All other roadways are assumed to be local access streets. **Figure V-1** shows the existing classification of roadways for the City of Sammamish. The classifications are summarized as follows.

- **Freeway/Interstate** is a multi-lane, high-speed, high-capacity roadway intended exclusively for motorized traffic. All access is controlled by interchanges and bridges separate road crossings. While I-90 to the south and SR 520 to the northwest are classified as freeways, no roadways of this designation exist within the Sammamish city limits.
- **Principal Arterial** is a roadway that connects major community centers and facilities, and is often constructed with limited direct access to abutting land uses. Principal arterials serve high-volume corridors, carrying the greatest portion of through or long-distance traffic within a city. The selected routes should provide an integrated system for complete circulation of traffic, including ties to the major rural highways entering the urban area. The following is a list of roadways currently designated as principal arterials in the City of Sammamish:
 - Sahalee Way NE, between 228th Avenue NE and the north city limits,

- 228th Avenue, between SE 43rd Way and Sahalee Way NE,
 - SE 43rd Way, between the south city limits and 228th Avenue SE,
 - Issaquah-Pine Lake Road, between SE 48th Street and 228th Avenue SE,
 - Issaquah-Fall City Road, between SE 32nd Street and SE Duthie Hill Road.
- **Minor Arterial** is a roadway connecting centers and facilities within the community and serving some through traffic, while providing a greater level of access to abutting properties. Minor arterials connect with other arterial and collector roads extending into the urban area, and serve less concentrated traffic-generating areas, such as neighborhood shopping centers and schools. Minor arterial streets serve as boundaries to neighborhoods and collect traffic from collector streets. Although the predominant function of minor arterial streets is the movement of through traffic, they also provide for considerable local traffic with origins or destinations at points along the corridor. The following is a list of roadways currently designated as minor arterials in the City of Sammamish:
 - E Lake Sammamish Parkway, between the south city limits and the north city limits,
 - NE Inglewood Hill Road, between E Lake Sammamish Parkway and 228th Avenue NE,
 - NE 8th Street, between 228th Avenue NE and 244th Avenue NE,
 - 244th Avenue NE, between NE 8th Street and the north city limits,
 - East Sammamish/244th Avenue SE Corridor, between SE 24th Street and NE 8th Street (note, this will be a Minor Arterial only if the connection through this corridor is constructed in the future, but it does not currently exist as a continuous roadway),
 - 244th Avenue SE, between SE 32nd Street and SE 24th Street,
 - SE 32nd Street, between Issaquah-Pine Lake Road and Issaquah-Fall City Road.

Figure V-1
Existing Roadway Functional Classifications

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- **Collector** is a roadway that connects two or more neighborhoods or commercial areas, while also providing a high degree of property access within a localized area. These roadways “collect” traffic from local neighborhoods and carry it to the arterial roadways. Additionally, collectors provide direct access to services and residential areas, local parks, churches and areas with similar uses of the land. Collectors may be separated into principal and minor designations according and the degree of travel between areas and the expected traffic volumes. The following is a list of roadways currently designated as collectors in the City of Sammamish:
 - Louis Thomson Rd, between 212th Avenue SE and E Lake Sammamish Parkway NE,
 - 216th Avenue NE, between NE Inglewood Hill Road and NE 20th Place,
 - 212th Ave, between E Lake Sammamish Parkway NE and Louis Thomson Road,
 - SE 8th St, between 212th Avenue SE and 218th Avenue SE,
 - 218th Avenue SE, between SE 8th Street and SE 4th Street,
 - SE 4th St, between 218th Avenue SE and 228th Avenue SE,
 - SE 8th Ave, between 228th Avenue SE and 244th Avenue SE,
 - E Main Dr, between 244th Avenue SE and east city limits,
 - SE 20th St, between 212th Avenue SE and 228th Avenue SE,
 - SE 24th Ave, between 228th Avenue SE and 244th Avenue SE,
 - Trossachs Boulevard SE, between SE Duthie Hill Road and north city limits.

Table V-A provides a comparison of the City of Sammamish arterial and collector roadway miles to Federal Highway Administration (FHWA) guidelines (FHWA 1989), which must be followed to qualify the City of Sammamish streets for State and Federal grant programs.

TABLE V-A
MILES OF ROADWAY BY FUNCTIONAL CLASSIFICATION

FUNCTIONAL CLASSIFICATION	EXISTING MILES OF ROADWAY IN SAMMAMISH ¹	TYPICAL RANGE OF PERCENTAGE OF TOTAL ROADWAY ²	TYPICAL RANGE OF MILES BASED UPON FHWA GUIDELINES
Freeway and Principal Arterial	11.7	5% - 10%	8 – 16
Minor Arterial	16.1	10% - 15%	16 – 24
Collector	11.1	5% - 10%	8 – 16
Sub Total	38.9	---	---
Local Access	121.1	---	104 – 128
Total	160.0	---	160

1. Source: City of Sammamish 2002
2. Source: FHWA 1989

The topography and development patterns within the City of Sammamish limit the opportunity to add Principal or Minor Arterial routes. Some additional Collector mileage could be added and the totals would still remain within the FHWA guidelines.

City Street Inventory

A street inventory has been summarized for the City of Sammamish, based upon the Roadway Network Inventory System (RNIS) that is tabulated by King County. The RNIS database for the City of Sammamish contains over 27,000 records of roadway features such as pavement types, sidewalks and shoulders, curb and gutter, guardrail, traffic control devices, and drainage features. A summary of this tabular data indicates an approximate total of 284.5 lane-miles of roadway within Sammamish. Of this length, 252.1 lane-miles (89 percent) are paved with asphalt concrete, 31.8 lane-miles (11 percent) are light bituminous roadway, and 0.6 lane-miles (less than 1 percent) are gravel road. **Table V-B** shows this County summary of roadway lane-miles, as well as inventories of existing curb and gutter, sidewalk, and traffic signals. Note, this King County data is complete only through 1999, and does not include new roadways, mostly constructed as part of new developments. The City’s best current estimate is 160 miles of roadway (80 miles of public road and 80 miles of private road). Almost all roads consist of two lanes, resulting in approximately 320 lane-miles of roadway.

TABLE V-B
STREET INVENTORY FOR CITY OF SAMMAMISH

INVENTORY ITEM	QUANTITY
Roadway - Total	284.5 lane-miles
- Asphalt concrete	252.1 lane-miles
- Light bituminous	31.8 lane-miles
- Gravel	0.6 lane-miles
Curb and Gutter	532,047 linear feet (~100.8 miles)
Concrete Sidewalk, one side	72.7 miles
Asphalt Concrete Walk, one side	0.4 miles
Gravel Shoulder	109.8 miles
Paved Shoulder	52.9 miles
Traffic Signals (Each)	14

Source: King County 1999

Video Inventory

As part of the development of the Comprehensive Plan, the City implemented a video inventory process that is tied to the City Geographical Information System (GIS). All arterial and collector roadways were videotaped with special equipment that allows the various features of the roadway (curb, gutter, shoulder, guardrail, sidewalks, inlets, traffic control devices, etc.) captured on the video to be directly transferred into the GIS. The City will regularly update the roadway inventory using this method.

Traffic Signal Inventory

An inventory of the signalized intersections was conducted by the City of Sammamish. The locations of the fourteen existing traffic signals, along with five intersections with flashing signals, are shown in **Figure V-2**.

Roadway Design Standards

The City has adopted interim standards for development of City streets, as documented in the *Interim Public Works Standards* (April 2000). As the City reconstructs roadways to improve vehicular capacity and safety, they will become more urban in nature. The Goals, Objectives and Policies of the Transportation Element relate street design to the desires of the local community, and advise that design be at a scale commensurate with the function that the street serves. Guidelines are therefore important to provide designers with essential elements of street design as desired by the community.

Figure V-3 illustrates typical street sections for Arterial and Collector Street design. This design is consistent with most municipalities' urban roadway design standards. In this illustration, the vertical curbs provide access control and the overall character suggests a "city" driving behavior with lower travel speeds.

Traffic Level-of-Service Analysis

Level-of-Service (LOS) is the primary measurement used to determine the operating condition of a roadway segment or intersection. In general, LOS is determined by comparing traffic volumes (counted or modeled) to the carrying capacity of the intersection or roadway segment. The following section describes the traffic volumes that were collected, the approaches used for LOS analysis, and the results of the analyses under existing conditions.

Average Weekday Daily Traffic

Daily traffic counts were collected by the City of Sammamish in 2002 at sixteen locations throughout the City. Average weekday daily traffic (AWDT) counts were calculated by averaging the daily traffic counts of Tuesday, Wednesday, and Thursday during a typical week. Locations and volumes for existing AWDTs are listed in **Table V-C** and illustrated in Figure V-4.

The highest traffic volumes shown occur outside of the city limits, at SR 202, E Lake Sammamish Parkway and Issaquah-Fall City Road. Within the City, 228th Avenue and E Lake Sammamish Parkway carry the highest volumes of traffic, which is expected since they serve as the City's primary north-south corridors leading into and out of the City.

TABLE V-C
EXISTING 2002 AVERAGE WEEKDAY DAILY TRAFFIC (AWDT)

LOCATION	EXISTING AWDT
E Lake Sammamish Pkwy, south of 187th Ave NE	18,500
Sahalee Way NE, south of NE 50th St	15,800
244th Ave SE, south of SR 202	4,200
E Lake Sammamish Pkwy, north of NE Inglewood Hill Rd*	17,600
Sahalee Way NE, north of NE 25th Way*	9,500
244th Ave NE, north of NE 22nd St*	3,400
NE Inglewood Hill Rd, west of 216th Ave NE*	11,200
228th Ave NE, south of NE Inglewood Hill Rd/NE 8th St*	18,600
NE 8th St, east of 228th Ave NE*	5,500
SE 8th St, east of 228th Ave SE*	8,800
E Lake Sammamish Pkwy, south of SE 8th St	9,800
212th Ave SE, south of SE 8th St	3,400
228th Ave SE, south of SE 10th St	21,200
E Lake Sammamish Pkwy, south of 212th Ave SE	16,700
228th Ave SE, south of SE 32nd Way	15,400
Issaquah-Pine Lake Rd, north of SE 32nd Way	14,600
244th Ave SE, north of SE 32nd Way	2,700
256th Ave SE, north of Issaquah-Beaver Lake Rd	2,100
SE Duthie Hill Rd, north of Issaquah-Beaver Lake Rd	8,900
E Lake Sammamish Pkwy, south of SE 43rd St	31,300
Issaquah-Fall City Rd, south of Issaquah-Pine Lake Rd	31,800
Issaquah-Pine Lake Rd, south of SE 32nd St	12,400
Trossachs Blvd SE, north of SE Duthie Hill Rd	4,700

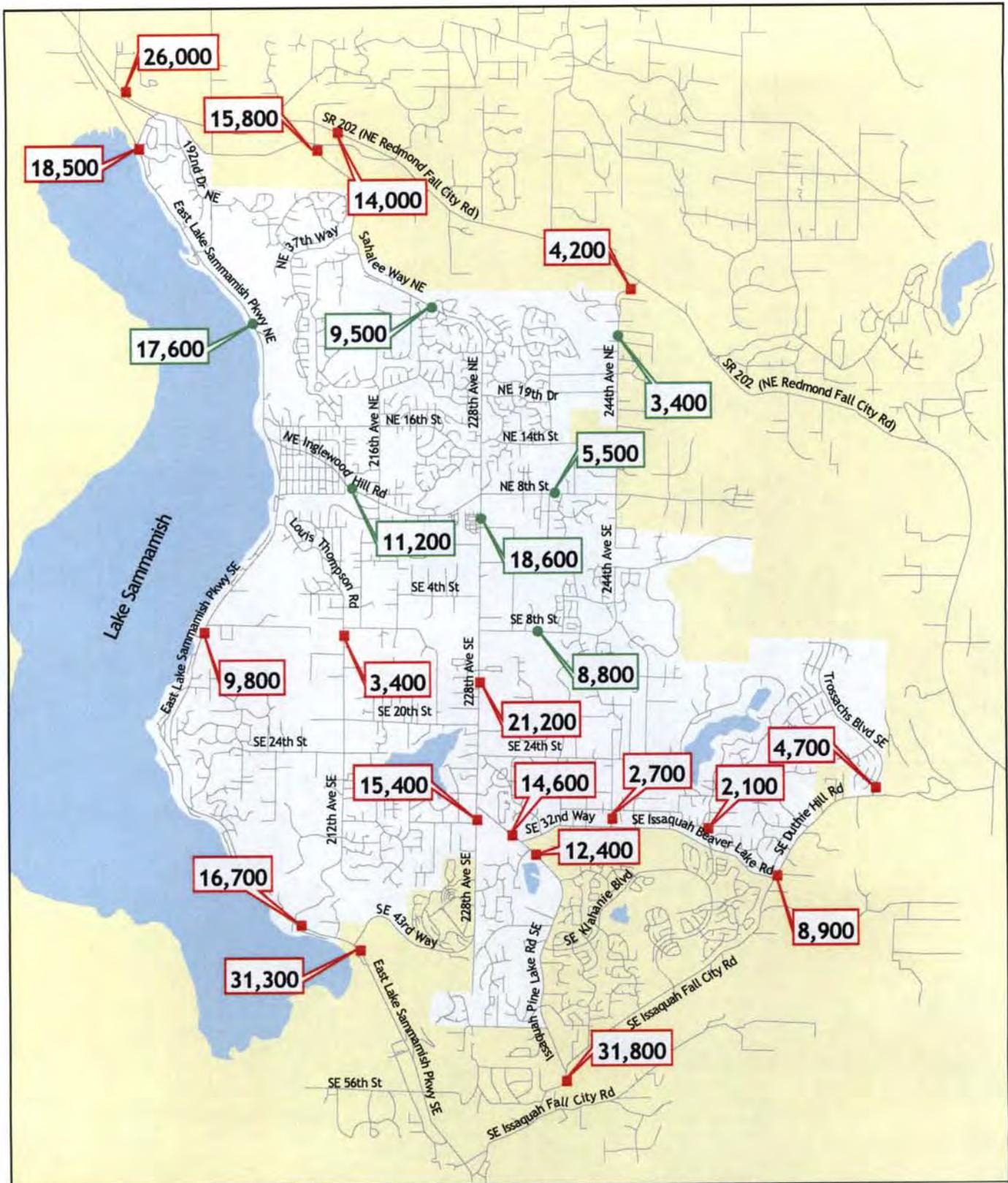
*Locations marked with asterisks show AWDTs based on modeled volumes under existing conditions. All other volumes shown are based upon traffic counts conducted in 2002.

Figure V-2
Existing Traffic Signal Locations

Back of Figure V-2

Figure V-3
Existing Roadway Design Standards

Back of Figure V-3

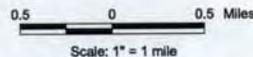


~~Existing~~ Average Weekday Daily Traffic
2002

September 2003

Legend

- Average Weekday Daily Traffic
- X,XXX Based on 2002 Traffic Counts
- X,XXX Based on Modeled Traffic Volumes



SOURCES: King County GIS, 2002 and City of Sammamish, 2002.
 DISCLAIMER: This map is derived from various data sources. While care has been taken to insure the accuracy of the information shown on this page the City of Sammamish assumes no responsibility or liability for any errors or omissions in this information. This map is provided, "as is".

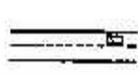
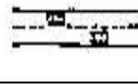
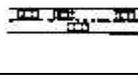
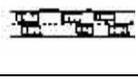
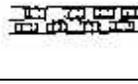
Figure V-4

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LOS Analysis

The Highway Capacity Manual (HCM 2000) is the recognized source for the techniques used to measure transportation facility performance. Using the HCM procedures, the quality of traffic operation is graded into one of six levels-of-service: A, B, C, D, E, or F. **Table V-D** summarizes the characteristic traffic flow for the varying levels-of-service. As the table shows, LOS A and B represent the best traffic operation. LOS C and D represent intermediate operation and LOS E and F represent high levels of traffic congestion.

**TABLE V-D
CHARACTERISTIC TRAFFIC FLOW FOR LEVEL-OF-SERVICE MEASURES**

LEVEL-OF-SERVICE	CHARACTERISTIC TRAFFIC FLOW
A	 Free flow, low volumes and no delays
B	 Stable flow, speeds restricted by travel conditions, minor delays,
C	 Stable flow, speeds and maneuverability closely controlled due to higher volumes.
D	 Stable flow, speeds and maneuverability closely controlled due to higher volumes.
E	 Unstable flow, low speeds, considerable delay, volume at or near capacity, freedom to maneuver is extremely difficult.
F	 Forced flow, very low speeds, volumes exceed capacity, long delays with stop-and-go traffic.

Source: HCM 1997

Intersection LOS Criteria

LOS for intersections is determined by the average amount of delay experienced by vehicles at the intersection. **Table V-E** summarizes the LOS criteria for signalized intersections.

For two-way stop-controlled (TWSC) intersections, LOS depends on the amount of delay experienced by drivers on the minor (stop-controlled) approach. LOS for a TWSC intersection is determined by the average computed or measured delay for each minor movement. All-way stop-controlled (AWSC) intersections require drivers on all approaches to stop before proceeding into the intersection. LOS for AWSC intersections is determined by the average computed or measured delay for all movements.

**TABLE V-E
LEVEL-OF-SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS**

LEVEL-OF-SERVICE (LOS)	AVERAGE DELAY PER VEHICLE (SECONDS/VEHICLE)
A	= 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Source: HCM 2000

The LOS criteria for stop-controlled intersections have different threshold values than those for signalized intersections, primarily because drivers expect different levels of performance from distinct types of transportation facilities. In general, stop-controlled intersections are expected to carry lower volumes of traffic than signalized intersections. Thus for the same LOS, a lower level of delay is acceptable at stop-controlled intersections than it is for signalized intersections. **Table V-F** summarizes the LOS thresholds for both TWSC and AWSC intersections.

**TABLE V-F
LEVEL-OF-SERVICE CRITERIA FOR TWSC AND AWSC INTERSECTIONS**

LEVEL-OF-SERVICE (LOS)	AVERAGE DELAY PER VEHICLE (SECONDS/VEHICLE)
A	= 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50

Source: HCM 2000

The Intersection Capacity Utilization (ICU) method is used to estimate LOS of roundabouts. ICU provides a straightforward method for calculating an intersection's LOS, by simply taking the ratio of the critical movements volume to saturation flow rates, analogous to the intersection volume to capacity ratio. In the ICU method, LOS is determined by the percent of capacity utilized by measured or estimated traffic volumes. LOS is designated as follows: 0 to 60 percent utilization is LOS A; greater than 60 to 70 percent utilization is LOS B; greater than 70 to 80 percent utilization is LOS C; greater than 80 to 90 percent utilization is LOS D; greater than 90 to 100 percent utilization is LOS E; and greater than 100 percent utilization is LOS F (Trafficware 2001).

Intersection LOS Standards

LOS standards are used to evaluate the transportation impacts of long-term growth and concurrency. In order to monitor concurrency, the City must adopt standards by which the minimum acceptable roadway operating conditions are determined and deficiencies may be identified. The intersection LOS standards adopted in this Transportation Element are LOS D or E for intersections that include Principal Arterials, and LOS C for intersections that include Minor Arterial or Collector roadways. For intersections of

roadways with different functional classifications, the higher classification (and thus the lower standard) applies. [Attaining LOS D at major intersections with exclusive right-turn lanes, double left-turn lanes and additional through lanes. These improvements improve LOS for vehicles, but result in very long crosswalks and increase potential for pedestrian-vehicle conflicts at free right-turns.](#)

[The LOS for intersections with principal arterials should be LOS D, when LOS D can be attained with a maximum of three approach lanes per direction. For example, a typical intersection of two five-lane roadways. The LOS for intersections with principal arterials may be reduced to E for intersections that require more than three approach lanes in any direction.](#)

Intersection LOS is calculated using the standard analysis procedures described in this section for whichever is worse between the AM or PM peak hour. Intersections with LOS below these defined standards will be considered deficient.

PM Peak-Hour Intersection LOS

LOS analysis was performed for existing PM peak-hour conditions at 25 intersections within and adjacent to the Sammamish city limits. **Table V-G** summarizes the intersection locations, the existing traffic control for each intersection, and the calculated LOS, based upon existing traffic counts for the PM peak hour. The intersection LOS is also illustrated in **Figure V-5**. The results shown in the table represent LOS based upon average delay for all traffic movements at signalized and all-way stop intersections. At two-way stop controlled intersections, the LOS is based on the average delay for the minor leg movement at the intersection. Thus, there may be significantly longer delays for certain directions of traffic movements than the composite LOS measure shows.

The table shows that during the PM peak hour under existing conditions, most intersections are operating at or better than their defined standard. Six intersections are shown to operate at congested levels during the peak hour: three within the city limits and three outside the City. Inside the City, one intersection is operating at LOS E and two are at LOS F. In all three cases, the intersection is currently a TWSC intersection, indicating that vehicles that are approaching on the minor (stop-controlled) leg(s) of the intersection are experiencing high levels of delay. Analysis also shows that outside the city limits, three major access points to the City of Sammamish are operating at LOS F: the intersections of E Lake Sammamish Parkway with SR 202 to the north and Issaquah-Fall City Road to the south, as well as the intersection of Sahalee Way NE with SR 202. These results clearly indicate that collaboration with the neighboring Cities of Redmond and Issaquah will be required to address some of the most pressing traffic problems for the City.

TABLE V-G
EXISTING 2002 INTERSECTION LOS – PM PEAK HOUR

	INTERSECTION	LOS STANDARD ¹	TRAFFIC CONTROL ²	DELAY ³ (SEC)	LOS ⁴
1	228th Ave NE and NE 12th St	D	TWSC	36	E*
2	Sahalee Way NE and NE 37th St	D	S	11	B
3	Sahalee Way NE and NE Redmond-Fall City Rd (SR 202)	D	S	161	F*
4	228th Ave NE and SE 4th St	D	TWSC	73	F*
5	228th Ave NE and SE 8th St	D	S	6	A
6	228th Ave NE and SE 20th St	D	S	9	A
7	228th Ave NE and SE 24th St	D	S	17	B

TABLE V-G
EXISTING 2002 INTERSECTION LOS – PM PEAK HOUR

	INTERSECTION	LOS STANDARD ¹	TRAFFIC CONTROL ²	DELAY ³ (SEC)	LOS ⁴
8	228th Ave SE and Issaquah-Pine Lake Rd SE	D	S	13	B
9	Issaquah-Pine Lake Rd SE and SE Klahanie Blvd	D	S	9	A
10	E Lake Sammamish Pkwy NE and NE Inglewood Hill Rd	C	S	20	B
11	E Lake Sammamish Pkwy SE and 212th Way SE	C	S	5	A

12	Issaquah-Pine Lake Rd SE and SE Issaquah-Fall City Rd	D	S	14	B
13	228th Ave NE and NE 8th St (NE Inglewood Hill Rd)	D	S	37	D
14	192nd Dr NE and NE Redmond-Fall City Rd (SR 202)	D	S	12	B
15	244th Ave NE and NE Redmond-Fall City Rd (SR 202)	D	TWSC	34	D
16	Issaquah-Pine Lake Rd SE and SE 32nd Way	D	TWSC	62	F*
17	E Lake Sammamish Pkwy NE and Louis Thompson Rd NE	C	TWSC	19	C
18	212th Ave SE and SE 20th St	C	TWSC	13	B
19	SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd	D	TWSC	22	C
20	Trossachs Blvd SE and SE Duthie Hill Rd	D	TWSC	11	B
21	E Lk Sammamish Pkwy SE and SE 24th Way	C	TWSC	20	C
22	244th Ave NE and NE 8th St	C	AWSC	8	A
23	E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202)	D	S	140	F*
24	E Lk Sammamish Pkwy SE and SE 56th St	D	S	51	D
25	E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd	D	S	132	F*

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.

2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled

3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.

4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.

AM Peak-Hour Intersection LOS

An order-of-magnitude LOS analysis was also performed for existing AM peak-hour conditions at four intersections where congested conditions are known to occur. Table V-H summarizes the intersection locations, the existing traffic control for each intersection, and the calculated LOS, based upon estimated traffic counts for the AM peak hour. The table shows that on a typical day under existing conditions, these intersections should perform adequately, at LOS B or C.

Figure V-5

~~Existing 2002~~ Intersection Level of Service

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TABLE V-H
EXISTING 2002 INTERSECTION LOS – AM PEAK HOUR

	INTERSECTION	LOS STANDARD ¹	TRAFFIC CONTROL ²	LOS ³
1	Sahalee Way NE and Redmond-Fall City Rd (SR-202)	D	S	C
2	228th Ave NE and Issaquah-Pine Lake Rd SE	D	S	B
3	Issaquah-Pine Lake Rd SE and Issaquah-Fall City Rd	D	S	B
4	Issaquah-Pine Lake Rd SE and SE 32nd Way	D	TWSC	C

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.

2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled.

3. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.

Roadway Segment AWDT Thresholds

The City has expressed concerns not only for the amount of delay experienced along roadways, but for safety, access and urban amenities. Definition of LOS thresholds that include shoulder widths, left-turn lanes, bicycle lanes, curb and gutter, and sidewalks addresses some of these concerns. Adequate shoulders increase safety by providing refuge for disabled vehicles, additional width outside of the traffic flow for walking or bicycling, or a buffer between the traffic flow and sidewalks. Left-turn pockets provide safer waiting space for left turning vehicles, and allow following vehicles to avoid delay. Curbs, gutters, and sidewalks or other similar facilities improve safety by providing access control and safer locations for walking. As traffic volumes increase on the primarily rural roads of the City of Sammamish, urban amenities such as these become more important.

The typical roadway segment LOS measures used by traffic engineers, and for most Comprehensive Plans, are determined by HCM procedures that calculate operational efficiency of the roadway. Rural two-lane roadway LOS is described by average travel speeds and the average percentage of time spent following other vehicles. As the average travel speed declines or the average following time increases, the LOS declines. These measures help define deficiencies that may be used to guide the design of road improvements. Typical improvements might include roadway alignments, widening shoulders, and providing passing zones. Using these HCM procedures, features such as left-turn lanes, curb and gutter, sidewalks and other similar facilities have little to no impact on the defined roadway LOS.

State law prescribes that LOS shall be measured, but does not describe or define the means. Though many communities rely on the HCM procedures, others have defined LOS through use of travel time, average congestion, or level of improvement. Most of the roadways within the City of Sammamish originated as rural roads. Many have been improved using rural road design standards to carry higher traffic volumes, but are inconsistent with the character and desires of an urban community.

To address these issues, the City set forth to describe a policy that relates roadway capacity to existing characteristics, and future desired improvements. Through this evaluation they established thresholds for acceptable traffic volumes for a range of existing conditions, described as follows.

The LOS standards developed by the City for roadway segments are based on the allowable AWDT volumes, as a function of each roadway’s characteristics. The 45 segments defined for segment analysis

are shown in **Figure V-6**. The AWDT thresholds for each of these roadway segments, based upon their existing roadway characteristics, are defined in **Table V-I**. After adoption of the Comprehensive Plan, these thresholds will be adopted by ordinance by the City Council. The table also shows the existing modeled AWDT volumes for each of the segments. These values differ somewhat from the values summarized in **Table V-C** because they are all modeled volumes, while the majority of volumes presented in **Table V-C** are based upon 24-hour traffic counts. Modeled volumes are utilized for the segment threshold analysis because the City does not have current counts for all 45 segments. Based upon the existing volumes and the policy-defined thresholds summarized in **Table V-I** three roadway segments (all along East Lake Sammamish Parkway) have volumes that exceed their thresholds, and thus would be considered deficient under existing conditions.

To arrive at the segment thresholds, the City reviewed current HCM measures for capacity, as they related to various roadway features. The adequacy of traffic conditions and design features of existing City of Sammamish roadways was also assessed. Design features included shoulder width, sidewalks, left-turn lanes, and access control. For each functional classification of roadway, base capacities were derived from standard per-lane capacities, as defined in the HCM, *Road Diets Fixing the Big Roads* (By Dan Burden and Peter Lagerway, www.walkable.org), and in the City of Sammamish Interim Transportation Plan (EarthTech 2000). The City arrived at a base capacity value of 1220 vehicles per hour for a two-lane Arterial roadway with 10-foot lane widths, and without shoulders or walkways. This value was converted to an AWDT volume of 12,850 vehicles per day. The base capacity of a two-lane Collector roadway without shoulders or walkways was determined to be 9020 AWDT. A Four-lane roadway base capacity was determined in a similar means and established at 25,950 vehicles per day for Arterial roadways and 18,100 vehicles per day for Collector roadways.

These base (or minimum) capacities would be applied to roadways with 10-foot wide lanes, and no curb and gutter, shoulders, medians, turn lanes, sidewalks or bicycle lanes. Additional capacity was determined for each of the design features, based upon guidelines in the HCM and in the City's Interim Transportation Plan. These capacity enhancement values are added to the base capacity incrementally for each of the features that the roadway includes.

The base and incremental capacities used to determine the AWDT thresholds are summarized in **Table V-J**. Maximum capacity would be assigned to a roadway with a fully developed cross section: 12-foot lanes, 8-foot shoulders or bike lanes, curb and gutter, center median or left-turn lane, sidewalk or other similar facilities.

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Figure V-6
Concurrency Segments

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**TABLE V-I
PROPOSED AWDT CONCURRENCY THRESHOLDS AND 2002 EXISTING VOLUMES FOR ROADWAY SEGMENTS**

SEGMENT	EXISTING ROADWAY CHARACTERISTICS							Concurrency Threshold	EXISTING	
	Functional Class	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	Median	Walkway Bikeway	AWDT		Fails	
1	E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point)	Minor Arterial	2	11	5	None	None	17,370	18,500	X
2	E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl	Minor Arterial	2	11	5	None	None	17,370	17,600	X
3	E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd	Minor Arterial	2	11	5	None	None	17,370	17,600	X
4	E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd	Minor Arterial	2	11	5	None	None	17,370	11,100	
5	E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St	Minor Arterial	2	11	5	None	None	17,370	9,100	
6	E Lk Sammamish Pkwy, SE 8th St – SE 24th Way	Minor Arterial	2	11	5	None	None	17,370	9,000	
7	E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE	Minor Arterial	2	11	5	None	None	17,370	11,900	
8	E Lk Sammamish Pkwy, 212th Ave SE – City Limit	Minor Arterial	2	11	5	None	None	17,370	165,700	
9	SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE	Collector	2	10	1	None	None	9,420	-	
10	SE 24th St, 200th Ave SE – 212th Ave SE	Collector	2	10	1	None	None	9,420	-	
11	Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St	Collector	2	10	2	None	None	9,820	3,000	
12	212th Ave SE, SE 8th St – SE 20th St	Collector	2	10	2	None	None	9,820	2,400	
13	212th Ave SE, SE 20th St – SE 32nd St	Collector	2	11	3	None	None	11,350	2,400	
14	212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy	Collector	2	11	1	None	None	10,550	3,800	
15	NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE	Minor Arterial	2	11	4	None	None	16,790	11,200	
16	NE Inglewood Rd, 216th Ave NE – 228th Ave NE	Minor Arterial	2	11	5	None	None	17,370	9,600	
17	SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St	Collector	2	10	1	None	None	9,420	-	
18	SE 4th St, 218th Ave SE – 228th Ave SE	Collector	2	10	1	None	None	9,420	900	

TABLE V-I
PROPOSED AWDT CONCURRENCY THRESHOLDS AND 2002 EXISTING VOLUMES FOR ROADWAY SEGMENTS

SEGMENT	EXISTING ROADWAY CHARACTERISTICS							Concurrency Threshold	EXISTING	
	Functional Class	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	Median	Walkway Bikeway	AWDT		Fails	
19 SE 20th St, 212th Ave SE – 219th Pl SE	Collector	2	11	2	None	None	10,950	3,600		
20 SE 20th St, 219th Pl SE – 228th Ave SE	Collector	2	11	3	None	None	11,350	3,600		
21 Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE	Principal Arterial	2	11	4	None	None	16,790	12,200		
22 Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way	Principal Arterial	2	11	4	None	None	16,790	9,500		
23 228th Ave, NE 25th Way – NE 12th St	Principal Arterial	2	11	5	None	None	17,370	9,500		
24 228th Ave, NE 12th St – SE 4th St ¹	Principal Arterial	4	11	None	Median	Walkway	34,950	18,600		
25 228th Ave, SE 4th St – SE 20th St ²	Principal Arterial	4	11	None	Median	Walkway	34,950	22,000		
26 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE	Principal Arterial	4	11	None	Median	Walkway	34,950	23,700		
27 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way	Principal Arterial	2	11	4	Left-Turn Lane	None	21,430	14,800		
28 NE 8th St, 228th Ave NE – 244th Ave NE	Minor Arterial	2	11	4	Left-Turn Lane	Walkway	21,430	5,500		
29 SE 8th St, 228th Ave SE – 244th Ave SE	Collector	2	11	None	Left-Turn Lane	Walkway / Bikeway	15,390	8,800		
30 SE 24th St, 228th Ave SE – 244th Ave SE	Collector	2	11	1	None	None	10,550	3,100		
31 SE 24th St, 244th Ave SE – W Beaver Lk Dr SE	Collector	2	11	1	None	None	10,550	-		
32 Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way	Principal Arterial	4	11	4	None	None	31,480	15,000		
33 Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd	Principal Arterial	2	11	4	None	None	16,790	10,800		
34 Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St	Principal Arterial	2	11	4	None	None	16,790	16,600		
35 244th Ave NE, NE 30th Pl – NE 20th St	Minor Arterial	2	11	1	None	None	15,050	3,400		
36 244th Ave NE, NE 20th St – NE 8th St	Minor Arterial	2	11	1	None	None	15,050	2,900		

**TABLE V-I
PROPOSED AWDT CONCURRENCY THRESHOLDS AND 2002 EXISTING VOLUMES FOR ROADWAY SEGMENTS**

SEGMENT	EXISTING ROADWAY CHARACTERISTICS							Concurrency Threshold	EXISTING	
	Functional Class	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	Median	Walkway Bikeway	AWDT		Fails	
37 East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St ³	Minor Arterial	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
38 East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St ³	Minor Arterial	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
39 244th Ave NE, SE 24th St – SE 32nd Way	Minor Arterial	2	11	2	None	None	15,630	2,200		
40 SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE	Minor Arterial	2	11	4	None	None	16,790	6,500		
41 SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE	Minor Arterial	2	11	4	None	None	16,790	5,600		
42 Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd	Minor Arterial	2	11	6	None	None	17,950	3,100		
43 SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266 th Ave SE	Principal Arterial	2	11	4	None	None	<u>16,790</u> 12,300	10,000		
44 SE Duthie Hill Rd, 266 th Ave SE – Trossachs Bld SE	Principal Arterial	2	11	4	None	None	<u>16,790</u> 12,300	10,000		
45 Trossachs Blvd SE, SE 9 th St – SE Duthie Hill Rd	Collector	2	12	None	None	None	10,520	4,300		

1. The four-lane width represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228th Avenue between SE 4th Street and SE 8th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244th Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segments

**TABLE V-J
BACKGROUND ASSUMPTIONS FOR CONCURRENCY AWDT THRESHOLD DEFINITIONS**

TWO-LANE ROADWAY				
		TWO-DIRECTIONAL CAPACITY (VEHICLES PER DAY)		
		PRINCIPAL OR MINOR ARTERIAL	COLLECTOR	NEIGHBORHOOD COLLECTOR
Base Capacity		12,850	9,020	2,850
Lane Width	10 feet	0	0	0
	11 feet	1,620	1,130	320
	12 feet	3,240	2,260	640
Striped Bike Lane or Shoulder ¹	per foot (maximum width of 8 feet)	580	410	120
Median	None	0	0	0
	Median	4,640	3,240	920
	Left-Turn Lane	4,640	3,240	920
Walkway/Bikeway ²	None	0	0	0
	Walkway	1,160	810	230
	Bikeway	1,620	1,130	320
	Both	1,620	1,130	320
Maximum Capacity		25,370	17,800	5,100
FOUR-LANE ROADWAY				
		TWO-DIRECTIONAL CAPACITY (VEHICLES PER DAY)		
		PRINCIPAL OR MINOR ARTERIAL	COLLECTOR	NEIGHBORHOOD COLLECTOR
Base Capacity		25,920	18,100	5,180
Lane Width	10 feet	0	0	0
	11 feet	3,240	2,260	640
	12 feet	6,480	4,540	1,300
Striped Bike Lane or Shoulder ¹	per foot (maximum width of 8 feet)	580	410	120
Median	None	0	0	0
	Median	4,630	3,240	930
	Left-Turn Lane	4,630	3,240	930
Walkway/Bikeway ²	None	0	0	0
	Walkway	1,160	810	230
	Bikeway	1,620	1,130	330
	Both	1,620	1,130	330
Maximum Capacity		41,670	29,160	8,370

1. To qualify as a bike lane, the pavement must be marked as such, and have a minimum width of 5 feet.
2. For the purpose of these calculations, a bikeway is defined as a bicycle facility that is physically separated from the roadway. Walkway and bikeway values only apply if the roadway has shoulders of less than 4-foot width.

Accident Analysis

Accident analysis was performed, based upon two years (1999 and 2000) of accident data collected and compiled by the WSDOT Transportation Data Office for the City of Sammamish. This WSDOT database records accidents only by location, not by type or severity. The existing accident data was summarized in two different ways. First, accidents were summarized within major corridors, and converted to a rate per million vehicle-miles-traveled (VMT), based upon the estimated existing Average daily Traffic (ADT) for that corridor. The number of accidents per million VMT is a typical measure for expressing accident rates within a corridor. The calculated values could then be compared to County averages, as compiled by King County Department of Transportation. The calculated accident rates for City of Sammamish corridors, along with the corresponding County averages for the same facility type, are shown in **Table V-K**. The table shows that all roadway corridors except one have accident rates well under the average accident rates for the County. The one exception is the 228th Avenue Corridor, where the average number of 2.5 accidents per million VMT is somewhat higher than the County average of 1.75.

The second accident summary method consisted of compiling the total number of accidents that were recorded at each intersection within the City, over the two-year recorded period. **Figure V-7** shows the intersections that were identified as high accident locations, meaning that five or more accidents were recorded at the intersection over the two-year period. The figure shows seven intersections that meet the high accident criterion. Only one intersection, 228th Avenue NE and NE 8th Street/Inglewood Hill Road, is shown to be a very high accident location, with 34 accidents recorded over the two-year period.

TABLE V-K
CORRIDOR ACCIDENT SUMMARY (1999 – 2000)

CORRIDOR	FROM	TO	ACCIDENTS (PER 1,000,000 VMT)	
			SAMMAMISH ¹	COUNTY AVERAGE ²
228th Ave	Sahalee Way	South city limits	2.5	1.75
E Lake Sammamish Pkwy NE	187th Ave NE	212th Way SE	1.0	1.81
Inglewood Hill Rd	E Lake Sammamish Pkwy NE	228th Ave NE	1.3	1.81
Issaquah-Pine Lake Rd	228th Ave NE	Issaquah-Fall City Rd	0.7	1.75
244th Ave NE	Redmond-Fall City Rd	NE 8th St	1.5	1.81
Louis Thompson/ 212th Ave/ 212th Way SE	E Lake Sammamish Pkwy NE	E Lake Sammamish Pkwy SE	1.2	2.24
Sahalee Way	Redmond-Fall City Rd	228th Ave NE	0.4	1.75
SE 8th St	228th Ave SE	East end of road	1.5	2.24
NE 8th St	228th Ave NE	244th Ave NE	0.7	1.81

¹Based upon two years (1999 and 2000) of recorded accident data by the WSDOT.

²Source: 2000 Accident Rates for Arterial Highways, King County Department of Transportation, Road Services Division, Traffic Engineering Section.

Analysis of Access to the City

As part of the public comment process, access to and from the City has been identified as one of the City's most critical transportation issues. The results of the LOS analysis of existing conditions confirm that the most congested traffic conditions for Sammamish residents occur at the north and south access points to and from the City, restricting the flow of traffic in the commute direction of traffic (out of the City in the morning, and into the City in the evening). Since these choke points are located outside the city limits, the City may only pursue mitigation by forming inter-local agreements with Washington State, King County, and the neighboring Cities of Redmond to the north and Issaquah to the south, and pursuing joint solutions to these traffic problems. **Figure V-8** identifies the roadway segments and intersections that are critical to access to the City. Deficiencies identified along these locations will be a high priority for transportation improvements within the city limits, and for pursuance of inter-local agreements for mitigation outside the city limits.

Traffic Calming

As population and employment in the Sammamish region continue to grow, City streets are experiencing increased traffic pressure. City policy can accommodate growth in a way that can protect neighborhoods from unsafe impacts of traffic through the following measures:

- Develop standards to improve the function, safety, and appearance of the City street system,
- Develop facilities for pedestrians and bicyclists as alternative travel modes to the automobile,
- Protect the quality of life in residential neighborhoods by limiting vehicular traffic and monitoring traffic volumes on collector streets,
- Encourage improvements in vehicular and pedestrian traffic circulation within the City,
- Maintain a consistent LOS on the arterial system that mitigates impacts of new growth and is adequate to serve adjoining land uses,
- Maintain the public street system to promote safety, comfort of travel, and cost-effective use of public funds.

Traffic calming programs serve to deter through-traffic on local residential streets, protect neighborhoods from vehicular traffic moving at excessive speeds, and discourage parking unrelated to residential activities.

Neighborhood Traffic Management Program

The Neighborhood Traffic Management Program (NTMP) for neighborhood streets has been adopted by the City of Sammamish as Ordinance 02000-61. The NTMP represents the commitment of the City to the safety and livability of residential neighborhoods. It is one component of the Public Works Department's joint effort with neighborhood residents to reduce the impact of traffic on neighborhoods. The NTMP provides a process for identifying and addressing problems related to speeding and safety on neighborhood streets. Under the program, City staff works with residents within neighborhoods to evaluate the type and severity of traffic problems. If the required approval by residents is obtained, and the required funding is available, the City will install traffic management devices to manage the pattern and flow of neighborhood traffic.

Figure V-7
Existing High Accident Locations

Back of Figure V-7

Figure V-8
Access Routes to the City of Sammamish

Back of Figure V-8

The City of Sammamish places a high value on neighborhood livability. Although livability has no precise definition, it can be thought of as encompassing the following characteristics:

- The ability of residents to feel safe and secure in their neighborhood,
- The opportunity to interact socially with neighbors without distractions or threats,
- The ability to experience a sense of home and privacy,
- A sense of community and neighborhood identity,
- A balanced relationship between multiple uses and needs of a neighborhood.

Traffic management plays a vital role in promoting these characteristics. The NTMP recognizes that vehicular traffic is only one element of a neighborhood, and that other residential needs must be given careful consideration. Through the NTMP, residents can evaluate the various requirements, benefits, and trade-offs of projects within their own neighborhood and can become actively involved in the decision-making process. This program provides information and guidelines to help citizens participate in the process.

The NTMP can be applied to Local Access streets and Neighborhood Collector streets. It was developed to give Sammamish neighborhoods a process through which Public Works staff assists the neighborhoods in resolving traffic concerns related to excessive speed and volume. Important objectives of the program include:

- Working with neighborhoods to develop an action plan that satisfies their needs and resolves the identified traffic concerns,
- Installation of temporary devices identified in the neighborhood action plan to determine their effectiveness and the appropriateness before installing the devices permanently,
- Discouragement of arterial traffic from using Local Access streets, with a secondary result of reducing traffic volumes related to through-traffic.

The City has established the following 12-step procedure for implementing an NTMP project.

STEP 1: Project Request and Preliminary Review – NTMP projects can be requested by individual citizens or by neighborhood associations. An application may include a request to install new traffic control devices or remove or modify existing devices.

The Public Works Department gathers preliminary data about the traffic request, including volume, speed, and accident information. A numerical score is developed for each NTMP project request. Scores are used to rank requests on a citywide basis. A minimum of 30 points is required for a project to be eligible for the program. A high ranking score, available budget, and other factors are used to determine which projects will proceed to the petition-to-study stage. Scores are developed according to the following criteria:

- a. **Traffic Volume (30 points maximum):** Average daily volume (on the segment of the project street having the highest volume) divided by 100,
- b. **Speed (30 points maximum):** Percent of vehicles over the speed limit (on the segment of the project street having the highest percentage over the limit) divided by 3,
- c. **Accidents (30 points maximum):** Ten points per correctable accident in the most recent three-year period,

- d. **Schools (10 points maximum):** Five points for each private or public school in the affected neighborhood,
- e. **Other Pedestrian Areas (10 points maximum):** Five points for each individual pedestrian-oriented facility such as churches, daycare facilities, elderly housing, or a park in the affected neighborhood,
- f. **Pathways (10 points maximum):** Five points for a subject street that is not bordered by a sidewalk or pathway,
- g. **Designated Bicycle Routes (10 points maximum):** Five points for a subject street or cross street designated as a bicycle route in the City of Sammamish's arterial streets classifications and policies.

STEP 2: Priority Ranking – Projects are ranked citywide, based on the point score from Step 1. Typically the highest ranked projects are undertaken first. The number of projects initiated each year depends on City resources. Public Works staff notifies all project requestors of the status of their request after completion of this step. Once in the process, a project is considered in the annual priority-ranking step for up to three years. This time limitation ensures that the project request has not become obsolete because of changing traffic conditions and/or new residents in the area. The project requestor is notified when the three-year limit expires. At that time, a new request may be made to re-enter the project in the program. Step 1 is then repeated to obtain current information.

STEP 3: Petition-to-Study – If a project is ranked high enough to proceed, a petition-to-study is circulated within a defined project area. The Public Works Department establishes the petition-to-study area, based on the information obtained during the preliminary review. This area is generally defined as those households and businesses fronting on the affected segments of the project street. In the case of a single intersection problem, the minimum area would be approximately one block in all directions.

The purpose of the petition-to-study is to determine the level of agreement among residents on the project street that there is a problem they want to address. Public Works staff prepares the petition, describing the problem and the procedures to be followed if a study is undertaken. The project requestor(s) is responsible for circulating the petition. Each resident household and business within the study area is entitled to one signature. Signatures representing 51 percent of the households and businesses within the petition-to-study area are needed to move the project forward.

STEP 4: Plan Development – Public Works staff hold a public meeting with the affected area to inform residents of the pending project, to describe the NTMP process, and to gather additional information about the traffic problems and related neighborhood needs.

To assist in notifying the neighborhoods and residents, public meeting notices are mailed to residents in the study area. The notices include a message that states what the meeting is for along with the time, date, and location of the meeting. A contact telephone number is available for additional information. Public Works staff assists the affected neighborhood throughout the remainder of the project. Plan development consists of the following steps:

- a. Gathering data (traffic volumes, road conditions, speed and accident data),
- b. Assessment of problems and needs,
- c. Identification of project goals and objectives,
- d. Development of alternative plans or solutions,

- e. Selection of a proposed plan.

STEP 5: Test Installation – Once a plan is agreed upon by the affected neighborhood and the City staff, the Public Works Department prepares a petition describing the proposed project and calling for a temporary test installation. Members of the affected neighborhood circulate the petition within a defined area. The petition-to-test area shall include the current names and addresses of residents located within the established affected area. Each resident shall be contacted, permitted to read and acknowledge the petition, and allowed to indicate their preference. This assures all resident owners have the opportunity to read and sign the petition. Signatures representing approval of 60 percent of the households and businesses within the petition-to-test area are required for the test to proceed. Each household and business is entitled to one signature. Non-resident property owners are not included in the petition-to-test process.

Public Works staff proposes solutions based on citizen input and sound engineering principles. Possible solutions and their impacts are evaluated by the affected neighborhood, City departments, and other affected agencies (transit, school district, etc.).

STEP 6: Project Evaluation – Following the test period, Public Works staff evaluates how well the test has performed in terms of the previously defined problems and objectives. The evaluation includes the subject street as well as other area streets impacted by the project. Evaluation includes before and after speeds and volumes, impacts on emergency vehicles or commercial uses, and other evaluation criteria determined by the affected neighborhood during Step 4. If the evaluation criteria are not met to the satisfaction of the affected neighborhood and Public Works staff, the traffic plan may be modified and additional testing conducted.

The final test results are reviewed with the affected neighborhood, relevant City departments, and other affected agencies. The information is then distributed during the balloting stage. The Public Works Department will not forward a project to a ballot if the test results show it is unsafe or it violates NTMP or other City policies.

STEP 7: Ballot – To place the project in the funding priority, approval from households, businesses, and non-resident property owners within a defined ballot area must be obtained via a mail ballot administered by the City. The ballot area includes all properties located in the established affected area. Of eligible ballots returned, 60 percent must respond favorably within the time frame allowed for the project to proceed. For example, with 100 eligible ballots returned, 60 ballots must be affirmative for the project to proceed. Each household and business, and non-resident property owner is entitled to one ballot.

STEP 8: Reporting – Based on the project evaluation and a positive ballot, Public Works staff prepares a report and recommendations. The report outlines the process followed, includes the project findings, and states the reasons for the recommendations.

STEP 9: Design and Construction – Final design and construction is administered by the City and is contingent on funding.

STEP 10: Landscaping – If landscaping of NTMP devices is feasible and desired by the neighborhood, the City shall fund initial landscaping costs. Responsibility for maintaining landscaping in conformance with the Public Works Department criteria on the permanent devices rests with the benefited neighborhood. The resident who agrees to maintain the landscaping shall be required to obtain a Street-Use Permit. If the neighborhood fails to fulfill the responsibility and the landscaping obstructs the view of traffic (becomes unsightly or is otherwise potentially unsafe), the Public Works Department shall have the authority to remove the landscaping.

STEP 11: Monitoring / Maintenance – The Public Works Department monitors the constructed devices and is responsible for the physical appearance of the project.

STEP 12: Follow Up Evaluation – Within three to five years after construction of an NTMP project, the Public Works Department conducts a follow-up evaluation to determine if the project's goals and objectives continue to be met. This evaluation may entail traffic studies of volumes, speeds, and accidents, as well as public opinion surveys.

Potential Traffic Calming Features

A variety of treatments have been established to accomplish traffic calming objectives. Possible features include the following (Ewing 1999):

- **Speed humps** are rounded raised areas placed across the roadway. The Institute of Transportation Engineers (ITE) recommended practice suggests speed humps be 12 feet long in the direction of travel (this length minimizes “bottoming out” of vehicles), 3 to 4 inches high, parabolic in shape, with a design speed of 15 to 20 mph.
- **Speed tables** are basically flat-topped speed humps, commonly constructed with brick or other textured material. Often they are marked for pedestrian crossing, in which case they are called **raised crosswalks**. Speed tables are typically long enough that the entire wheelbase of a passenger vehicle may rest on top. Most commonly, they are 22 feet long (6-foot ramps on either end and a 10-foot table on top) and 3 to 4 inches high. With typical design speeds of 25 to 30 mph, speed tables allow for higher speeds than do speed humps, but they are often considered to be in better proportion with the street and more aesthetically pleasing.
- **Raised intersections** are flat raised areas that cover entire intersections, with ramps on all approaches and frequently paved with bricks or some other textured material. Their purpose is to pedestrianize the entire intersection, and they are typically raised at or just below sidewalk level.
- **Textured pavements** are entire roadway surfaces paved with brick, concrete pavers, stamped asphalt, or other surface materials that create small constant deviations in vertical roadway alignment. Even though they produce only small variations, textured pavements are typically effective in slowing traffic down. One design consideration is that extreme textures such as cobblestone can impede pedestrians and bicyclists, particularly in wet conditions.
- **Traffic circles** are raised islands placed in the center of intersections, around which traffic circulates. They are typically round in shape and controlled by yield signs on all approaches, and often the island is landscaped. Traffic circles prevent drivers from speeding through intersections by impeding straight-through movement. The radius of traffic circles can vary widely, and the primary design consideration is to strike the proper balance between slowing traffic down, and reasonably accommodating the vehicles (including large vehicles) that will utilize the intersection.
- **Chicanes** are curb extensions that alternate from one side of the street to the other, forming S-shaped curves. They are less common than traffic circles, primarily due to the high cost of curb realignment. A less expensive chicane-like effect may be achieved by alternating on-street parking from one side of the street to the other. Chicanes must be well designed to prevent drivers from still speeding by crossing the centerline, or testing their skills on the curves.
- **Bulb-outs** are curb extensions at intersections that reduce roadway width curb to curb. Their primary purpose is to make intersections more pedestrian friendly by shortening the roadway

crossing distance and drawing attention to pedestrians via raised peninsula. Additionally, a bulb-out often tightens the curb radius at the corner, which reduces the speeds of turning vehicles.

- **Center islands** are raised islands located at the centerline of a street, narrowing the travel lanes at that location. They have been particularly effective in slowing vehicles down on curves and when placed downstream of intersections. In both applications, they prevent wide turning vehicles by channeling them right. Center islands are more effective when used as short interruptions. If they are too long, they will serve to separate and channel opposing directions, which can result in actually speeding traffic up. Center islands are often landscaped. When placed at the entrance to a neighborhood, and typically designed in conjunction with landscaping, monument signs and textured pavement, they are called **gateways**.
- **Chokers** are curb extensions located at mid-block. They narrow the roadway by widening the sidewalk or planting strip, and are often marked with pedestrian crosswalks. Like bulb-outs, their primary purpose is to make intersections more pedestrian friendly by shortening the roadway crossing distance, drawing attention to pedestrians via raised peninsula.

In establishing a neighborhood traffic calming program, the City must take into account the restriction that no deviation from WSDOT design standards is permitted on principal arterials, minor arterials, and collector streets without express approval of the local programs engineer (RCW 35.78). This limitation does not apply to local access streets, which are defined by RCW 35.78.010 as streets "...generally limited to providing access to abutting property... tributary to major and secondary thoroughfares... generally discouraging through traffic..." Therefore, only local residential streets (Local Access and Neighborhood Collector) can be eligible for neighborhood traffic calming programs.

Existing Traffic Calming with the City

Presently, traffic calming devices within the City of Sammamish are located primarily along 216th Avenue NE. These include speed humps, traffic circles, and chokers.

Current Six-Year Transportation Improvement Program (TIP)

Table V-L summarizes the list of projects that make up the current Six-Year Transportation Improvement Program (TIP), 2003 – 2008. Funding for some of these projects is secured, while funding for other projects is not. Detailed evaluation of future conditions should assume completion only of financially committed projects.

TABLE V-L
CURRENT 2003-2008 SIX YEAR TRANSPORTATION IMPROVEMENT PROGRAM (TIP)
2003—2008

TIP #	PROJECT TITLE	PROJECT EXPENDITURE (X \$1,000)						6-YEAR TOTAL
		2003	2004	2005	2006	2007	2008	
1	228th Ave SE, Phase 1C	3,530						3,530
2	228th Ave, NE 8th St – NE 12th St	500						500
3	244th Ave, Phase 1	50	700	3,000	3,500			7,250
4	Issaquah-Pine Lake Rd Extension	270	1,980					2,250
5	SE 24th St Walkway Project	688						688
6	Overlay program	250	250	250	250	250	250	1,500
7	244th Ave, Phase 2				500	1,700	6,000	8,200
8	Sidewalk projects	200	200	200	200	200	200	1,200
9	Intersection improvements	80	80	80	80	80	80	480
10	Neighborhood CIP	100	100	100	100	100	100	600
11	Street lighting program	10	10	10	10	10	10	60
12	Trossachs Blvd SE Extension						350	350
13	E Lake Sammamish Pkwy, Phase 1			150	240	2,150		2,540
14	GMA capital facilities program	15	15	15	15	15	15	90
15	Project development and pre-design	15	15	15	15	15	15	90
16	Mitigation and concurrency program	10	5	5	5	5	5	35
17	SE 20th St, 212th Ave – 228th Ave				300	3,000		3,300
18	212th Ave SE/Louis Thompson Rd			50	650			700
19	E Lk Sammamish Pkwy/SE 24th St						300	300
20	City entrance signs		5	5	5	5	5	25
21	Transit program		2,500	70	50	70	50	2,740
22	SE 8th/218th/4th, 212th Ave – 228th Ave		200	2,000				2,200
23	Sahalee Way NE, Phase 1				15	90	100	205
24	Sahalee Way NE, Phase 2					10	90	100
25	SR 202 with HOV	10						10
26	E Lk Sammamish Pkwy, Phase 2					100	200	300
27	E Lk Sammamish Pkwy, Phase 3					50	50	100
28	Roadway stability studies	75						75
Total		5,803	6,060	5,950	5,935	7,850	7,820	39,418

Existing Transit Service

Bus Service

King County Metro provides bus service to the City of Sammamish. Three bus routes currently serve the City, with service as summarized in **Table V-M**.

**TABLE V-M
EXISTING TRANSIT SERVICE FOR THE CITY OF SAMMAMISH**

ROUTE NUMBER	ROUTE DESCRIPTION	SERVICE	AVERAGE HEADWAY (MINUTES)	
			PEAK	MIDDAY
216	Service from Sahalee Way to Pine Lake to Issaquah to Mercer Island to downtown Seattle	Weekday AM and PM peak hours	30	–
269	Service from Issaquah Park-and-Ride to Sammamish Park-and-Ride to Bear Creek Park-and-Ride to Overlake	Weekday AM and PM peak hours	50 – 70	–
927	Service from Providence Point on Sammamish Plateau to Pine Lake to Issaquah Park-and-Ride and downtown Issaquah	Weekday	60 – 120	60 – 120
		Saturday	60 – 120	60 – 120

Route 216 utilizes a 42-seat coach. According to ridership statistics provided by King County Metro, Route 216 carries an average load per trip of 25 passengers in the morning and 19 passengers in the evening. The typical maximum load is comprised of 34 passengers in the morning and 36 passengers in the evening.

Route 269 utilizes an 18-seat coach. According to Metro’s ridership statistics, Route 269 carries an average load per trip of 9 passengers in the morning and 7 passengers in the evening. The typical maximum load is comprised of 15 passengers in the morning and 20 passengers in the evening.

Route 927 is a DART service operated by a contractor. Ridership information is not currently available for this route, which provides the only midday weekday service, as well as the only Saturday service, within the city limits.

Park-and-Ride Facilities

One park-and-ride facility is currently located within the City of Sammamish, which is a leased lot at Sammamish Hills Lutheran Church at SE 8th Street and 228th Avenue SE. The lot contains 100 parking spaces, and is served by the three transit routes described in the previous section.

The existing transit routes and location of the park-and-ride lot within the Sammamish city limits is shown in **Figure V-9**.

Outside of the city limits, the nearest park-and-ride lots to the south of the City of Sammamish are:

- Klahanie Park-and-Ride at SE Klahanie Boulevard and 244th Place SE, King County (30 spaces),
- Tibbitt’s Valley Park-and-Ride at 12th NW and Newport Way, Issaquah (94 spaces),
- Issaquah Park-and-Ride at SR 900 and Newport Way, Issaquah (397 spaces).

The 927 DART Route serves the Tibbitt's Park-and-Ride. The other park-and-ride lots are served by several Metro routes that provide service to North Bend, Snoqualmie, Fall City, Preston, Bellevue, Redmond, Factoria, Eastgate, Overlake, University of Washington, and downtown Seattle. Additionally, they are served by two Sound Transit routes, 554 and 555, that provide express bus service to Eastgate, Bellevue, Factoria, Mercer Island, Rainier and I-90, downtown Seattle, and Northgate.

The nearest park-and-ride lot to the north of the Sammamish city limits is:

- Bear Creek Park-and-Ride at 178th Place NE and NE Union Hill Road, Redmond (334 spaces).

Several Metro routes that provide service to Overlake, Bellevue, Kirkland, Woodinville, Carnation, Bothell, and downtown Seattle serve this lot. Additionally, two Sound Transit routes, 540 and 545, which provide express bus service to Kirkland, Overlake, Redmond, and the University of Washington, serve the lot.

Existing Non-Motorized Conditions

The Goals, Objectives and Policies of the Transportation Element emphasize provision of adequate facilities for recreational and commuter bicycling within the City of Sammamish. To that end, the City is currently developing the Sammamish Trails, Bikeways and Paths (TBP) Plan, with anticipated adoption in 2003. The TBP Plan schedule precludes it from being included in the Transportation Element. The adopted plan will significantly contribute to the non-motorized component of comprehensive transportation planning in the City.

Pedestrian facilities exist in Sammamish as sidewalks, walkways, and on many roads as shared facilities. According to the King County database, which reflects data collected from 1996 through 1999, a total of 72.7 miles of concrete sidewalk (one side) exists in Sammamish. This equates to roughly 25 percent of the existing roadway network having concrete sidewalk. For the remainder of the roadways, gravel or paved shoulders or the actual roadways provide for pedestrian transport. The majority of the existing concrete sidewalk is located within residential neighborhoods and subdivisions. According to the RNIS database, only 2 percent of the total estimated sidewalks are located along designated arterial streets. The TBP Plan, as described in the previous section, will also contain a significant pedestrian element.

Figure V-9
Existing Transit Service

Back of Figure V-9

PROJECTED NEEDS (FUTURE CONDITIONS)

In order to evaluate future transportation needs, forecasts must be made of future travel demand. Developing traffic forecasts for existing streets based on future land use allows the adequacy of the street system to be evaluated. Alternative land use and transportation improvements may then also be evaluated.

Travel Forecasting Model

For the City of Sammamish Transportation Element, a transportation computer model was developed to analyze future travel demand and traffic patterns. The major steps of the modeling process are as follows:

- Current Land Use Assessment,
- Trip Generation,
- Trip Distribution,
- Network Assignment,
- Model Calibration,
- Forecast of Future Land Use,
- Model of Future Traffic Conditions.

These general steps of the modeling process are described in the following sections, and the technical aspects of the model are described in detail in the Traffic Forecasting Model Documentation Report (EarthTech 2003), which has been produced for the City as a supplemental document to the Comprehensive Plan.

Current Land Use Assessment

The primary method of determining future travel demand is based on future land use patterns and community growth. The entire study area is divided into Transportation Analysis Zones (TAZs) that have similar land use characteristics. The TAZ boundaries that were established for the City of Sammamish travel-forecasting model are shown in **Figure V-10**. For each zone, land use characteristics of population and employment were estimated based on the City of Sammamish Comprehensive Land Use Plan and discussions with City staff. In order to establish an accurate base map of existing land use, consultants to the City began with the King County Assessor records, supplemental aerial photos, and field verification of a subset of lots. City staff compiled unit counts of multi-family dwellings and commercial building square feet based on King County records supplemented with some field review. A summary of the existing land use is included in **Appendix E** of this Comprehensive Plan.

Trip Generation

The trip generation step estimates the total number of trips produced by and attracted to each TAZ in the study area. The trips are estimated using statistical data that take into account population and household characteristics, employment information, economic model output, and land-use information. Trips generated are categorized by their general purpose, which are:

- Home-based-work: any trip with home as one end and work as the other end
- Home-based-other: any non-work trip with home as one end

- Non-home-based: any trip that does not have home at either end

The trip generation model generally estimates the number of trips that are generated per household or non-residential square feet during the analysis period for each of the purposes under consideration. For its output, the trip generation model estimated the total number of trips produced in each TAZ and the total number of trips attracted to each TAZ, categorized by trip purpose.

Trip Distribution

The trip distribution step allocates the trips estimated by the trip generation model to create a specific zonal origin and destination for each trip. This is accomplished through use of the gravity model, which distributes trips according to two basic assumptions: (1) more trips will be attracted to larger zones (the size of a zone is defined by the number of attractions estimated in the trip generation phase, not the geographical size), and (2) more trip interchanges will take place between zones that are closer together than the number that will take place between zones that are farther apart. The result is a trip matrix (for each of the trip purposes specified in trip generation) that estimates how many trips are taken from each zone to every other zone. The trips are often referred to as trip interchanges.

Network Assignment

The arterial street system is coded into the computer model as a series of links that represent roadways and nodes that represent the intersection of those roadways. Each roadway link and intersection node is entered into the model with an assigned a functional classification, with associated characteristics such as length, capacity, and speed. This information is then used to determine the optimum path between all the zones based on travel time and distance. A model then distributes the trips from each of the zones onto the street network.

The estimated trips are assigned to the transportation network using an incremental assignment process. This means that the total traffic is assigned to the network, one increment at a time. The paths for the assigned vehicles are those that reflect the best travel time between each origin and destination. After a portion of the vehicles is assigned, the zone-to-zone travel times with the additional traffic are recalculated. The next increment of traffic is assigned to the network, and the optimal paths are determined based upon the adjusted travel times. The zone-to-zone travel times are calculated again, reflecting the added traffic. The cycle of network assignment and travel time recalculation is repeated, until all vehicles have been assigned to the roadway network. The result is a computerized road network with traffic volumes calculated for each segment of roadway, which takes into account the effects of increasing traffic congestion on the system.

Model Calibration

A crucial step in the modeling process is the calibration of the model. This is accomplished by taking the existing street system defined as a model network and applying trip patterns based on existing land use. This information is then compared to existing traffic counts to see if the information reproduces accurate conditions. Adjustments are made to the model inputs until the modeled existing conditions replicate actual existing conditions, within accepted parameters. Once the model is calibrated for existing conditions, it can be used as the basis for analyzing future traffic conditions, as well as potential improvements to address existing and future deficiencies.

Figure V-10
Transportation Analysis Zones

Back of Figure V-10

Forecast of Future Land Use

Once the transportation model was calibrated, future land use or alternative transportation systems were evaluated. The transportation impacts of five future land use alternatives were tested. The No Action, Preferred and Preferred plus Special Study Area land use alternatives are summarized in **Appendix I**. The Final land use and 3000 scenario alternatives are summarized below:

Final Comprehensive Plan Land Use

A final land use plan was developed after public comment and deliberation by the City Council. The Plan (July 2003) targets future commercial growth and mixed-use development in three designated community centers, the Inglewood and Pine Lake Centers and Sammamish Commons. It includes the development of a City Hall and City Park project as a key gathering place, in accordance with an approved master plan, in the Sammamish Commons. The Plan focuses on the protection of the character and development patterns in existing single-family neighborhoods in outlying areas, and the protection of particularly environmentally sensitive areas. In capacity, the plan would support approximately 5,383 dwellings.

An additional land use scenario was developed only for assessment in the Transportation Element:

- The 3000 Scenario reflects partial development of the buildable land within the City of Sammamish. Rather than the 5000+ residential units that are planned in the Final land use alternative, this scenario assumes the addition of approximately 3,136 residential units to existing development. The distribution of the approximately 3,136 units was determined by assuming completion of all development in the permit pipeline, and the infill of one home per vacant lot. The 3000 Scenario allows analysis of the intermediate impacts of additional development on the transportation system. It also approximately reflects the City's 20-year planning growth target.

The land use alternatives were prepared for each TAZ, which was input into the model to obtain an assessment of the impact of the possible land use alternatives on the transportation system. A summary of the future land use forecasts is included in **Appendix E** of this Comprehensive Plan.

Model of Future Traffic Conditions

Once future land use conditions were input, the model was run to forecast PM peak hour traffic conditions that are expected to result from the projected land use. The PM peak hour is modeled since it is the most congested time of day. However, since the segment analysis requires projected daily traffic volumes, the PM peak hour volumes had to be converted to AWDT volumes. The conversion to daily volumes was accomplished by applying a post-processing method, based primarily upon application of a peak-to-daily conversion factor. The method that was used to estimate the AWDT volumes is described in **Appendix F** of this Comprehensive Plan.

Level-of-Service Analysis for Future Conditions

Table V-N lists the future improvements that were assumed to be in place for analysis of future conditions. This list presents those projects for which funding is secure, so they are assumed to be completed. In addition to financially committed projects from the City TIP (**Table V-L**), this table also presents County and State projects with committed funding.

TABLE V-N
COMMITTED CAPITAL IMPROVEMENT PROJECTS (CIP)

LOCATION	CIP IMPROVEMENT
228th Ave NE and NE 12th St	Traffic signal added
228th Ave NE and SE 4th St	Traffic signal added
244th Ave NE and Redmond-Fall City Road (SR 202)	Traffic signal added (King County project)
228th Ave NE and Main St	Traffic signal added
Trossachs Blvd and SE Duthie Hill Rd	Traffic Signal added (King County project)
228th Ave – Issaquah-Pine Lake Rd to NE 12th St	Completion of improvement to 5 lanes
228th Ave SE and SE 8th St	Addition of west leg to intersection (at future Civic Center)
Issaquah-Pine Lake Rd and SE 32nd Way	Roundabout added
SR 202 from E Lake Sammamish Pkwy to Sahalee Way	Completion of improvement to 5 lanes (WSDOT project)
Issaquah-Pine Lake Rd and Issaquah-Fall City Rd	Added south leg spur connection from Sunset Interchange (King County project)

Table V-O summarizes the intersection LOS expected under the 3000 scenario land use alternative - if no additional transportation improvements are made beyond the committed CIP. The LOS for the alternative is additionally illustrated in **Figure V-11**.

Figure V-11
2022 LOS – Committed Transportation Improvements – 3000 Scenario Land Use

Back of Figure V-11

The committed improvements listed in **Table V-N** address most of the deficiencies identified in the existing conditions analysis, primarily through the replacement of TWSC intersections with traffic signals, and the widening of SR 202. However, analysis shows that the increase in traffic resulting from additional development would cause heavy congestion at other locations, if no additional improvements were made. Additional TWSC intersections expected to degrade to congested conditions include E Lake Sammamish Parkway NE at Louis Thompson Road NE, SE Duthie Hill Road at SE Issaquah-Beaver Lake Road, and E Lake Sammamish Parkway SE at SE 24th Way. The two access intersections outside the city limits that are congested under existing conditions, the intersections of E Lake Sammamish Parkway with SR 202 to the north and SE Issaquah-Fall City Road to the south, would remain congested. Analysis indicates that the intersection of E Lake Sammamish Pkwy and Inglewood Road, which is already signalized, would also be highly congested.

Table V-P summarizes the concurrency status for each of the 45 roadway segments, under the 3000 scenario land use alternative with only committed improvements, based upon the policy-defined AWDT thresholds previously described. Measuring the forecasted volumes against the policy-defined segment concurrency thresholds, six segments will fail under the 3000 scenario land use alternative, if no additional improvements are made. These are defined as future deficiencies. Three have been previously identified as existing deficiencies, and the remaining three are do to new development.

TABLE V-O
ESTIMATED INTERSECTION LOS FOR 3000 SCENARIO LAND USE ALTERNATIVE - PM PEAK HOUR -
COMMITTED IMPROVEMENTS ONLY

	INTERSECTION	LOS STANDARD ¹	TRAFFIC CONTROL ²	3000 SCENARIO	
				Delay ³ (sec)	LOS ⁴
1	228th Ave NE and NE 12th St	D	S	9	A
2	Sahalee Way NE and NE 37th St	D	S	18	B
3	Sahalee Way NE and NE Redmond-Fall City Rd (SR 202)	D	S	23	C
4	228th Ave NE and SE 4th St	D	S	7	A
5	228th Ave NE and SE 8th St	D	S	9	A
6	228th Ave NE and SE 20th St	D	S	9	A
7	228th Ave NE and SE 24th St	D	S	10	A
8	228th Ave SE and Issaquah Pine-Lake Rd SE	D	S	12	B
9	Issaquah-Pine Lake Rd SE and SE Klahanie Blvd	D	S	17	B
10	E Lk Sammamish Pkwy NE and NE Inglewood Hill Rd	C	S	50	D*
11	E Lk Sammamish Pkwy SE and 212th Way SE	C	S	7	A
12	Issaquah-Pine Lake Rd SE and SE Issaquah-Fall City Rd	D	S	40	D
13	228th Ave NE and NE 8th St (NE Inglewood Hill Rd)	D	S	24	C
14	192nd Dr NE and NE Redmond-Fall City Rd (SR 202)	D	S	8	A
15	244th Ave NE and NE Redmond-Fall City Rd (SR 202)	D	S	22	C
16	Issaquah-Pine Lake Rd SE and SE 32nd Way	D	RAB	62% ⁵	B
17	E Lk Sammamish Pkwy NE and Louis Thompson Rd NE	C	TWSC	39	E*
18	212th Ave SE and SE 20th St	C	TWSC	12	B
19	SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd	D	TWSC	176	F*
20	Trossachs Blvd SE and SE Duthie Hill Rd	D	S	6	A
21	E Lk Sammamish Pkwy SE and SE 24th Way	C	TWSC	43	E*
22	244th Ave NE and NE 8th St	C	AWSC	8	A
23	E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202) ⁶	D	S	155	F*
24	E Lk Sammamish Pkwy SE and SE 56th St ⁶	D	S	89	F*

25	E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd ⁶	D	S	30	C
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1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.
2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled.
3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.
4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (*) denotes an LOS below the defined standard, indicating that the intersection is considered deficient.
5. Roundabout LOS is calculated using the Intersection Capacity Utilization (ICU) method.⁶ These intersections are outside the City of Sammamish.

**TABLE V-P
SEGMENT CONCURRENCY STATUS – 3000 SCENARIO LAND USE - COMMITTED
IMPROVEMENTS ONLY**

SEGMENT	ROADWAY CHARACTERISTICS WITH COMMITTED IMPROVEMENTS							Concurrency Threshold	FUTURE LAND USE ALTERNATIVES 3000	
	Functional Class	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	Median	Walkway Bikeway	AWDT		Fails	
1	E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point)	Minor Arterial	2	11	5	None	None	17,370	24,000	X
2	E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl	Minor Arterial	2	11	5	None	None	17,370	22,500	X
3	E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd	Minor Arterial	2	11	5	None	None	17,370	22,500	X
4	E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd	Minor Arterial	2	11	5	None	None	17,370	14,700	
5	E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St	Minor Arterial	2	11	5	None	None	17,370	12,200	
6	E Lk Sammamish Pkwy, SE 8th St – SE 24th Wy	Minor Arterial	2	11	5	None	None	17,370	12,100	
7	E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE	Minor Arterial	2	11	5	None	None	17,370	15,200	
8	E Lk Sammamish Pkwy, 212th Ave SE – City Limit	Minor Arterial	2	11	5	None	None	17,370	19,500	X
9	SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE	Collector	2	10	1	None	None	9,420	-	
10	SE 24th St, 200th Ave SE – 212th Ave SE	Collector	2	10	1	None	None	9,420	-	
11	Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St	Collector	2	10	2	None	None	9,820	3,500	
12	212th Ave SE, SE 8th St – SE 20th St	Collector	2	10	2	None	None	9,820	3,300	
13	212th Ave SE, SE 20th St – SE 32nd St	Collector	2	11	3	None	None	11,350	3,300	
14	212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy	Collector	2	11	1	None	None	10,550	4,300	
15	NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE	Minor Arterial	2	11	4	None	None	16,790	12,000	
16	NE Inglewood Rd, 216th Ave NE – 228th Ave NE	Minor Arterial	2	11	5	None	None	17,370	11,600	
17	SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St	Collector	2	10	1	None	None	9,420	-	
18	SE 4th St, 218th Ave SE – 228th Ave SE	Collector	2	10	1	None	None	9,420	1,300	
19	SE 20th St, 212th Ave SE – 219th Pl SE	Collector	2	11	2	None	None	10,950	4,600	
20	SE 20th St, 219th Pl SE – 228th Ave SE	Collector	2	11	3	None	None	11,350	4,600	
21	Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE	Principal Arterial	2	11	4	None	None	16,790	14,600	
22	Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way	Principal Arterial	2	11	4	None	None	16,790	11,700	
23	228th Ave, NE 25th Way – NE 12th St	Principal Arterial	2	11	5	None	None	17,370	11,700	
24	228th Ave, NE 12th St – SE 4th St ¹	Principal Arterial	4	11	None	Median	Walkway	34,950	23,900	
25	228th Ave, SE 4th St – SE 20th St ²	Principal Arterial	4	11	None	Median	Walkway	34,950	27,600	

26	228th Ave, SE 20th St – Issaquah Pine Lake Rd SE Ave	Principal Arterial	4	11	None	Median	Walkway	34,950	30,500	
27	228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way Ave	Principal Arterial	2	11	4	Left-Turn Lane	None	21,430	15,200	
28	NE 8th St, 228th Ave NE – 244th Ave NE	Minor Arterial	2	11	4	Left-Turn Lane	Walkway	21,430	8,100	
29	SE 8th St, 228th Ave SE – 244th Ave SE	Collector	2	11	None	Left-Turn Lane	Walkway / Bikeway	15,390	11,100	
30	SE 24th St, 228th Ave SE – 244th Ave SE	Collector	2	11	1	None	None	10,550	4,700	
31	SE 24th St, 244th Ave SE – W Beaver Lk Dr SE	Collector	2	11	1	None	None	10,550	-	
32	Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way	Principal Arterial	4	11	4	None	None	31,480	20,200	
33	Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd	Principal Arterial	2	11	4	None	None	16,790	17,300	X
34	Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St	Principal Arterial	2	11	4	None	None	16,790	25,500	X
35	244th Ave NE, NE 30th Pl – NE 20th St	Minor Arterial	2	11	1	None	None	15,050	5,200	
36	244th Ave NE, NE 20th St – NE 8th St	Minor Arterial	2	11	1	None	None	15,050	4,500	
37	East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St ³	Minor Arterial	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
38	East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St ³	Minor Arterial	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
39	244th Ave NE, SE 24th St – SE 32nd Way	Minor Arterial	2	11	2	None	None	15,630	3,400	
40	SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE	Minor Arterial	2	11	4	None	None	16,790	7,300	
41	SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE	Minor Arterial	2	11	4	None	None	16,790	6,100	
42	Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd	Minor Arterial	2	11	6	None	None	17,950	4,000	
43	SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE	Principal Arterial	2	11	4	None	None	16,790	15,000	
44	SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE	Principal Arterial	2	11	4	None	None	16,790	15,000	
45	Trossachs Blvd SE, SE 9th St – SE Duthie Hill Rd	Collector	2	12	None	None	Walkway	13,680	6,400	

1. The four-lane width represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228th Avenue between SE 8th Street and SE 12th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244th Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segments.

Recommended Plan

Based upon evaluation of existing conditions, estimation and evaluation of future conditions that result from the adopted final land use alternative, and the concurrency standards and priorities stated by the City, the Recommended Plan contains the following elements:

- Recommended Transportation Improvements
- Functional Classification Assessment
- Connectivity Assessment
- Roadway Design Guidelines
- Traffic Calming Program
- Transportation Demand Management
- Transit Service and Facilities
- Non-Motorized Facilities

Recommended Transportation Improvements

Recommended Projects

Based upon the analysis of existing and projected future roadway conditions, and an evaluation of potential improvements, a list of recommended projects was developed for the 20-year planning horizon. The total list of projects is summarized in **Table V-Q**.

Planning level estimates were prepared for each of the projects under consideration. The cost estimates (in current dollars) are included as **Appendix G** of this Plan. Estimates were prepared for roadway segments based on a generic three-lane 36-foot wide roadway, with 5-foot bicycle lanes, 5.5-foot planter strips, and 6-foot sidewalks on both sides. Additions for retaining walls were included when topography deemed it appropriate. The financially constrained (funded) plan includes the recommended projects that add up to the estimated total 20-year revenue of \$170,269,000 (which is presented in more detail later in this section). The funded plan requires the passage of General Obligation Bonds or development of some other funding source.

Table V-Q shows which projects are necessary to meet concurrency requirements, based upon the policy-defined AWDT thresholds. Under the Concurrency Project column in the table, “Existing” indicates that by the defined concurrency standards, the project addresses deficiencies already in existence. “3000” concurrency projects address deficiencies that occur at the 3000- scenario land use development level. (Note projects labeled, as 3000 would also be concurrency projects under the final land use alternative.)

**TABLE V-Q
SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS**

PROJECT #	2003-2008 TIP PRIORITY #	LOCATION	IMPROVEMENT	CONCURRENCY PROJECT ²	PRIORITY CRITERIA ³					PROJECT COST (Current Dollars)	TOTAL COST (Current Dollars)
					City Access	Concurrency	Traffic Flow	Quality of Life	Non-motorized		
1		I-90 and SR 202 access improvements ¹			✓					\$6,000,000	\$6,000,000
2	13	E Lake Sammamish Pkwy - NE 187th Ave to Inglewood Hill Rd	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	✓existing (Segments 1 – 3)	✓					\$30,002,000 \$28,612,000	\$34,612,000
3		E Lake Sammamish Pkwy - 212th Ave SE to SE 43rd Way	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	✓3000 (Segment 8)	✓					\$2,400,000 \$2,375,000	\$36,987,000
4		Issaquah-Pine Lake Rd - SE Klahanie Blvd to City Limit	Widen to 5 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	✓3000 (Segment 34)	✓					\$4,800,000 \$4,841,000	\$41,828,000
5		Issaquah-Pine Lake Rd - SE 32nd Way to SE Klahanie Blvd	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	✓3000 (Segment 33)	✓					\$4,800,000 \$4,283,000	\$46,111,000
6		244th Ave NE - City Limit to NE 8th St	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 35 & 36)	✓					\$7,077,000	\$53,188,000
7	23 24	Sahalee Way - City Limit to 220th Ave NE	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 21) "build out"	✓					\$10,140,000 \$7,837,000	\$61,025,000
8	23 24	Sahalee Way - 220th Ave NE to NE 25th Way	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 22) "build out"	✓					\$3,496,000	\$64,521,000
9		228th Ave NE - NE 25th Way to NE 12th St	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 23)	✓					\$4,550,000 \$3,496,000	\$68,017,000
10		228th Ave SE – Issaquah-Pine Lake Rd to City Limit	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 27)	✓					\$1,748,000	\$69,765,000
11	16	Mitigation and Concurrency Program	Provides partial funding to create and maintain programs required to operate on-going transportation mitigation and concurrency programs			✓				\$105,000	\$69,870,000
12		E Lake Sammamish Pkwy and Inglewood Hill Rd	Add protected right turn arrow to westbound signal, and optimize phasing	(Intersection 10)		✓				\$48,000	\$69,918,000
13		E Lake Sammamish Pkwy and Louis Thompson Rd	Install traffic signal	✓at mid range – 3000 (Intersection 17)		✓				\$450,000 \$367,000	\$70,285,000
14	19	E Lake Sammamish Pkwy and SE 24th Way	Install traffic signal	✓at mid range – 3000 (Intersection 21)		✓				\$550,000 \$367,000	\$70,652,000

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**TABLE V-Q
SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS**

PROJECT #	2003-2008 TIP PRIORITY #	LOCATION	IMPROVEMENT	CONCURRENCY PROJECT ²	PRIORITY CRITERIA ³					PROJECT COST (Current Dollars)	TOTAL COST (Current Dollars)
					City Access	Concurrency	Traffic Flow	Quality of Life	Non-motorized		
15		Duthie Hill Rd and Issaquah-Beaver Lake Rd	Install traffic signal	✓ at mid range – 3000 (Intersection 19)	✓					\$450,000 \$367,000	\$71,019,000
16	26	E Lake Sammamish Pkwy - Inglewood Hill Rd to Louis Thompson Rd	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 4)	✓					\$4,793,000	\$75,887,000
17	27	E Lake Sammamish Pkwy – SE 24 th Way to 212 th Ave SE	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 7)	✓					\$5,701,000	\$81,588,000
18		Duthie Hill Rd - Issaquah-Beaver Lake Rd to Trossachs Blvd	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segments 43 and 44)	✓					\$4,808,000	\$86,396,000
19	5, 8	Sidewalk Projects	Various sidewalk projects that include gap projects, extensions, and safety improvements. Cost includes the SE 24th St Walkway Project, which will create continuous links between schools and parks				✓			\$6,638,000	\$93,034,000
20	28	Roadway Stability Study and Maintenance Program	Analyze the geotechnical stability of roadway bases and adjacent slopes in areas where significant slides, movement, and settling are occurring				✓			\$1,575,000	\$94,609,000
21	6	Asphalt Overlay Program	Provides for construction cost of the City's annual street overlay program and other maintenance and rehabilitation projects				✓			\$5,700,000	\$100,309,000
22	21	Transit Program	Provides funding for some capital project matching funds, consultant assistance, and/or salary to City Staff for working with local transit agencies to secure transit services and facilities				✓			\$920,000	\$101,229,000
23	10	Neighborhood CIP	Various capital projects including safety improvements, gap projects, bicycle routes, pedestrian enhancements, and school zone safety improvements				✓			\$4,000,000	\$105,229,000
24	11	Street Lighting Program	Provide street lighting at high priority locations with significant safety issues that can be addressed through better street				✓			\$210,000	\$105,439,000

**TABLE V-Q
SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS**

PROJECT #	2003-2008 TIP PRIORITY #	LOCATION	IMPROVEMENT	CONCURRENCY PROJECT ²	PRIORITY CRITERIA ³					PROJECT COST (Current Dollars)	TOTAL COST (Current Dollars)
					City Access	Concurrency	Traffic Flow	Quality of Life	Non-motorized		
			lighting								
25		Traffic Spot Improvements					✓			\$850,000	\$106,289,000
26		Beaver Lake Drive upgrade	Safety improvements including shoulder widening, sidewalks, and guardrail.				✓			\$1,100,000	\$107,389,000
27	9	Intersection Improvements					✓			\$2,060,000	\$109,449,000
28	14	GMA Capital Facilities Program	Provides funding for the development and annual updating of a Capital Facilities Program tied to the City's Comprehensive Land Use Plan				✓			\$300,000	\$109,749,000
29		Transportation Planning ⁴				✓				\$600,000	\$110,349,000
30		NE 8th St - 228th Ave NE to 244th Ave NE	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 28)			✓			\$4,633,000	\$114,982,000
31	3	East Sammamish/244th Ave Corridor – NE 8th St to SE 8th St	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 37)			✓			\$5,439,000	\$120,421,000
32		Issaquah-Pine Lake Rd Ext – 228th Ave SE to 224th Pl SE	2 lane road section w/ 3 lane approach to 228 th Ave With right-in, right-out at 22nd				✓			\$1,404,000	\$121,825,000
33		Inglewood Hill Rd - E Lake Sammamish Pkwy to 216th Ave NE	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 15)			✓			\$6,312,000	\$128,137,000
34		Inglewood Hill Rd - 216th Ave NE to 228th Ave NE	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 16)			✓			\$3,846,000	\$131,983,000
36	18	Louis Thompson Rd - E Lake Sammamish Pkwy to 212th Ave	Improve 2 lanes with left turn pockets, curb, gutter, and sidewalk	(Segment 11)			✓			\$6,279,000	\$138,262,000
37	18	212th Ave - Louis Thompson Rd to 212th Way SE (Snake Hill)	Improve 2 lanes with left turn pockets, curb, gutter, and sidewalk	(Segment 12 & 13)			✓			\$6,744,000	\$145,006,000
38	18	212th Way SE (Snake Hill) - 212th Ave to E Lake Sammamish Pkwy	Improve 2 lanes with left turn pockets, curb, gutter, and sidewalk	(Segment 14)			✓			\$6,495,000	\$151,501,000
39	22	SE 8th St/218th Ave SE/SE 4th St	Widen to 3 lanes with curb, gutter, and sidewalk	(Segment 17)			✓			\$4,783,000	\$156,284,000
40	17	SE 20th St - 212th Ave SE to 228th Ave SE	Widen to 3 lanes with curb, gutter, and sidewalk and signal at 212th	(Segment 19 & 20)			✓			\$4,190,000	\$160,474,000

**TABLE V-Q
SUMMARY OF RECOMMENDED TRANSPORTATION IMPROVEMENTS**

PROJECT #	2003-2008 TIP PRIORITY #	LOCATION	IMPROVEMENT	CONCURRENCY PROJECT ²	PRIORITY CRITERIA ³					PROJECT COST (Current Dollars)	TOTAL COST (Current Dollars)
					City Access	Concurrency	Traffic Flow	Quality of Life	Non-motorized		
41	12	Trossachs Blvd Ext to E Main Dr	2 lane road section with curb, gutter, and sidewalk				✓			\$4,075,000	\$164,549,000
42	26	E Lake Sammamish Pkwy - Louis Thompson Rd to SE 8th St	Widen to 3 lanes with 5-ft bike lanes, curb, gutter, and sidewalk	(Segment 5)			✓			\$4,409,000	\$168,958,000
43		Trossachs Blvd SE to Beaver Lake Dr SE	2 lane road section with curb, gutter, and sidewalk						✓	\$365,000	\$165,232,000
44		NE 20th St - 236th Ave NE to 244th Ave NE	2 lane road section with curb, gutter, and sidewalk						✓	\$1,636,000	\$170,959,000
45		NE 42nd St to 192nd Way NE (Hidden Ridge to Sahalee)	2 lane road section with curb, gutter, and sidewalk						✓	-	\$170,959,000
<u>46</u>		<u>251st Avenue Extension</u>	<u>2 lane road section with curb, gutter, and sidewalk</u>						✓	<u>\$975,000</u>	

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1. The \$6 million Interlocal agreement fund finances work on roadways outside the City of Sammamish such as Sahalee Way from SR 202 to the city limits, SR 202 if not funded by WSDOT, and appropriate roadways in Issaquah.
2. Check indicates that project addressed identified deficiency that is either existing, mid-range (occurs at 3000 development level) or long-range (occurs at build out of preferred or no action land use scenarios). Deficiency identification is based upon adopted AWDT thresholds for segment concurrency analysis. Where applicable, the segment location as illustrated in Figure V-6 is shown in parentheses.
3. Check indicates most significant priority criteria under which project fits (project may additionally fit under other priority criteria)
4. "Transportation Planning" cost includes cost of two Transportation Plan updates, and TIP project development and pre-design.

LOS Analysis with Recommended Improvements

The recommended projects included in the funded plan are illustrated in **Figure V-12**. This list was developed after review of concurrency requirements; need to address access to and from the city and public comment for additional improvements on substandard or important roadways. However, only those projects failing concurrency requirements must be pursued.

Build Out Alternative

Table V-R summarizes the expected levels-of-service at the 25 designated major intersections with the recommended transportation improvements in place, for the Proposed Final Comprehensive Plan. Analysis shows that 23 of the 25 intersections are expected to operate at an LOS at or better than the intersection concurrency thresholds. The two congested intersections are located at access points outside the city limits, E Lake Sammamish Parkway and SR 202 to the north, and E Lake Sammamish Parkway and SE 56th Street to the south. Addressing the deficiencies at these locations will require collaboration with the Cities of Redmond and Issaquah, within whose jurisdictions these two intersections are respectively located. The intersection LOS for the Proposed Final land use is illustrated in **Figure V-13**.

Table V-S summarizes the roadway segment concurrency status for the Proposed Final land use, with the recommended transportation improvements in place. The table shows that the improvements address all identified future deficiencies.

3000 Scenario

Table V-R summarizes the expected levels-of-service at the 25 designated major intersections with the recommended transportation improvements in place, for the 3000 scenario land use alternative. Analysis shows that 23 of the 25 intersections are expected to operate at an LOS at or better than the intersection concurrency thresholds. The two congested intersections are located at access points outside the city limits, E Lake Sammamish Parkway and SR 202 to the north, and E Lake Sammamish Parkway and SE 56th Street to the south. Addressing the deficiencies at these locations will require collaboration with the Cities of Redmond and Issaquah, within whose jurisdictions these two intersections are respectively located. The intersection LOS for the 3000 Scenario is illustrated in **Figure V-14**.

Table V-S summarizes the roadway segment concurrency status for the 3000 Scenario, with the recommended transportation improvements in place. The table shows that the improvements address all identified future deficiencies.

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Figure V-13
2022 LOS Recommended Transportation Improvements, Final Land Use

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Figure V-14
2022 LOS – Recommended Transportation Improvements – 3000 Land Use

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**TABLE V-R
ESTIMATED INTERSECTION LOS FOR THE 3000 SCENARIO AND FINAL LAND USE – PM PEAK HOUR – WITH RECOMMENDED IMPROVEMENTS**

	INTERSECTION	LOS STANDARD ¹	TRAFFIC CONTROL ²	3000 SCENARIO		FINAL	
				Delay ³ (sec)	LOS ⁴	Delay ³ (sec)	LOS ⁴
1	228th Ave NE and NE 12th St	D	S	9	A	10	A
2	Sahalee Way NE and NE 37th St	D	S	16	B	18	B
3	Sahalee Way NE and NE Redmond-Fall City Rd (SR 202)	D	S	18	B	11	B
4	228th Ave NE and SE 4th St	D	S	6	A	9	A
5	228th Ave NE and SE 8th St	D	S	15	B	19	B
6	228th Ave NE and SE 20th St	D	S	11	B	10	B
7	228th Ave NE and SE 24th St	D	S	11	B	15	B
8	228th Ave SE and Issaquah Pine-Lake Rd SE	D	S	28	C	45	D
9	Issaquah-Pine Lake Rd SE and SE Klahanie Blvd	D	S	9	A	9	A
10	E Lk Sammamish Pkwy NE and NE Inglewood Hill Rd	C	S	11	B	14	B
11	E Lk Sammamish Pkwy SE and 212th Way SE	C	S	8	A	8	A
12	Issaquah-Pine Lake Rd SE and SE Issaquah-Fall City Rd	D	S	31	C	35	C
13	228th Ave NE and NE 8th St (NE Inglewood Hill Rd)	D	S	20	C	25	C
14	192nd Dr NE and NE Redmond-Fall City Rd (SR 202)	D	S	9	A	9	A

**TABLE V-R
ESTIMATED INTERSECTION LOS FOR THE 3000 SCENARIO AND FINAL LAND USE – PM PEAK HOUR – WITH RECOMMENDED IMPROVEMENTS**

	INTERSECTION	LOS STANDARD ¹	TRAFFIC CONTROL ²	3000 SCENARIO		FINAL	
				Delay ³ (sec)	LOS ⁴	Delay ³ (sec)	LOS ⁴
15	244th Ave NE and NE Redmond-Fall City Rd (SR 202)	D	S	24	C	24	C
16	Issaquah-Pine Lake Rd SE and SE 32nd Way	D	RAB	61% ⁴	B	66% ⁴	B
17	E Lk Sammamish Pkwy NE and Louis Thompson Rd NE	C	TWSC	12	B	12	B
18	212th Ave SE and SE 20th St	C	TWSC	12	B	7	A
19	SE Duthie Hill Rd and SE Issaquah-Beaver Lake Rd	D	TWSC	10	A	10	B
20	Trossachs Blvd SE and SE Duthie Hill Rd	D	S	11	B	11	B
21	E Lk Sammamish Pkwy SE and SE 24th Way	C	TWSC	9	A	9	A
22	244th Ave NE and NE 8th St	C	AWSC	14	B	7	A
23	E Lk Sammamish Pkwy NE and NE Redmond-Fall City Rd (SR 202)	D	S	114	F	121	F
24	E Lk Sammamish Pkwy SE and SE 56th St	D	S	87	F	95	F
25	E Lk Sammamish Pkwy SE and SE Issaquah-Fall City Rd	D	S	32	C	49	D

1. LOS standards are based upon the functional classifications of the intersecting roadways. Intersections that include Principal Arterials have a standard of LOS D. Intersections that include Minor Arterials or Collectors have a standard of LOS C.
2. Intersections: S=signalized; TWSC=two-way stop-controlled; AWSC=all-way stop-controlled
3. Delay is measured in seconds per vehicle. At S and AWSC intersections, it represents average delay for all movements in the intersection. For TWSC intersections, it represents average delay for the minor leg movements. Analysis is based on 2002 traffic counts.
4. LOS is the level-of-service based on the methodology outlined in the Highway Capacity Manual (HCM 2000). (*) Denotes an LOS below the defined standard, indicating that the intersection is considered deficient.
5. Roundabout LOS is calculated using the Intersection Capacity Utilization (ICU) method.

TABLE V-S
SEGMENT CONCURRENCY STATUS FOR 3000 SCENARIO AND FINAL ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS

SEGMENT	PROPOSED ROADWAY CHARACTERISTICS							3000 SCENARIO		FINAL	
	Functional Class	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	Median	Walkway Bikeway	Concurrency Threshold	AWDT	Fails	AWDT	Fails
1 E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point)	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	20,200		21,400	
2 E Lk Sammamish Pkwy, 196th Ave NE – NE 26th Pl	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	18,700		20,000	
3 E Lk Sammamish Pkwy, NE 26th Pl – NE Inglewood Hill Rd	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	18,600		20,000	
4 E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	11,700		11,900	
5 E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	8,900		8,900	
6 E Lk Sammamish Pkwy, SE 8th St – SE 24th Way	Minor Arterial	2	11	5	None	None	17,370	8,700		8,600	
7 E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	11,900		11,800	
8 E Lk Sammamish Pkwy, 212th Ave SE – City Limit	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	16,100		16,400	
9 SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE	Collector	2	10	1	None	None	9,420	-		2,500	
10 SE 24th St, 200th Ave SE – 212th Ave SE	Collector	2	10	1	None	None	9,420	-		1,900	
11 Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St	Collector	2	11	5	None	Walkway	12,150	3,700		3,600	
12 212th Ave SE, SE 8th St – SE 20th St	Collector	2	11	5	None	Walkway	12,150	3,400		3,900	
13 212th Ave SE, SE 20th St – SE 32nd St	Collector	2	11	5	None	Walkway	12,150	3,400		3,900	
14 212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy	Collector	2	11	5	None	Walkway	12,150	4,300		4,600	
15 NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	9,700		11,100	
16 NE Inglewood Rd, 216th Ave NE – 228th Ave NE	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	11,100		13,100	

**TABLE V-S
SEGMENT CONCURRENCY STATUS FOR 3000 SCENARIO AND FINAL ALTERNATIVES WITH RECOMMENDED
IMPROVEMENTS**

SEGMENT	PROPOSED ROADWAY CHARACTERISTICS							3000 SCENARIO		FINAL	
	Functional Class	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	Median	Walkway Bikeway	Concurrency Threshold	AWDT	Fails	AWDT	Fails
17 SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St	Collector	2	11	None	Left-Turn Lane	Walkway	15,390	-		2,200	
18 SE 4th St, 218th Ave SE – 228th Ave SE	Collector	2	11	None	Left-Turn Lane	Walkway	15,390	1,500		4,000	
19 SE 20th St, 212th Ave SE – 219th Pl SE	Collector	2	11	5	Left-Turn Lane	Walkway	15,390	5,200		5,400	
20 SE 20th St, 219th Pl SE – 228th Ave SE	Collector	2	11	5	Left-Turn Lane	Walkway	15,390	5,200		5,400	
21 Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE	Principal Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	15,700		17,000	
22 Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way	Principal Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	12,800		14,200	
23 228th Ave, NE 25th Way – NE 12th St,	Principal Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	12,800		14,200	
24 228th Ave, NE 12th St – SE 4th St ¹	Principal Arterial	4	11	None	Median	Walkway	34,950	20,700		24,700	
25 228th Ave, SE 4th St – SE 20th St ²	Principal Arterial	4	11	None	Median	Walkway	34,950	28,300		30,900	
26 228th Ave, SE 20th St – Issaquah Pine Lake Rd SE	Principal Arterial	4	11	None	Median	Walkway	34,950	30,900		34,600	
27 228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way	Principal Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	15,200		17,400	
28 NE 8th St, 228th Ave NE – 244th Ave NE	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	12,300		12,600	
29 SE 8th St, 228th Ave SE – 244th Ave SE	Collector	2	11	5	Left-Turn Lane	Walkway / Bikeway	15,390	4,700		9,300	
30 SE 24th St, 228th Ave SE – 244th Ave SE	Collector	2	11	1	None	None	10,550	4,600		5,900	
31 SE 24th St, 244th Ave SE – W Beaver Lk Dr SE	Collector	2	11	1	None	None	10,550	-		4,200	
32 Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way	Principal Arterial	4	11	4	None	None	31,480	16,600		21,300	
33 Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd	Principal Arterial	2	11	5	Left-Turn Lane	None	22,010	20,000		19,100	

**TABLE V-S
SEGMENT CONCURRENCY STATUS FOR 3000 SCENARIO AND FINAL ALTERNATIVES WITH RECOMMENDED IMPROVEMENTS**

SEGMENT	PROPOSED ROADWAY CHARACTERISTICS							3000 SCENARIO		FINAL		
	Functional Class	# of Lanes	Lane Width (feet)	Shoulder Width (feet)	Median	Walkway Bikeway	Concurrency Threshold	AWDT	Fails	AWDT	Fails	
34	Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St	Principal Arterial	4	11	5	Left-Turn Lane	Walkway	36,690	31,700		29,100	
35	244th Ave NE, NE 30th Pl – NE 20th St	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	14,200		11,300	
36	244th Ave NE, NE 20th St – NE 8th St	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	13,600		10,300	
37	East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St ³	Minor Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	15,100		7,200	
38	East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St ³	Minor Arterial	None	None	None	None	None	-	0		0	
39	244th Ave NE, SE 24th St – SE 32nd Way	Minor Arterial	2	11	2	None	None	15,630	15,000		4,700	
40	SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE	Minor Arterial	2	11	4	None	None	16,790	14,500		8,300	
41	SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE	Minor Arterial	2	11	4	None	None	16,790	5,400		6,100	
42	Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd	Minor Arterial	2	11	6	None	None	17,950	3,800		4,200	
43	SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE	Principal Arterial	2	11	5	Left-Turn Lane	Walkway	22,010	12,400		13,200	
44	SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE	Principal Arterial	2	11	5		Walkway	22,010	12,400		13,200	
45	Trossachs Blvd SE, SE 9th St – SE Duthie Hill Rd	Collector	2	12	6	None	Walkway	13,680	5,100		5,100	

1. The four-lane width represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228th Avenue between SE 8th Street and SE 12th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244th Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segments.

Functional Classification Assessment

The Sammamish street system was reviewed using aerial photos, topographic maps, field visits, and traffic volume maps. The topographic features, especially Lake Sammamish, have limited major access to the north and south. The steep hillsides, wetlands and streams have also prevented the establishment of arterial access at uniform spacing as in a grid system. This places additional impacts on existing roadways.

Assessing the adequacy or need for additional arterial and collector streets involves a number of issues. The following criteria will be used by the City of Sammamish to help evaluate street classifications:

- **Land use.** Surrounding land use is a primary consideration in functional classification. The preservation of neighborhoods, the stabilization of desirable land uses, and the encouragement of orderly development are among the most basic considerations in the development of functional street systems. The greater the importance of an activity center, in terms of the type and the quantity of travel that it generates, the greater its need to be served by a higher classification of roadway. If, on the other hand, the greater amount of local access required by surrounding land use (such as in a residential neighborhood) the greater its need to be served by a lower classification of roadway.
- **Average Daily Traffic (ADT).** Generally speaking the higher the traffic volume, the higher the classification of the street. The demand for traffic mobility is more likely to outweigh the need for access to abutting land on streets with higher traffic volumes. Conversely, where volumes are lower, the access function of the street will generally be more important than mobility for traffic. Volumes by themselves do not define or determine the classification; additional criteria described below are also taken into account.
- **Non-motorized use.** The ADT criterion described above provides an easily obtained measure of the number of vehicles using a given street. While ADT is an important yardstick, another very significant feature of a city's streets is the accommodation of non-automobile modes, including walking, bicycling, and transit use. The number of modes of travel using a street is telling of a street's importance in the city's network; the more modes using a street, the more users that street serves, and the more important that street is to the movement of people, goods, and services throughout the city.
- **Street length.** The longer a street is, the more likely it is that the street will function at a higher classification. This is due to the fact that longer (continuous) streets allow travelers to move between distant attractions with a limited number of turns, stops, and other distractions that discourage them from using streets of lower classification. Longer streets generally supply a higher level of mobility as compared to other streets that are providing more access.
- **Street spacing.** Spacing of streets is another criterion that relates to the provision of mobility and/or access. Streets of higher classification usually have larger traffic carrying capacity and fewer impediments to travel. Fewer higher classified facilities are needed to serve the traffic mobility demands of the community due to their efficiency in moving traffic. Generally, this means that there are fewer streets of higher classification so there will be larger distances between them. Therefore, the further a street is from a higher classification street, the more likely it is that the street will function at a similar classification. Streets of lower classification are needed to provide access to abutting land. In order to do this, they must be spaced more closely and there must be many more of them. It is considered most desirable to have a network of multiple lower classification streets feeding into progressively fewer higher classification streets.

- **Street connectivity.** Streets that provide easy connections (or connectivity) to other roads of higher classification are likely to function at a similar classification. This can be attributed to the ease of movement perceived by travelers who desire to make that connection. For example, state highways are generally interconnected with one another, to provide a continuous network of high order roadways that can be used to travel into and through urban areas. Urban minor arterials provide a similar interconnected network at the citywide level. By contrast, collectors often connect local access streets with one or two higher-level arterial streets, thus helping provide connectivity at the neighborhood scale rather than on a citywide level. Local streets also provide a degree of connectivity as a necessary component of property access. However, the street lengths, traffic control, and/or street geometry are usually composed so that anyone but local travelers would consider the route inconvenient. Access to the immediate neighborhood is considered a local trip.

Based upon these considerations, the existing functional classification system for the City of Sammamish roadway system is satisfactory, and no changes are recommended. The roadway functional classifications are illustrated in **Figure V-15**.

Connectivity Assessment

To provide a balanced street system, the connectivity of local streets should also be considered. The City of Sammamish street system is restricted by severe topography on three sides, sensitive areas including wetlands within the city limits, and singular access to neighborhoods. The lack of connectivity may result in a number of deficiencies, as follows:

- **Critical safety issues:** A street network that is deficient in its connectivity results in longer emergency vehicle response times. In some areas where cul-de-sac and dead-end or closed loop streets are dominant, emergency access is made more difficult because of the lack of direct routes. Furthermore, the lack of a connected street network tends to concentrate traffic onto fewer intersections and roadway segments. This can result in excessive delays, especially during peak hours, thus increasing emergency response times. Finally, emergency aid could be severely impeded in cases where natural disasters or events such as accidents or emergency repairs block the only access to an isolated neighborhood.
- **Traffic congestion:** When local trips are forced to use the arterial system because the local street system does not provide connectivity, they increase traffic and delay on the regional system. Traffic congestion normally leads to driver frustration and higher accident frequencies.
- **Increased trip length:** A lack of local street connections limits personal travel options, forcing longer routes for local trips such as those to schools, to other neighborhoods, and to shopping.
- **Limitations for alternative travel mode:** A lack of local street connections also limits other modes of travel such as walking, bicycling, and transit, since automobiles are the most convenient mode in areas with limited street connections and longer trips.

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- **Inefficient service delivery:** A lack of local street connections increases the number of delivery trips and causes inefficient trip routes. It also causes inefficient school bus routes. Unnecessary longer trips consume more energy and increase fuel emissions, which is particularly significant for large trucks and buses.
- **Utility distribution:** The degree of street connectivity also affects utility distribution costs, since utility lines are normally laid within street right-of-way. Options for utility distribution are limited on nearby dead-end streets, and easement acquisition normally drives up costs.

Typical standards require secondary access to the arterial network for neighborhoods with 100 or more units. Areas in the City where this lack of connectivity may cause problems include the areas north and south of NE 8th St, east of 228th Avenue NE; the area between SE 8th Street and SE 24th Street; the area surrounding Trossachs Boulevard SE; the northwest corner of 192nd Avenue, 51st Street and 42nd Street; and the area surrounding 212th Avenue SE, south of SE 4th St.

Based upon these considerations, four roadway connection projects were proposed for consideration for the Recommended TIP:

- Trossachs Boulevard SE to Beaver Lake Drive SE,
- NE 20th Street – between 236th Avenue NE and 244th Avenue NE,
- NE 42nd Street to 192nd Way (Hidden Ridge to Sahalee).

These projects are included in the project list summarized in **Table V-Q**.

Roadway Design Guidelines

Essential functions of streets in Sammamish include vehicle mobility, pedestrian access, bicycle access, and aesthetics. City standards specify lane widths of 11 feet. Left-turn lanes increase capacity, reduce vehicular accidents, and improve access to adjacent property. Bicycle lanes should be provided along major traffic corridors, and when striped should be a minimum of 5 feet in width. Sidewalk widths should be a minimum of 6 feet. Landscaped medians are especially important to soften wide expanses of pavement, to provide a haven for crossing pedestrians, and to provide aesthetic treatment to streets.

Policy TP 1.4.8 of the Transportation Element states that variation in design standards may be considered in circumstances where a public benefit can be demonstrated. The adoption of design guidelines is advantageous over the adoption of standards in that it allows a needed flexibility in design that may not be permitted by strict standards. Often when designing streets, obstacles are encountered that require modification in design approach. Impediments might include topographic features that make road construction difficult or very expensive; inadequate available right-of-way to allow for all desired features; or environmentally sensitive areas that require modification to avoid adverse impacts. Additionally, funding or grant sources may require specific features or dimensions.

The existing roadway design standards (**Figure V-3**) fully meet operations and safety requirements, as addressed in the Goals, Objectives and Policies of the Transportation Element. Thus, it is recommended that the City adopt the existing roadway design standards as Design Guidelines.

Traffic Calming Program

The City of Sammamish has a comprehensive traffic calming program in place with the Neighborhood Traffic Management Program (NTMP) described in the Existing Conditions section of this Transportation Element. Thus, it is recommended that the City continue the NTMP in its current form, as already adopted by City ordinance.

Transportation Demand Management

Transportation Demand Management (TDM) consists of strategies that seek to maximize the efficiency of the transportation system by reducing demand on the system. The results of successful TDM can include:

- Travelers switch from single-occupancy-vehicle (SOV) to HOV modes such as transit, vanpools or carpools,
- Travelers switch from driving to non-motorized modes such as bicycling or walking,
- Travelers change the time they make trips from more congested to less congested times of day,
- Travelers eliminate trips altogether through such means as compressed workweeks, consolidation of errands, or use of telecommunications.

Within the State of Washington, alternative transportation solutions are further necessitated by the objectives of the Commute Trip Reduction (CTR) Law. Passed in 1991 as a section of the Washington Clean Air Act (RCW 70.94), the CTR Law seeks to reduce workplace commute trips in the nine most populous counties in the state. This law requires that in designated high population counties, each city within the county adopt a commute trip reduction plan requiring private and public employers with 100 or more employees implement TDM programs. Programs provide various incentives or disincentives to encourage use of alternative transportation modes, other than the SOV. The purpose of CTR is to help maintain air quality in metropolitan areas by reducing congestion and air pollution.

The City can promote TDM through policy and/or investments that may include, but are not limited to, the following:

- Parking management;
- Trip reduction ordinances;
- Restricted access to facilities and activity centers; and
- Transit-oriented and pedestrian-friendly design.

Transit Service and Facilities

As supported by the Goals, Objectives and Policies of the Transportation Element, public transportation has long-range benefits for the community because it offers:

- Primary mobility for those who cannot drive, including many of our youth, seniors, and citizens with disabilities,
- Mobility options for people who choose not to drive, either to avoid congestion, save money, or support the environment,
- Preservation of the quality of our environment by conserving energy, supporting better air quality, and reducing congestion on our roadways.

Central to the success of a public transportation system is the development of a compatible land use plan. Low-density suburbs and strip development are not designed to accommodate public transportation services. Changing the land use or traditional bus services is difficult and special attention is required to increase the effectiveness of transit by controlling development; modifying the existing arterial street system; and modifying pedestrian facilities to bring passengers to the transit system.

Review of land use policies, development, and regulations can be made to ensure that changes can be accomplished to make the system work more efficiently. The City of Sammamish can influence compatibility with public transportation by considering the following development issues:

- Pedestrian access and facilities,
- Amount, cost, and location of parking,
- Location of high density residential developments,
- Location and design of commercial and employment activities,
- Location of transit facilities,
- Location of community activity centers,
- Design of building complexes and their surroundings.

228th Avenue provides the primary corridor to support activity centers and more transit-oriented development. New development, redevelopment, or in-fill development that occurs in major activity centers can be designed to incorporate features that are compatible with public transportation. These features include:

- Land use that creates densities of trip generation,
- Facilities that are oriented toward transit service,
- Walking distances that are on a reasonable pedestrian scale,
- Design that encourages transit riders.

Zoning provisions are the primary means of implementing transportation-related land use policy. In order to accomplish this, the zoning code for major activity centers can be reviewed to ensure transit friendly design in these areas. Some factors that may be considered are:

- Encourage public transportation-compatible in-fill development on areas near bus routes and stops,
- Support the development of park-and-ride lots along bus routes,
- Encourage pedestrian uses at street-level buildings to stimulate activity and interest,
- Support increased residential densities along bus routes,
- Support increased employment densities in activity centers.

In addition, transit can be made more compatible with pedestrian travel by observing the following design guidelines:

- Provide sidewalks and safe crosswalks for access to the transit system,
- Include provisions for weather protection of the pedestrian,
- Eliminate barriers that discourage pedestrian access,
- Keep walking distances to a quarter-mile or less,
- Provide curb ramps and other facilities conforming to the Americans with Disabilities Act (ADA),
- Provide lighting to improve pedestrian safety and security,
- Provide design guidelines to foster and encourage pedestrian activity.

Special emphasis should be placed on the identification and public awareness of the transit system. Specific tasks could include improved signing, identification, and improved bus stops; route and schedule information provided at all bus stop sites; and shelters provided at some sites. Shelters provide a visual reminder of transit availability and provide an incentive for residents and visitors to use the transit system. Shelters can be installed only in locations with adequate public right-of-way and where appropriate pads can be constructed.

Park-and-ride lots with commuter-oriented transit are often the transit service most widely utilized in a city with a prevalence of lower density residential development, such as the City of Sammamish. Particularly after the I-90 spur is completed, Sammamish citizens will have direct access to the HOV lanes that run between the Cities of Issaquah, Bellevue, and Seattle. Development of well-designed park-and-ride lots is supported and encouraged in the transportation policies stated in this Transportation Element. Currently, Sound Transit is implementing design of a 300-space park-and-ride lot planned for SE 228th Ave at the future Issaquah-Pine Lake Road extension (Sound Transit 2002).

The success of the public transportation system is dependent on integrating key elements that comprise the overall plan. Integration of the transit system with streets, bicycle facilities, and pedestrian facilities is critical to transit's success.

Non-Motorized Plan

In late April 2002, the City launched the preparation of the Trails Bikeways and Paths (TBP) Plan for facilities to meet the various non-motorized transportation needs of Sammamish. This plan will examine current trails, bicycle lanes, and sidewalks and lay out an overall system by which major destinations are connected and recreational opportunities are provided throughout the City.

In June, the TBP Subcommittee of the Parks and Recreation Commission met with the consultant and divided up sections of the City to complete an inventory of existing trails. The consultant collected the inventory sheets and created a map, which was presented at the first open house in July 2002. The Parks and Recreation Department worked with the Public Works Department to inventory existing bike paths and sidewalks along arterials and collectors in the City. This inventory is complete.

The City is currently working on developing policy language for the Plan and on a preliminary corridor map. After review by the TBP Subcommittee, the Parks Commission, and the City Council, this information will be presented for public comment. This is anticipated for early 2003. Once complete, the TBP Plan will constitute the non-motorized element of the City's Transportation Element.

Concurrency

A Concurrency Management System (CMS) is a policy procedure designed to enable a City or County to determine whether adequate facilities are available to serve new development. The transportation element of the Growth Management Act (GMA) requires each City and County planning department to incorporate a Concurrency Management System into their comprehensive plan. In a Concurrency Management System, local jurisdictions must adopt and enforce ordinances that prohibit development approval if the development causes the LOS on a transportation facility to decline below the standard adopted in the Transportation Element of the Comprehensive Plan. Transportation improvements or strategies that accommodate the impacts of development can be made concurrent with the development. (State of Washington Growth Management Act, RCW 36.70A, 1990)

The City of Sammamish Concurrency Management System must be adopted as ordinance, and will involve the following components.

Identification of facilities to be monitored

The City of Sammamish has identified both segments and intersections for concurrency monitoring. All intersections with functionally classified roadways within the City will be monitored. Additionally, all roadway segments, as identified in **Figure V-6**, will be monitored for concurrency.

Establishment of LOS standards

In order to monitor concurrency, the City must adopt standards by which deficiencies may be identified, which were presented earlier in this plan. While GMA requires that LOS standards be adopted for concurrency, it does not mandate how those standards should be defined. Thus, the City is free to adopt by ordinance whatever standards it deems appropriate. The LOS standards that will be used to evaluate the transportation impacts of long-term growth and concurrency are defined as follows:

- **Roadway intersections.** Intersection LOS is calculated using standard HCM analysis procedures and for the AM or PM peak hour, whichever is worse. For intersections, the City shall adopt a standard of LOS D for intersections that include principal arterials and LOS C for intersections that include minor arterial or collector roadways.

Attaining LOS D at major intersections with high approach volumes can result in large intersections with exclusive right-turn lanes, double left-turn lanes and additional through lanes. These improvements improve LOS for vehicles, but result in very long crosswalks and increased potential for pedestrian-vehicle conflicts at free right turns.

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The LOS for intersections with principal arterials should be LOS D, when LOS D can be attained with maximum of three approach lanes per direction. For example, a typical intersection of two five-lanes roadways. The LOS for intersections with principal arterials may be reduced to E for intersections that require more than three approach lanes in any direction.

- **Roadway segments.** Segment LOS is based on allowable AWDT on a roadway segment as a function of roadway characteristics, as described earlier in this Transportation Element. The AWDT thresholds for each of these roadway segments, based upon the roadway characteristics, are defined in **Table V-I**. These thresholds would be adopted as ordinance by the City Council.

- **Corridor LOS.** Roadway Level of Service will be based upon performance of key corridors.

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Corridor LOS will be determined by averaging the incremental corridor segment volume over capacity (v/c) ratios within each adopted corridor. This has the affect of tolerating some congestion in a segment or more within a corridor while resulting in the ultimate completion of the corridor improvements. The average v/c of the segment s comprising a corridor must be 1.00 or less for the corridor to be considered adequate. All corridors must pass the Corridor LOS standard for the transportation system to be considered adequate. Corridors comprised of one concurrency segment segments must have a v/c of 1.0 or less to be considered adequate.

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The following corridors comprised of the concurrency segments shown on the figure V-6 will be monitored:

East Lake Sammamish Parkway North

Concurrency segments 1, 2 and 3

East Lake Sammamish Parkway Central

Concurrency segments 5 and 6

East Lake Sammamish Parkway South

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Concurrency segments 7 and 8

Sahalee Way – 228th Avenue North
Concurrency segments 21, 22, and 23

228th Avenue Central
Concurrency segments 24 and 25

228th Avenue South
Concurrency segments 26 and 27

Issaquah-Pine Lake Road
Concurrency segments 32, 33 and 34

244th Corridor North
Concurrency segments 35, 36 and 37

244th Corridor South
Concurrency segments 39

Louis Thompson Road – 212th Corridor
Concurrency segments 11, 12, 13 and 14

NE Inglewood Hill Road Corridor
Concurrency segments 15 and 16

NE 8th
Concurrency segments 28

SE 32nd Way – Issaquah Beaver Lake Road
Concurrency segments 40, 41 and 42

SE Duthie Hill Road – Trossach Blvd.
Concurrency segments 43, 44 and 45

SE 4th
Concurrency segments 17 and 18

SE 8th
Concurrency segments 29

SE 20th
Concurrency segments 19 and 20

SE 24th West
Concurrency segments 9 and 10

SE 24th East
Concurrency segments 30 and 31

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Development approval process

The City of Sammamish will adopt a development approval process with the following provisions:

- Requires all development to undergo a separate concurrency review and receive a certificate of concurrency.
- Concurrency evaluation determines whether a project should be approved, conditionally approved, or denied based on transportation capacity. Under conditional approval, the developer agrees to mitigate the impacts through either capacity expansion or reduction in trip generation.

- Requires inclusion of a certificate of concurrency with applications for land subdivision or building permit. Certificates are assigned with the land, and are non-transferable.
- May condition a concurrency certificate by limiting the number of trips or establishing certain requirements such as TDM strategies, access limitations, or completion of transportation improvements.
- Establishes a fixed period after which a concurrency certificate will expire if the development permit application is not completed.
- Deems the certificate valid for the time period needed for development permit application and development approval.
- Establishes technical requirements and procedures to be used to determine affected arterial system capacity.
- Establishes a system for reserving available capacity. Capacity is reserved for a specified time frame, and the developer retains capacity reservation rights.
- Provides for consultation with WSDOT when proposed development will cause I-90 or SR 202 to fall below LOS D.
- Defines three years as the time period within which improvements required for concurrency must be made.
- Establishes a fee-for-review and issuance of a concurrency certificate.
- Establishes design level-of-service requirements for arterial and collector street segments.

Rationing of transportation capacity

Ration available transportation capacity available to potential development, and monitor the consumption of transportation capacity as new development is approved and constructed.

Monitoring

On a continuing basis, monitor and evaluate the adequacy of the concurrency policies and established LOS standards as new development occurs and as traffic levels grow. Analyze external influences on the Concurrency Management System. Make periodic adjustments to LOS standards as part of the annual Comprehensive Plan amendment process, based on the on-going evaluation.

Mitigation fee system

Establish a mitigation fee system to charge new development for ~~all~~-eligible projects (those that address future deficiencies) identified in this Plan. The impact fees are calculated based upon the concurrency requirements for the ~~adopted land use~~ “build out” alternative, and the City revenue anticipated over 20 years. The development of the fee is guided by the policies in TP 7.3. Maximum Impact fees for surrounding jurisdictions for residential dwelling units are: \$7,136 in King County, \$4,090 in the City of Issaquah, and \$2,834 in the City of Redmond. The City of Sammamish current maximum charge is ~~\$6,247~~\$6,937.03. The City may choose to charge the maximum amount required to meet the level of the City's future transportation needs which is consistent with Washington State statutes and the City's Comprehensive Plan goals, objectives and policies. It is imperative that development pays for its share of its impact on the transportation system. The City should not use its funds or grants to subsidize improvements needed for new development. City revenues and grants should be used to fix existing transportation deficiencies.

Financing

Total revenue available to the City of Sammamish [for concurrency projects](#) over a 20-year period is estimated in **Table V-T**. The estimated revenue projection is ~~\$170,959,000~~ [\\$XX,XXX,XXX](#) (current dollars), assuming a mitigation payment system that generates ~~\$13,000,000~~ [\\$XX,XXX,XXX](#). The ~~\$13,000,000~~ [\\$XX,XXX,XXX](#) assumed for mitigation fees is derived from the total cost of projects that preliminary analysis shows will be eligible as concurrency projects (those projects in **Table V-Q** that are identified as ~~3000~~ [“build out”](#) concurrency projects). More detailed calculations are required to determine a precise estimate of mitigation fees and will be completed after the adoption of the Comprehensive Plan.

To fund the remainder of the recommended plan projects the City intends to use voter approved General Obligation Bonds or some other source of revenue. The projected revenue presented in **Table V-T** provides a revenue stream that balances with the expenditures proposed for the next 20 years, based upon these preliminary estimates. A more detailed breakdown of the revenue projections is included as **Appendix H**.

TABLE V-T
PROJECTED 20-YEAR REVENUE

FUNDING SOURCE	AMOUNT (Current dollars)
Capital Transportation Fund	\$XX,XXX,XXX \$76,087,000
Grants (TIB, TPP, AIP, PSMP)*	\$20,000,000
Mitigation Fees	\$XX,XXX,XXX \$13,000,000
General Obligation Bonds or some other source	\$XX,XXX,XXX \$61,872,000
Total Revenues	\$XX,XXX,XXX \$170,959,000

*TIB = Transportation Improvement Board; TPP = Transportation Partnership Program;
AIP = Arterial Improvement Program; PSMP = Pedestrian Safety and Mobility Program

Contingency Plans in the Event of Revenue Shortfall

Some of the revenue forecasts are for revenues that are very secure, and highly reliable. However, other revenue forecasts are for sources that are volatile, and therefore difficult to predict with confidence, including grants, joint agency funding, the motor vehicle registration fee, general obligation bonds, and mitigation payments (which have not been enacted), and which fluctuate with the amount of new development.

In the event that revenues from one or more of these sources is not forthcoming, the City has several options: add new sources of revenue or increase the amount from existing sources; require developers to provide such facilities at their own expense; reduce the number of proposed projects; change the Land Use Element to reduce the amount of development; and/or lower the LOS standard.

GOALS AND POLICIES

The City developed Transportation Goals, Objectives, and Policies to guide improvements and future actions in transportation. In addition, the City established transportation priorities, setting an overall tone for policy-making and resource allocation for transportation investments.

TRANSPORTATION PRIORITIES

The transportation priorities are listed as follows:

Improve the ability of City of Sammamish residents to enter and exit the City via roadways (within and adjacent to the City), transit, and non-motorized facilities.

- Enter into inter-local agreements,
- Focus on commute routes.

Provide concurrency management;

- Mitigate development impacts within the time frame presented in the Transportation Plan,
- Develop a management system.

Improve traffic flow within the City;

- Improve the basic overall internal transportation system,
- Focus on major north-south and east-west corridors,
- Provide a balanced internal transportation system,
- Balance traffic flow across numerous routes rather than splitting the community with one or two major routes.

Improve quality of life and safety concerns;

- Improve existing facilities to meet current standards,
- Consider community lifestyle impacts,
- Make safety improvements to existing facilities that may include but are not limited to sidewalks and sight lines.

Enhance internal connectivity of non-motorized facilities;

- Address connectivity of pathways, sidewalks, trails, and bicycle facilities,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

Enhance internal connectivity of roadways;

- Address connectivity within and between neighborhoods,
- Provide connections between parks, schools, shopping, community centers, and neighborhoods.

GOALS

The Goals established for the Transportation Element are summarized as follows.

Streets and Highways

- GOAL TG-1:** Establish a transportation system that adequately addresses the travel needs of the community, consistent with transportation priorities.
- GOAL TG-2:** Provide transportation facilities that maintain the unique character of the community through the use of innovative design standards.
- GOAL TG-3:** Improve local circulation and emergency access throughout the community while addressing the importance of neighborhood quality and safety.
- GOAL TG-4:** Minimize negative transportation impact on the natural environment, air quality, noise quality, and fuel consumption.

Public Transportation

- GOAL TG-5:** Encourage use of public transportation to accommodate a larger proportion of the traveling public.

Non-Motorized Facilities

- GOAL TG-6:** Create desirable, safe, and convenient environments that are conducive to walking and bicycling or other non-motorized uses.

Overall Transportation System

- GOAL TG-7:** Ensure that transportation facilities necessary for future growth are provided, concurrent with growth and coordinated with the City's Land Use and Transportation needs.
- GOAL TG-8:** Work with neighboring jurisdictions and regional agencies in creating and maintaining the regional transportation system.
- GOAL TG-9:** Receive maximum value and utility from the City's investment in its transportation system.

GOALS, OBJECTIVES AND POLICIES

Goals, objectives, and policies are defined under the following major categories:

- Streets and Highways,

- Public Transportation,
- Non-Motorized Facilities,
- Overall Transportation System.

Under each category, the following information is presented:

- a. **Transportation Goals (TG)** are generalized statements which broadly relate the physical environment to values, but for which no test for fulfillment can be readily applied.
- b. **Transportation Objectives (TO)** are listed under each goal. Objectives are specific measurable statements related to the attainment of goals.
- c. Under each objective, **Transportation Policies (TP)** are listed. Policies provide specific direction for meeting the objectives.

The Transportation Element of the Sammamish Comprehensive Plan is guided by the following transportation goals, objectives and policies.

Streets and Highways

TG-1: Establish a transportation system that adequately addresses the travel needs of the community, consistent with transportation priorities.

TO-1.1: Functional Classification of Roadways. The City should classify its streets to reflect their planned use, in accordance with FHWA requirements.

TP-1.1.1: The classification of streets should be based on projected traffic volumes, surrounding land uses as identified in the Land Use Element of the Comprehensive Plan, and in accordance with the transportation priorities defined in this plan.

TP-1.1.2: The establishment of design speeds for functionally classified roadways should reflect adjacent land uses and the design constraints of the street.

TP-1.1.3: Existing street classifications should be periodically reviewed, and classifications adjusted when appropriate.

TO-1.2: Maintenance. The preservation and maintenance of transportation facilities should be a high priority for City funding.

TP-1.2.1: A pavement management system should be established for timely identification of maintenance needs.

TP-1.2.2: A transportation system maintenance schedule should be established, consistent with transportation priorities defined in this plan, to ensure an adequate level of comfort for travelers on City roadways. The maintenance schedule should include but not be limited to sweeping, striping, signs, snow/ice control, and signals.

TO-1.3: Parking. Parking supply should be adequate for the density and land use it serves.

- TP-1.3.1: In commercial areas, sufficient parking should be provided to sustain the economic viability and vitality of the area and to protect residential neighborhoods from non-residential overflow parking.
- TP-1.3.2: The City should encourage use of underground or garage parking for non-single-family resident uses.
- TP-1.3.3: In residential areas streets should not be designed for continuous on street parking.

TO-1.4: Design Requirements. The physical design requirements for transportation facilities should reflect best design practice.

- TP-1.4.1: Design standards should provide for the protection of environmentally sensitive areas.
- TP-1.4.2: The City should establish design vehicles for each type of road classification.
- TP-1.4.3: Required street widths should be the minimum required to obtain the level-of-service (LOS) standards for the street.
- TP-1.4.4: Local residential streets should not be designed as alternatives to arterial roads.
- TP-1.4.5: The street width should consider facilities other than the street such as bike lanes, medians, and planter strips.
- TP-1.4.6: Arterial and major collector roadways and intersections should be designed to accommodate buses.
- TP-1.4.7: The City's arterial street system should be completed and upgraded in accordance with the Transportation Improvement Plan, as defined in the Transportation Element of the Comprehensive Plan.
- TP-1.4.8: Variations to the design standards may be considered when there is a demonstrated public benefit.
- TP-1.4.9: The City should design and build East Lake Sammamish Parkway to meet safety concerns and future capacity needs.

TG-2: Provide transportation facilities that maintain the unique character of the community through the use of innovative design standards.

TO-2.1: Community Needs. Design requirements for transportation facilities should be related to needs and desires of the local community within reasonable guidelines for safety, function, aesthetic appearance and cost, in accordance with the following policies:

- TP-2.1.1: All new transportation improvements should be scaled to the function they are designed to perform in conformance to the LOS standard, the density and land uses they serve.
- TP-2.1.2: Neighborhood planning or Local Improvement Districts that desire to develop locally based improvements that exceed City standards (e.g. for parking, median strips, landscaping, or other locally determined projects) may be allowed.

TO-2.2: Community Character. All new transportation improvements should be designed in accordance with the character of the community.

- TP-2.1.1: Local community standards should not be compromised to provide regional transportation facilities.
- TP-2.2.2: The City should establish design standards that address streetscape, lighting, poles, cross walks, bus stops, landscaping, and general community aesthetics.
- TP-2.2.3: Transportation improvements should be located and designed to respect the residential character of the community and the quality of its living environment.
- TP-2.2.4: The City should establish impact thresholds for new or improved streets to minimize impacts on established neighborhoods.
- TP-2.2.5: Alignments of residential streets should be encouraged to preserve existing trees and vegetation and increase open spaces. Landscaping may be utilized to provide visual and physical barriers but should be carefully designed not to interfere with visibility and traffic safety. Landscaping improvements should take maintenance requirements into consideration.
- TP-2.2.6: In new development, underground placement of utilities should be required. Underground replacement of existing above ground lines should occur along arterial and collector roadways, where substantial new development is occurring.

TG-3: Improve local circulation and emergency access throughout the community while addressing the importance of neighborhood quality and safety.

TO-3.1: Circulation. To the greatest extent possible, a cohesive traffic circulation system should be established throughout the City.

- TP-3.1.1: A safe and convenient network of residential streets should serve neighborhoods. When assessing the adequacy of local traffic circulation, the following considerations are of high priority:
- Enhancement of emergency vehicle access,
 - Reduction of emergency vehicle response times,
 - Reduction of speeds in neighborhoods,
 - Address of other neighborhood concerns such as safety, noise and aesthetics, and
 - Court and hearing examiner decisions.

The following considerations are of low priority when assessing the adequacy of local traffic circulation:

- Provision of alternate neighborhood connections,
- Shortening of travel distances,
- Reduction in overall traffic congestion, and
- Provision of access to transit.

- TP-3.1.2: Cul-de-sac streets in new development should only be allowed when connecting neighborhoods streets are not feasible due to existing land uses, topography, or other natural and physical constraints.
- TP-3.1.3: The City should limit the placement of facilities or physical barriers (such as buildings, utilities, and surface water management facilities) to allow for the future construction of streets that facilitate the establishment of a safe and efficient traffic circulation network.
- TP-3.1.4: To support the efficient and safe movement of goods and freight, the City should establish and identify truck routes to the City's major destinations. Such routes should be located along arterial roadways and should avoid potential impacts on neighborhood streets.
- TP-3.1.5: Substandard roadways should be brought up to standards before adding new roadway connections.
- TP-3.1.6: The improvement of roadway circulation must not impair the safe and efficient movement of pedestrians and bicycle traffic.
- TP-3.1.7: Traffic circulation along the 228th Street corridor should provide a system of access in and around commercial blocks to promote customer convenience and reduce congestion. Through-traffic should be separated from local traffic circulation to encourage and support customer access.
- TP-3.1.8: Efforts should be made to consolidate access points to properties along principal arterial, minor arterial, and collector roadways.
- TP-3.1.9: The City should not exercise its right of eminent domain to provide connections between local access roads or proposed arterials. When the City is considering condemnation for a proposed local connection or arterial, or in a proposed road corridor, condemnation shall be the last resort to existing alternative routes and only after a compelling need and finding have been demonstrated following a public review process involving the affected properties and adjacent property owners.
- TP-3.1.10: The City shall establish lot limits for a second access in order to provide: livable neighborhoods; emergency access; and equitable distribution of traffic.
- TO-3.2: Traffic Calming.** The City shall balance improvements in traffic operations and circulation with traffic calming measures that encourage a safe and reasonable mix of motorized and non-motorized traffic.
- TP-3.2.1: The City should adopt a Traffic Calming Program that includes the following components:
- A procedure for receiving and acknowledging traffic calming requests,
 - Traffic calming evaluation procedures,
 - Traffic calming design criteria,
 - Traffic calming authorization procedure,
 - Traffic calming implementation procedure.

TP-3.2.2: In conjunction with residential roadway improvements, the City should encourage traffic and pedestrian safety improvements that may include, but are not limited to, the following enhancements:

- Traffic circles,
- Painted or raised crosswalks,
- Landscaping barriers between roadway and non-motorized uses,
- Landscaping that promotes a residential atmosphere,
- Sidewalks and trails, and
- Dedicated bicycle lanes.

TP-3.2.3: Local residential streets should be designed to prevent or discourage their use as shortcuts for through traffic. Local traffic control measures should be coordinated with the affected neighborhood.

TP-3.2.4: Implementation of traffic calming should not result in the diversion of trips to other existing local access roadways.

TG-4: Minimize negative transportation impact on the natural environment, air quality, noise quality, and fuel consumption.

TO-4.1: Transportation Demand Management. The City should seek to minimize the overall number of vehicle-miles-traveled citywide through the use of demand management strategies.

TP-4.1.1: The City should promote and support Transportation Demand Management investments that may include, but are not limited to, the following strategies:

- Parking management,
- Trip reduction ordinances,
- Transit-oriented and pedestrian-friendly design, and
- Ride-sharing coordination with regional partners.

TP-4.1.2: The City should work with schools and churches to address mobility needs and impacts, and to encourage alternatives to single occupancy vehicle use.

TP-4.1.3: The City should work with employers to encourage the reduction of commuter single-occupant-vehicle use, in support of the Washington State Commute Trip Reduction Law and regional vehicle trip reduction strategies.

TP-4.1.4: The City should coordinate with transit agencies to promote the use of transit and vanpools, in support of the Washington State Commute Trip Reduction Law and regional vehicle trip reduction strategies.

TO-4.2: Transportation System Management. The City should seek to increase lane capacity by increasing the efficiency of existing roadways through Transportation System Management, in accordance with the following policies:

TP-4.2.1: Prior to increasing lane capacity on a roadway, the City should ensure that existing capacity is at a maximum efficiency, through the application of Transportation System Management investments. These measures may include, but are not limited to, the following:

- Rechannelization or restriping,
- Adding turn lanes,
- Signal interconnects and optimization,
- Turning movement restrictions, and
- Access management strategies.

TP-4.2.2 The City should regularly collect traffic counts and update the traffic model.

TP-4.2.3 The City should regularly update the roadway inventory, utilizing the photo imaging process and integrating it with the City Geographical Information System (GIS).

TO-4.3: Impervious Surface Area. The City should seek to minimize the amount of impervious surface area that is built in the course of new infrastructure construction, in accordance with the following policies:

TP-4.3.1: Design Standards should be created to address reductions in impermeable surfaces, consistent with safety and operating standards.

TP-4.3.2: Innovative materials should be utilized to reduce impermeable surfaces.

TO-4.4: Environmental Preservation. The City should seek to minimize the amount of natural resources that are impacted by infrastructure, in accordance with the following policies:

TP-4.4.1: Low impact roadway design, construction, and maintenance methods should be used first to avoid and second to minimize negative impacts related to water quality, air quality, and noise in neighborhoods.

TP-4.4.2: Streets should be located, designed, and improved in a manner that will conserve land, materials and energy. Impacts should be limited to the minimum necessary to achieve the transportation objective.

TP-4.4.3: The City shall comply with the federal and state *Clean Air Act* air quality standards.

TP-4.4.4: The City should support the use of clean burning fuels through regional organizations.

Public Transportation

TG-5: Encourage use of public transportation to accommodate a larger proportion of the traveling public.

TO-5.1: Alternative to automobiles. Public transportation should be promoted as a viable alternative to automobile use, as a means of reducing air pollution, conserving energy, and relieving traffic congestion.

- TP-5.1.1: The City should work with transit service providers to focus local transit service on arterial streets, provide feeder service to residential areas, and connect to adjacent jurisdictions. Transit should be convenient and flexible enough to meet community needs.
- TP-5.1.2: The City should encourage joint-use park-and-ride facilities.
- TP-5.1.3: Park-and-ride facilities should include safe and convenient access for automobiles, buses, pedestrians, and bicycles.
- TP-5.1.4: New development and redevelopment in activity centers should be designed to provide and encourage pedestrian access to transit. The development of bus stops and shelters should be incorporated into a project's development design.
- TP-5.1.5: The City should adopt road design standards, site-access guidelines, and land use regulations that support transit.
- TP-5.1.6: The City should encourage transit services that are dependable, maintain regular schedules, and provide an adequate LOS during evening hours, weekends, and holidays.
- TP-5.1.7: The City should encourage a transit system where designated activity centers are served by frequent, regular transit service.
- TP-5.1.8: The City should encourage transit service that is designed to serve commuting and activity patterns.
- TP-5.1.9 The City should explore concurrency and/or mitigation for multi-modal travel alternatives at such times it is demonstrated to be feasible in one or more communities within the Central Puget Sound Region.

TO-5.2: Accessibility. The City should encourage barrier-free access to adequate transit services for citizens.

- TP-5.2.1: Public transportation should provide mobility and access for the greatest number of people to the greatest number of services, jobs, educational opportunities, and other destinations.
- TP-5.2.2: The City should work with transportation agencies to provide a public transportation system that is comfortable and safe for all users.

TO-5.3: Coordination of systems. Promote transit systems that are consistent among neighboring cities and state and regional agencies.

- TP-5.3.1: Coordinate and encourage joint public/private efforts to participate in transportation demand management and traffic reduction strategies.

Non-Motorized Facilities

TG-6: Create desirable, safe, and convenient environments that are conducive to walking and bicycling or other non-motorized uses.

TO-6.1: Pedestrian Facilities. Safe and attractive pedestrian facilities are considered essential elements of the City's circulation and recreation system.

- TP-6.1.1: The City should create a walkway program to fund walkway improvements that address life and safety issues.
- TP-6.1.2: The City should develop a walkway plan that addresses pedestrian needs and provides for travel throughout the City as well as connections to local parks and activity centers.
- TP-6.1.3: Pedestrian facilities should be required on both sides of principal and minor arterial streets, at least one side on collectors, and on at least one side of other existing streets where safety concerns are an issue.
- TP-6.1.4: Pedestrian pathways should be encouraged in new and existing neighborhoods.
- TP-6.1.5: Connections for non-motorized access between adjacent neighborhoods and streets should be encouraged.
- TP-6.1.6: In the design of new pedestrian facilities, the City should ensure that curb cuts and ramps are constructed to comply with the programs and procedures of the Americans with Disabilities Act.
- TP-6.1.7: Pedestrian facilities except for those designed for primarily recreational use should be constructed of hard surface all-weather materials.
- TP-6.1.8: Variations in surface materials may be allowed, and should be consistent with community character.
- TP-6.1.9: Objects located on or near pedestrian facilities including but not limited to poles, benches, planters, bike racks, and awnings should not impede pedestrian traffic.
- TP-6.1.10: Pedestrian facilities should be lighted where nighttime use is common.
- TP-6.1.11: Pedestrian facilities should be located to take advantage of views and other amenities.
- TP-6.1.12: Pedestrian safety should be a high priority in areas frequented by children, such as near schools, playgrounds, and parks. Pedestrian facilities should be provided in these areas at every opportunity.
- TP-6.1.13: Separation of pedestrian facilities from traffic should be incorporated in City design standards.
- TP-6.1.14: Grade separated walkways may be considered in areas where pedestrian safety issues exist.

[TP-6.1.15: Signalize intersections should be designed to maximize pedestrian mobility and safety.](#)

TO-6.2: Bicycle Facilities. Safe bicycle facilities are integral to the City's street and recreation plans.

- TP-6.2.1: The City should develop a bikeway plan that addresses commuter and recreational bicyclist needs, and provides for travel throughout the City as well as connections to local parks and regional facilities.
- TP-6.2.2: Design standards should provide for safe bicycle operation on arterial roads.
- TP-6.2.3: Bicycle routes should be clearly marked and signed.
- TP-6.2.4: Bicycle racks should be provided in commercial and recreational areas.

Overall Transportation System

TG-7: Ensure that transportation facilities necessary for future growth are provided, concurrent with growth and coordinated with the City's Land Use and Transportation needs.

TO-7.1: Coordination with Land Use Element. The Transportation Element of the Comprehensive Plan should be integrated with the Land Use Element.

- TP-7.1.1: Transportation facilities should be developed in an efficient, safe, and environmentally sensitive manner and should support desired development patterns.
- TP-7.1.2: Development proposals should incorporate transportation improvements (emphasizing dedicated rights-of-way) in accordance with the City's Transportation Plan and as necessitated by the impacts of the proposal.

TO-7.2: Multi-modal. The City should seek to find the optimal balance between the different modes that comprise the transportation system.

- TP-7.2.1: The City should optimize its transportation facilities to seek a balance between them, consistent with travel demand and so that each mode complements the other.
- TP-7.2.2: Bus, auto, and non-motorized travel should be coordinated and linked to form a multi-modal system providing access to regional transportation systems while ensuring the quality, safety, and integrity of local commercial districts and residential neighborhoods.

TO-7.3: Concurrency. The City shall ensure that concurrency requirements are met.

- TP-7.3.1: Level-of-service standards should be used to evaluate the transportation impacts of long-term growth and concurrency. The City should adopt the following standards:
 - **Roadway intersections.** Intersection LOS is calculated using standard Highway Capacity Manual analysis procedures and for the AM or PM peak hour, whichever is worst. For intersections, the City should adopt a standard of LOS D for intersections that include principal arterials and LOS C for intersections that include minor arterial or collector roadways.

Roadway Level of Service will be based upon the performance of key corridors.

Corridor LOS will be determined by averaging the incremental corridor segment v/c ratios with each adopted corridor. This has the affect of tolerating some congestion in a segment or more within a corridor while resulting in the ultimate completion of the corridor improvements. The average v/c of the segments

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[comprising a corridor must pass the Corridor LOS standard for the transportation system to be considered adequate. Corridors comprised of one concurrency segment must have a v/c ratio of 1.0 or less to be considered adequate.](#)

- **Roadway segments.** Segment LOS is based on allowable Average Weekday Daily Traffic (AWDT) on a roadway segment as a function of roadway characteristics. The AWDT thresholds are defined in this Plan and adopted by the City Council. LOS standards for roadway segments are as follows until the roadway segment is improved or another LOS standard is adopted:

Segment Number	Location	Functional Classification	AWDT Threshold
1	E Lk Sammamish Pkwy, City limits – 196th Ave NE (Weber Point)	Minor Arterial	17,370
2	E Lk Sammamish Pkwy, 196th Ave NE – NE 26th PI	Minor Arterial	17,370
3	E Lk Sammamish Pkwy, NE 26th PI – NE Inglewood Hill Rd	Minor Arterial	17,370
4	E Lk Sammamish Pkwy, Inglewood Hill Rd – Louis Thompson Rd	Minor Arterial	17,370
5	E Lk Sammamish Pkwy, Louis Thompson Rd NE – SE 8th St	Minor Arterial	17,370
6	E Lk Sammamish Pkwy, SE 8th St – SE 24th Way	Minor Arterial	17,370
7	E Lk Sammamish Pkwy, SE 24th Way – 212th Ave SE	Minor Arterial	17,370
8	E Lk Sammamish Pkwy, 212th Ave SE – City Limit	Minor Arterial	17,370
9	SE 24th St, E Lk Sammamish Pkwy – 200th Ave SE	Collector	9,420
10	SE 24th St, 200th Ave SE – 212th Ave SE	Collector	9,420
11	Louis Thompson Rd, E Lk Sammamish Pkwy – SE 8th St	Collector	9,820
12	212th Ave SE, SE 8th St – SE 20th St	Collector	9,820
13	212th Ave SE, SE 20th St – SE 32nd St	Collector	11,350
14	212th Ave SE, SE 32nd St – E Lk Sammamish Pkwy	Collector	10,550
15	NE Inglewood Rd, E Lk Sammamish Pkwy – 216th Ave NE	Minor Arterial	16,790
16	NE Inglewood Rd, 216th Ave NE – 228th Ave NE	Minor Arterial	17,370
17	SE 8th St/218th Ave SE, 212th Ave SE – SE 4th St	Collector	9,420
18	SE 4th St, 218th Ave SE – 228th Ave SE	Collector	9,420
19	SE 20th St, 212th Ave SE – 219th PI SE	Collector	10,950
20	SE 20th St, 219th PI SE – 228th Ave SE	Collector	11,350
21	Sahalee Wy/228th Ave NE, City Limit – 220th Ave NE	Principal Arterial	16,790
22	Sahalee Wy/228th Ave NE, 220th Ave NE – NE 25th Way	Principal Arterial	16,790
23	228th Ave, NE 25th Way – NE 12th St	Principal Arterial	17,370
24	228th Ave, NE 12th St – SE 4th St ¹	Principal Arterial	34,950
25	228th Ave, SE 4th St – SE 20th St ²	Principal Arterial	34,950
26	228th Ave, SE 20th St – Issaquah Pine Lake Rd SE	Principal Arterial	34,950
27	228th Ave, Issaquah Pine Lake Rd SE – SE 43rd Way	Principal Arterial	21,430
28	NE 8th St, 228th Ave NE – 244th Ave NE	Minor Arterial	21,430
29	SE 8th St, 228th Ave SE – 244th Ave SE	Collector	15,390
30	SE 24th St, 228th Ave SE – 244th Ave SE	Collector	10,550
31	SE 24th St, 244th Ave SE – W Beaver Lk Dr SE	Collector	10,550
32	Issaquah-Pine Lk Rd, 228th Ave SE – SE 32nd Way	Principal Arterial	31,480

Segment Number	Location	Functional Classification	AWDT Threshold
33	Issaquah-Pine Lk Rd, SE 32nd Way – SE Klahanie Blvd	Principal Arterial	16,790
34	Issaquah-Pine Lk Rd, SE Klahanie Blvd – SE 48th St	Principal Arterial	16,790
35	244th Ave NE, NE 30th Pl – NE 20th St	Minor Arterial	15,050
36	244th Ave NE, NE 20th St – NE 8th St	Minor Arterial	15,050
37	East Sammamish/244th Ave NE Corridor, NE 8th St – SE 8th St ³	Minor Arterial	n/a*
38	East Sammamish/244th Ave NE Corridor, SE 8th St – SE 24th St ³	Minor Arterial	n/a*
39	244th Ave NE, SE 24th St – SE 32nd Way	Minor Arterial	15,630
40	SE 32nd Way, Issaquah-Pine Lk Rd – 244th Ave SE	Minor Arterial	16,790
41	SE 32nd St, 244th Ave SE – W Beaver Lk Dr SE	Minor Arterial	16,790
42	Issaquah-Beaver Lk Rd, W Beaver Lk Dr SE – SE Duthie Hill Rd	Minor Arterial	17,950
43	SE Duthie Hill Rd, SE Issaquah-Beaver Lk Rd – 266th Ave SE	Principal Arterial	12,300
44	SE Duthie Hill Rd, 266th Ave SE – Trossachs Blvd SE	Principal Arterial	12,300
45	Trossachs Blvd SE, SE 9th St – SE Duthie Hill Rd	Collector	10,520

1. The four-lane width on which the threshold is based represents the predominant width of this segment. The width of 228th Avenue is four lanes from SE 4th Street to 400-feet north of NE 8th Street. Between NE 8th Street and NE 12th Street, the roadway tapers back to two lanes.
2. The widening of 228th Avenue between SE 8th Street and SE 12th Street is currently under construction, and expected to be completed in 2003.
3. These will be future segments if the East Sammamish/244th Avenue Corridor connections are constructed, but currently do not exist as continuous roadway segment.

TP-7.3.2: The City shall adopt a concurrency period that should require the construction of infrastructure improvements within six years of development approval. The availability of public facility capacity to support development concurrent with the impacts of such development can include any of the following: (1) the facilities are in place at the time a development permit is issued; (2) the facilities are under construction at the time a development permit issued, and the facilities will be in place when the impacts of the development occur; (3) development permits are issued subject to the condition that the facilities will be in place when the impacts of the development occur; or (4) the City has in place binding financial commitments to complete the public facilities within six years.

TP-7.3.3: In accordance with the City’s Transportation Improvement Plan, and based on the level of impact generated by a proposed development, conditions of approval applicable to a development application should include:

- Improvement of on-site transportation facilities,
- Improvement of off-site transportation facilities, and
- Transportation Demand Management strategies.

TP-7.3.4: Under concurrency requirements, transportation facilities include both motorized and non-motorized facilities, and improvement of transportation facilities includes construction in accordance with the City’s minimum design standards.

TP-7.3.5: Development impacts that may warrant off-site improvements include those that create safety concerns, or those that increase a facility’s operations beyond the level identified for concurrency.

- TP-7.3.6: A traffic concurrency ordinance should be adopted and enforced, which prohibits development approval if the development causes operations on a transportation facility to degrade below standards as set forth in Policy TP-7.3.1.
- TP-7.3.7: The City should identify improvements and strategies needed to fulfill the Land Use Vision and to meet minimum transportation operations standards, in compliance with the requirements of the State of Washington Growth Management Act.
- TP-7.3.8: The City should charge a reasonable ~~the maximum~~ allowable mitigation fee.
- TP-7.3.9: The City should not grant exemptions from concurrency requirements.
- TP-7.3.10: The City should not grant exemptions from mitigation fees.
- TP-7.3.11: The City should create a single citywide transportation mitigation fee individualized to specific development types.

TG-8: Work with neighboring jurisdictions and regional agencies in creating and maintaining the regional transportation system.

TO-8.1 Maximize the efficiency of Inter-local Traffic Flows.

- TP-8.1.1: The City should develop inter-local agreements with neighboring jurisdictions (i.e., WSDOT, King County, and the Cities of Redmond and Issaquah) to establish mutually acceptable LOS standards and mitigation strategies for traffic impacts on essential commuter facilities, as shown in **Figure V-8** of the Transportation Element. The inter-local agreement will serve to:
- Provide a coordinated approach to addressing sub-regional transportation issues,
 - Minimize AM and PM peak-hour travel times along intercity commuter routes,
 - Establish an inter-local impact fee structure.
- Acceptable mitigation strategies may include:
- Contribution of impact fees to projects that address traffic impacts on the identified essential commuter facilities,
 - Provision of additional capacity on general purpose or HOV facilities to mitigate impacts on the identified commuter facilities.
- TP-8.1.2: In the City's Transportation Improvement Program, road and intersection improvements located along essential commuter facilities, as shown in **Figure V-8** of the Transportation Element, should be a priority. Improvements along these facilities may be located both outside and within the City.
- TP-8.1.3: The City should determine the existing and desired travel times along essential commuter facilities, as shown in **Figure V-8** of the Transportation Element.
- TP-8.1.4: The City's transportation decisions, strategies and investments should take into consideration, be coordinated with, and be complementary to those of adjacent jurisdictions.

- TP-8.1.5: The City's transportation LOS standards should be coordinated with neighboring cities and regional agencies.
- TP-8.1.6: The City should coordinate with Washington State and King County Departments of Transportation, King County Metro, Sound Transit, neighboring cities, and private interests to support regional transportation planning.
- TP-8.1.7: The City should work with neighboring jurisdictions and federal, regional, and state agencies to coordinate transportation system improvements and assure that resources are maximized.
- TP-8.1.8: The City should work with Washington State, King County, and neighboring jurisdictions to establish that the capacity of roadways affecting access to and from the city limits is being used efficiently.
- TP-8.1.9: The City should work with neighboring jurisdictions to define LOS standards for commute routes.
- TP-8.1.10: When the City enters into an inter-local agreement with a neighboring jurisdiction or WSDOT the City should deny development proposals that create a significant adverse transportation on the access routes outside the City limits as shown in **Figure V-8** unless adequate mitigation is in place. Concurrency and level of service standards should be determined in the interlocal agreement and compatible with the Sammamish Comprehensive Plan and Growth Management Act.

TG-9: Receive maximum value and utility from the City's investment in its transportation system.

TO-9.1 Assure prioritization and accountability.

- TP-9.1.1: Transportation spending should be consistent with the City's overall transportation priorities.
- TP-9.1.2: The City should ensure adequate funding from public and private resources for identified transportation facility improvements. The estimated costs of all needed capital improvements should not exceed conservative estimates of revenues from sources that are available to the City pursuant to current statutes, and which have not been rejected by referendum, if a referendum is required to enact a source of revenue. Conservative estimates need not be the most pessimistic estimate, but cannot exceed the most likely estimate.
- TP-9.1.3: The City should explore potential regional, state, and federal funding sources for the purpose of financing major transportation improvements.
- TP-9.1.4: Wherever possible, the City should supplement public funding sources with revenue sources including Local Improvement Districts, development impact fees, partnerships with adjacent property owners, or other identified sources.
- TP-9.1.5: City sponsored transportation facility improvements should be identified and prioritized in the Transportation Improvement Program, which is included in the Transportation Element of the Comprehensive Plan.

TP-9.1.6: The City should develop a long-range financial plan that analyzes the funding needed to implement the Transportation Improvement Program, and identifies established and potential funding sources.

TP-9.1.7 Existing and future development should both pay for the costs of needed transportation capital improvements.

Existing development should pay for the transportation capital improvements that reduce or eliminate existing deficiencies; some or all of the replacement of obsolete or worn out facilities; and may pay a portion of the cost of transportation capital improvements needed by future development. Payments from existing development may take the form of user fees, charges for services, special assessments and taxes.

Future development should pay its fair share of the transportation capital improvements needed to address the impact of such development, and may pay a portion of the cost of the replacement of obsolete or worn out facilities. Upon completion of construction, “future” development becomes “existing” development, and should contribute to paying the costs of the replacement of obsolete or worn out facilities. Payments from future development may take the form of, but are not limited to, voluntary contributions for the benefit of any public transportation facility, impact fees, mitigation payments, capacity fees, dedications of land, provision of public transportation facilities, and future payments of user fees, charges for services special assessments and taxes. Future development should not pay impact fees for the portion of any public facility that reduces or eliminates existing deficiencies.

Both existing and future development may pay part of their costs by grants, entitlements or public transportation facilities from other levels of government and independent districts.

TP-9.1.8 The City should not provide nor accept a public transportation facility, if the City is unable to pay for the subsequent annual operating and maintenance costs of the facility.

TP-9.1.9 In the event that sources of revenue listed require voter approval in a local referendum that has not been held, and a referendum is not held, or is held and is not successful, this Comprehensive Plan should be revised at the next annual amendment to adjust for the lack of such revenues, in any of the following ways: (1) reduce the level-of-service for one or more public transportation facilities; (2) increase the use of other sources of revenue; (3) decrease the cost, and therefore the quality of some types of public transportation facilities while retaining the quantity of the facilities that is inherent in the standard for level-of-service; (4) decrease the demand for and subsequent use of capital facilities; (5) a combination of the preceding alternatives.

CONCLUSION

The Transportation Element of the Comprehensive Plan serves to guide the development of surface transportation within the City of Sammamish, based upon evaluation of existing conditions, estimation and evaluation of future conditions that result from the adopted future land use alternative, and the stated priorities. The Recommended Plan is a comprehensive transportation plan that addresses current transportation issues as well as those that are expected to occur across 20-year planning horizon.

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