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## EXECUTIVE SUMMARY

### 1 - BACKGROUND

148<sup>th</sup> Avenue is the primary north-south arterial in East Bellevue. Traffic on this roadway has steadily increased since 1996, partly as a result of development in the Overlake area. Intersections along 148<sup>th</sup> Avenue are monitored to measure concurrency for Mobility Management Area 9 (MMA 9), and in 2000, the concurrency regulations were triggered due to excessive traffic in that corridor. Residents in East Bellevue are concerned about increased traffic in their neighborhoods, traffic that “cuts through” their streets because 148<sup>th</sup> Avenue is too congested. However, constituents don’t necessarily agree on solutions.

The Bellevue Transportation Department is undertaking several efforts to identify projects to manage traffic congestion and protect neighborhoods in east Bellevue. The City’s Comprehensive Plan and Local Transportation Vision place a high priority on maintaining mobility on arterial streets and minimizing the adverse impacts of traffic on neighborhoods. These documents charge the City to maintain mobility on arterial streets in an effort to reduce neighborhood cut-through traffic. City policy prescribes a multi-modal approach including transit improvements, arterial improvements, trip reduction, pedestrian and bicycle improvements, and technology enhancements. The Comprehensive Plan also directs the City to include affected neighborhoods, interested citizens, and partnering agencies (such as King County Metro) in the planning and design of transportation system improvements.

### **Project Vision and Purpose**

At the onset of the project, the project team members held a chartering meeting to identify the project purpose and vision, identify key issues and project risks, develop a decision making process, and outline various team member roles and responsibilities. The project vision and purpose, as defined by the project team, are shown below.

### ***Project Vision***

The project vision is to gain community support for transportation improvements to optimize north-south travel on 148<sup>th</sup> Avenue with a product that:

- Maximizes the people moving capacity of the system
- Incorporates public involvement through the study process
- Minimizes the impacts on parallel arterials and neighborhood streets, and
- Preserves a linear park character of the 148<sup>th</sup> Avenue corridor by balancing mobility improvements with landscaping impacts.

### **Project Purpose**

The purpose of the 148<sup>th</sup> Avenue Mobility Improvement Package is to identify improvements along 148<sup>th</sup> Avenue in East Bellevue from Bel-Red Road to SE 24<sup>th</sup> Street to:

- Optimize the north-south travel function of the corridor
- Reduce congestion and travel time, and
- Increase mobility throughout the corridor by selecting solutions that minimize impacts (and are acceptable) to the adjacent neighborhoods and providing access to neighborhoods.

In summary, the 148<sup>th</sup> Avenue Mobility Improvement Package identifies projects to manage near term congestion problems, to efficiently build consent among the public, to protect neighborhoods from impacts such as cut-through traffic, and to lay the groundwork for addressing future transportation needs. The study identifies projects that are designed to a level sufficient for inclusion in the City's Capital Investment Program (CIP), and that have potential for partnership funding opportunities. The horizon year for the study is 2012.

### **Study Boundary**

The study area is focused on 148<sup>th</sup> Avenue, between Bel-Red Road to the north, and SE 24<sup>th</sup> Street to the south. In addition, east-west streets intersecting 148<sup>th</sup> Avenue are included in the study.

*The Bel-Red/Overlake Transportation (BROTS) North-South Corridor Study*, which is a complement study to the *148<sup>th</sup> Avenue Mobility Improvement Package*, will examine regional solutions for congestion along 148<sup>th</sup> Avenue NE, north of Bel-Red Road between 148<sup>th</sup> Avenue and 156<sup>th</sup> Avenue.

A map showing the two separate study areas is shown in **Figure 1**.

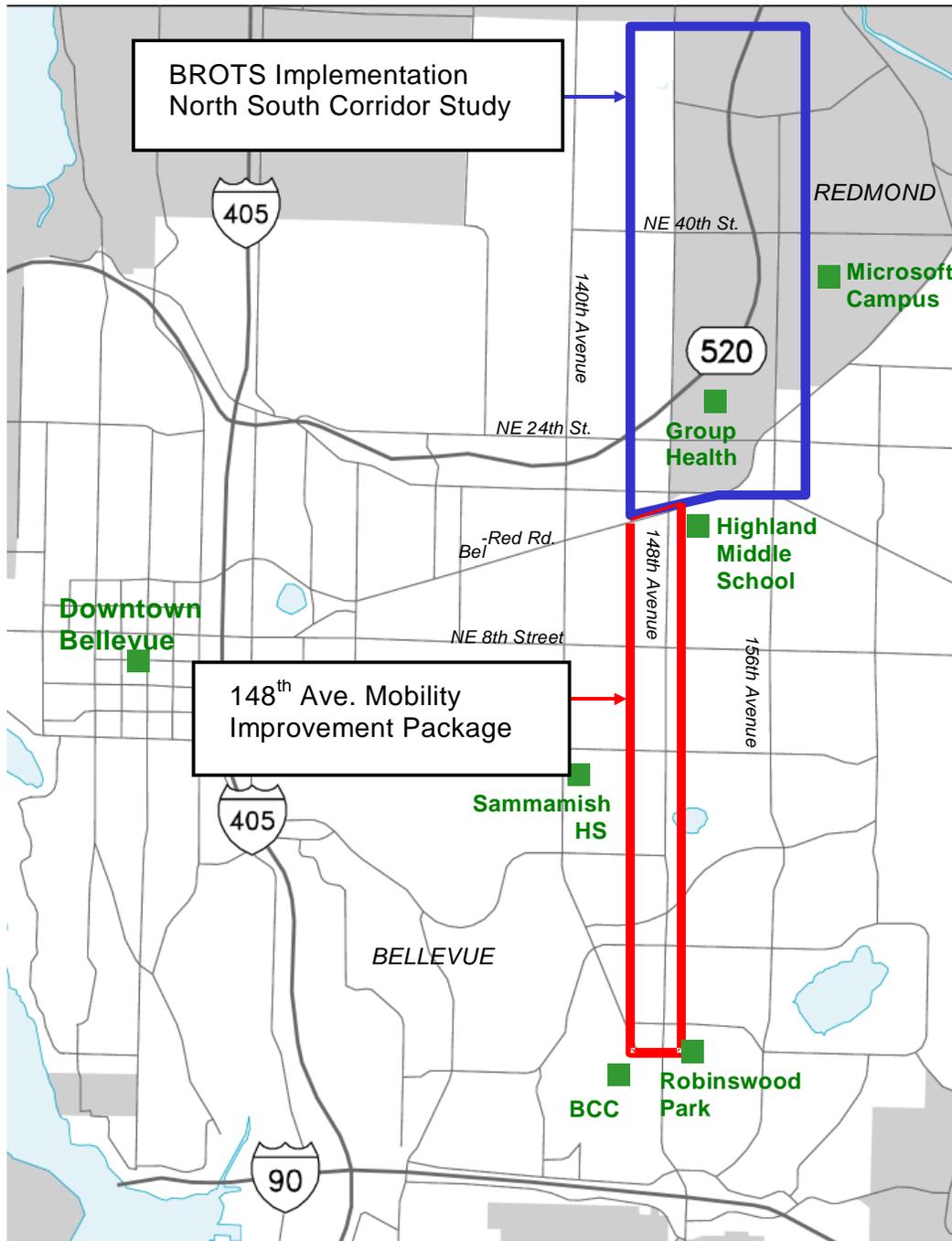
## **2- STUDY METHODOLOGY**

The City of Bellevue hired David Evans & Associates, Inc. (DEA) to conduct *the 148<sup>th</sup> Avenue Mobility Improvement Package* study. DEA was primarily responsible for managing the project, conducting public outreach efforts, developing and analyzing the alternatives, and preparing the plans and cost estimates for the preferred recommendation. The City of Bellevue provided overall project management, assisted with public outreach tasks, and provided technical review.

The project Scope consists of the following major tasks:

- Project Management and Public Outreach
- Existing and Future Baseline Conditions

**Figure 1**  
**148<sup>th</sup> Avenue Mobility Improvement Package**  
**BROTS North-South Corridor Study**  
**Project Boundaries**



- Develop Alternatives
- Alternatives Evaluation and Recommendation
- Refine Recommended alternative and Conceptual Designs
- Draft and Final Reports

## **Project Management and Public Outreach**

The project management team consisted of the City of Bellevue project manager and the consultant project manager. The project management team conducted ongoing meetings to manage the project scope, schedule, budget and other items that had a direct impact to the project.

A Technical Advisory Committee (TAC) was formed, consisting of professionals from the City of Bellevue and King County Department of Transportation. The role of the TAC was to act as an advisory committee for the project. The TAC provided input into the development of alternatives, evaluation of alternatives, and recommendations. The TAC met at four times during the course of the study. The TAC Members are listed in the Final Report, Appendix A.

A Bellevue Staff Review Group was formed, in addition to the TAC. This group acted as additional support to the TAC, and had the responsibility for reviewing various components of the project as needed, such as reviewing technical data, cost information, and traffic analysis. Occasionally, members from this group attended TAC meetings, however, they generally met with the project managers on an individual basis. This group list is shown in Appendix A.

In addition, the study included a significant public outreach effort. An important element of the study was to identify key issues and concerns regarding the corridor from the public, as well as potential corridor improvements. The public outreach effort consisted of the following elements:

**Interviews with key stakeholders** – The consultant team interviewed 13 key stakeholders that represented constituencies that would be affected by the project, including neighborhood representatives, businesses, Bellevue Community College, and pedestrian/bicycle interests. These meetings were held at the onset of the project to engage the public, identify key community issues, and solicit ideas for potential improvements. A summary of the stakeholder interviews is included in the Final Report Appendix.

**Meetings with Community Councils and Neighborhoods** – The project management team provided updates on the project to the East Bellevue Community Council, the Chevy Chase neighborhood, and the Neighborhood Network North at various times throughout the course of the project. These groups provided valuable feedback to the project management team.

**Open Houses** – Three open houses were held throughout the course of the study. The first open house was used to identify key issues from stakeholders and

residents, and potential improvements. Alternative packages were presented to the public for feedback at the second open house. The preferred recommendations were presented to the public in early 2003 in conjunction with the final open house for the BROTS North-South Corridor Study.

**Newsletters and other Media** – During the course of the study, two newsletters were sent to households located within and near the study area, and placed at other public facilities throughout the City. The newsletters provided updates on the project and the recommended alternative. Articles about the study and its progress were written in various newspapers, including the Eastside Journal, the City of Bellevue “It’s Your City” newsletter, and neighborhood projects newsletters. Additionally, a project webpage was maintained on the City’s website. The webpage included current project status, upcoming public events, analysis results, and contact information.

**Transportation Commission and Bellevue Council** – Updates on the project were presented to the Bellevue Transportation Commission throughout the course of the study. The final recommended improvements were recommended to the Commission for their endorsement to the Bellevue Council.

## **Existing and Future Baseline Conditions**

The first scope item conducted was a documentation of the Existing and Future Baseline Conditions. The Final Report (Chapter 2, *Existing and Future Conditions*) provides a summary of this element of work. The Existing and Future Baseline conditions provides a summary and inventory of the existing and future (2012) land use characteristics, roadway facilities, transit facilities and conditions, non-motorized facilities, and traffic conditions. Locations of where significant delay to through and cross street traffic were identified. In addition, deficiencies to pedestrian and bicycle access were noted.

## **Develop Alternatives**

Based on operational deficiencies (noted in Chapter 2 of the Final Report), and public stakeholder input, the project team developed a list of potential improvements to the corridor. These improvements were screened through a first level of analysis.

The purpose of this first level screening was to confirm whether improvements should be carried forward for additional analysis, or whether they should be referred on to other projects or sources. In addition, some of the suggested improvements were fatally flawed based on measures used to screen them. Three measures were used to screen the suggested improvements, including:

**1. Would the improvement meet the project purpose?**

- Would the concept improve or meet the project objective?
- For this project, the answer would be an assessment of whether the concept could provide improved mobility, travel or transportation access through the corridor. It could be in terms of vehicle throughput as well as person throughput.

**2. Required Permits and Approvals**

- Would the concept likely receive required permits and approvals (interjurisdictional support and permitting agency approvals)?
- Is the concept compatible with other on-going studies?
- Can the concept meet design standards and/or be approved (geometric feasibility)?

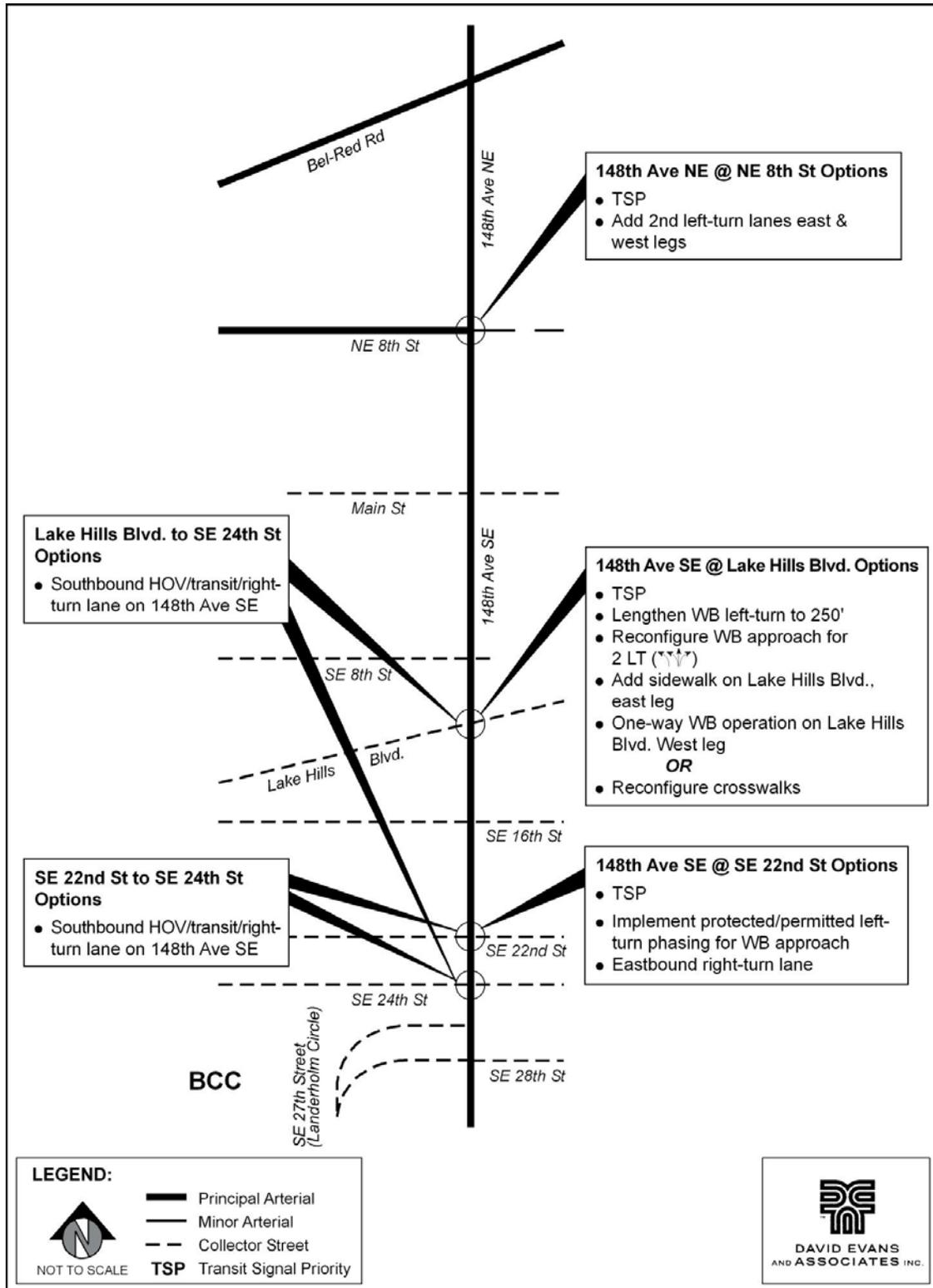
**3. Cost Effectiveness**

- Is the scale of the concept consistent with the improved travel, reliability and access benefit that it provides?

Improvements were either deemed as fatally flawed, referred on to other studies, or accepted and packaged into alternatives for further evaluation. These alternatives are explained in greater detail in the Final Report (Chapter 4, *Alternatives Development and Evaluation*). The alternatives ranged from low impact and very minimal construction to large cost and significant construction efforts. The alternative options, shown in **Figure 2** included:

- **Alternative 1** – Turn lane Extension on Lake Hills Blvd. with One-way Operation (*low cost*)
- **Alternative 2** – Turn lane Extension on Lake Hills Blvd. with Crosswalk Revisions (*low cost*)
- **Alternative 3** – Lake Hills Boulevard Intersection (ONE-WAY) with HOV & Transit Queue Jump plus Right Lane on SE 22<sup>nd</sup> Street (*moderate cost*)
- **Alternative 3A** – Lake Hills Boulevard Intersection (revised crosswalk) with HOV & Transit Queue Jump plus Right lane on SE 22<sup>nd</sup> Street (*moderate cost*)
- **Alternative 4** – Lake Hills Boulevard Intersection, Southbound HOV & Transit Lane (Lake Hills to SE 24th) and Dual Left Lanes on NE 8th Street (*high cost*)

**Figure 2**  
**148<sup>th</sup> Avenue MIP Summary of Alternative Improvements**



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## Alternatives Evaluation and Recommendation

The five alternative packages were evaluated using measures of effectiveness, feasibility and other impacts. Traffic operations were analyzed using Synchro and Sim Traffic modeling software.

After the alternatives were evaluated, they were presented to the public at the second open house for input. Public feedback reflected strong resistance to a one-way operation on W. Lake Hills Boulevard, as well as opposition to widening 148<sup>th</sup> Avenue.

Based on the evaluation and public input, a draft recommendation was developed by the consultant and reviewed by the TAC. The TAC recommended a refined alternative to the Transportation Commission. Both the TAC and the Commission felt that it was important that 148<sup>th</sup> Avenue function properly in order to reduce cut-through traffic in neighborhoods, and also to provide for other modes of transportation, such as transit and HOV's. Therefore, they recommended that 148<sup>th</sup> Avenue be widened on portions to allow for these needs (Explained in greater detail in the Final Report, Chapter 5, *Recommended Improvements and Design*).

The Transportation Commission recommended near and long term projects for the corridor, which are described below, and shown in **Figure 3**. Fact sheets for each of the recommended improvements are also included on the following pages. Conceptual design drawings and cost estimate sheets for each improvement are included in the Final Report, Chapter 5, *Recommended Improvements and Design*.

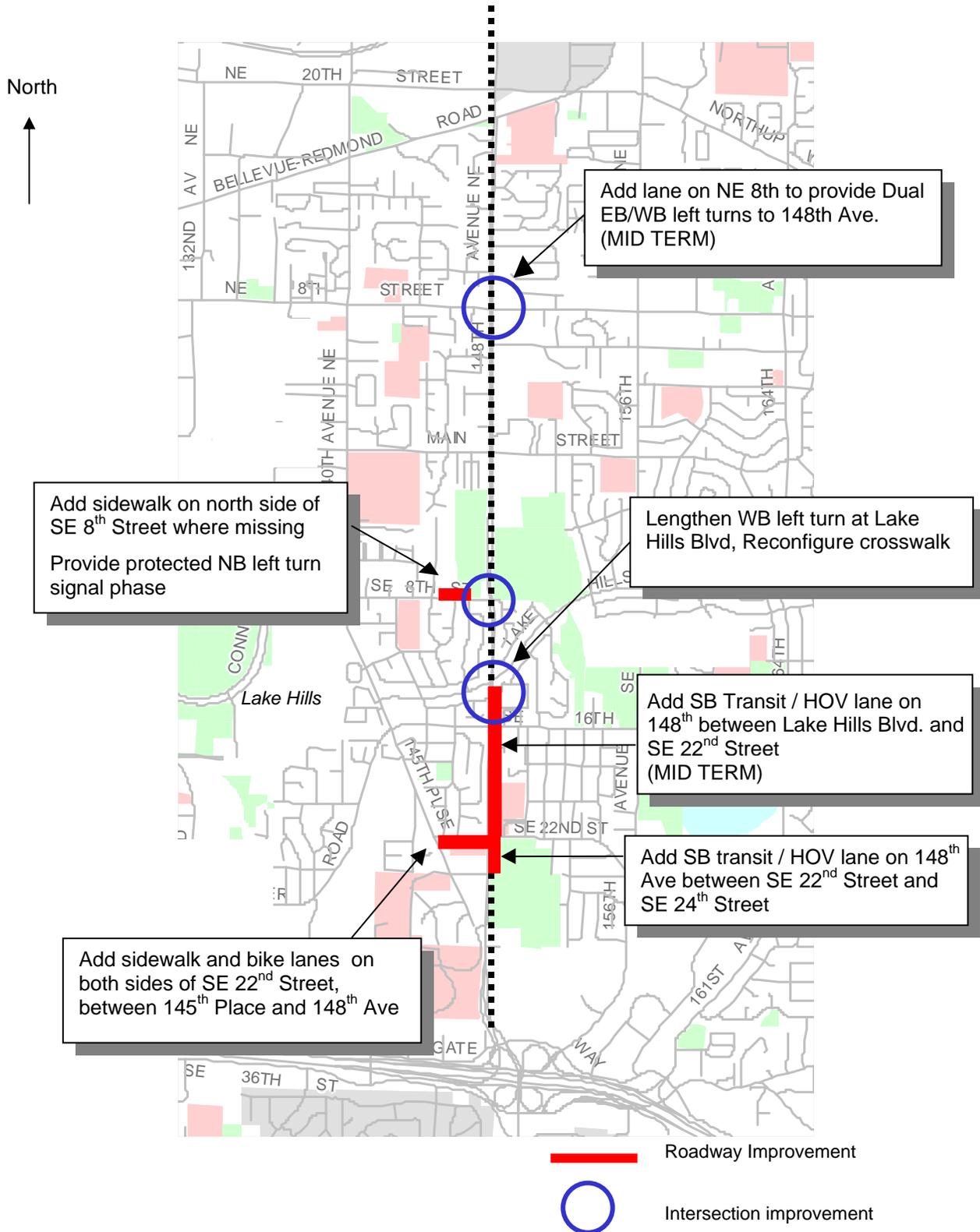
### ***Final Recommendations Approved by Transportation Commission***

#### Short Term (6 Years) Recommendations

- Lake Hills Blvd - Extend westbound Left Turn, improve sidewalks and modified crosswalk on north leg of intersection (Includes Transit Signal Priority at selected locations along 148<sup>th</sup> Avenue).
- SE 8<sup>th</sup> St. - Add sidewalk on north side gap just west of 148<sup>th</sup> Avenue, and left turn protected phasing (northbound to westbound) on 148<sup>th</sup> Ave SE.
- SE 22<sup>nd</sup> St – Add sidewalk and bike lanes on both sides, 145<sup>th</sup> Place to 148<sup>th</sup> Ave SE (No EB right turn lane)
- 148<sup>th</sup> Avenue SE, from SE 22<sup>nd</sup> St. to SE 24<sup>th</sup> St. – Add a southbound transit/HOV queue jump to tie into current CIP project (R-117). When the transit/HOV lane is built, the free right turn at SE 24<sup>th</sup> Street to 148<sup>th</sup> Avenue would need to be reconfigured as a stop on red.
- 148<sup>th</sup> Avenue SE at Larson Lake – Staff should proceed with a separate study to complete analysis and design of roadway and pedestrian trail, to mitigate the existing flood issues.

**Figure 3**  
**Recommended Improvements for 148<sup>th</sup> Avenue**

148<sup>th</sup> Avenue



Mid Term (12 Years) Recommendations

- NE 8<sup>th</sup> Street – Add one lane to accommodate dual left turns (eastbound and westbound) to 148<sup>th</sup> Avenue.
- 148<sup>th</sup> Avenue, from Lake Hills Blvd. to SE 22<sup>nd</sup> St. – Add southbound transit/HOV lane to connect with the transit/HOV queue jump constructed in short term.

## LAKE HILLS BOULEVARD IMPROVEMENTS

### Project Description

The Lake Hills Boulevard improvement project lengthens the westbound left turn pocket, installs curb, gutter, sidewalk on the east leg and relocates the existing diagonal crosswalk across 148<sup>th</sup> Avenue to the north leg of the intersection. The key elements of the improvement are shown in the Final Report, Chapter 5 (**Figure 5.3**) and include:

- Restripe east leg of Lake Hills Blvd. for longer left turn lane from 100 feet (existing) to 250 feet
- Revise the westbound through lane to a through/left lane (Optional).
- Install sidewalk on east leg (540 linear foot new sidewalk on north side, 400 linear foot new sidewalk to replace asphalt path on south side).
- Remove diagonal crosswalk and replace with a crosswalk on the north-leg of the intersection and install sidewalk on the NE curb return.
- Modify the existing signal on 148<sup>th</sup> Avenue SE at Lake Hills Boulevard.
- Transit Signal Priority (TSP) treatments at key transit intersections along 148th Avenue, including Lake Hills Blvd. and SE 24<sup>th</sup> Street. Other locations to be identified through the City's 6-year transit plan update and discussions with King County Metro.

### Project Purpose

This project reduces westbound delay on Lake Hills and significantly reduces transit delays at key turn in routing (148<sup>th</sup> at Lake Hills Blvd.), affecting 20 bus trips during peak period.

### Existing Conditions

Lake Hills Boulevard is a two-lane roadway with 8' wide paved shoulders and curb, gutter and asphalt sidewalk on the south side of the roadway. There is an extruded curb on the north side of the roadway that provides for a pedestrian walkway. There is an existing westbound left turn lane and a traffic signal in the intersection of 148<sup>th</sup> Avenue SE.

### Assumptions

- A new curb, gutter and 6' sidewalk will be installed on both sides of Lake Hills Blvd (east leg)
- The traffic island in the intersection will need to be reconstructed.
- The roadway improvements extend 400' on the south side of the east leg, and 540' on the north side.
- All improvements are within right-of-way.

**Cost Estimate**

- \$456,000
- Costs based on current year (2002)
- All work to be done within existing Right-of-Way
- Costs include TSP at Lake Hills Blvd. and SE 24<sup>th</sup> Street
- Costs include 20% planning contingency to account for potential future water quality related costs and other unforeseen costs.
- See cost estimate worksheet

**Environmental Issues**

- Project meets requirements for Categorical Exemption from SEPA.
- If federal funds used, Biological Assessment would be required.
- Storm drainage detention and water quality treatment not required under current code, unless funded with federal funds.
- No significant trees will be impacted.
- Little impervious surface added. Effects are easy to mitigate.
- No significant environmental issues.

**Political Issues**

- Improvements will impact 25 parking stalls at the medical building property on the north side of Lake Hills Boulevard. The parking lot will need to be reconfigured. The parking lot will need to be reconfigured and the same number of existing stalls should try to be maintained if possible. These parking stalls exist within the City right-of-way.
- Not likely to be significant public opposition based on positive feedback from Transportation Commission and open house comments.

## SE 8<sup>th</sup> STREET IMPROVEMENTS

### Project Description

The SE 8<sup>th</sup> Street improvement adds a sidewalk on the north side of SE 8<sup>th</sup> street, just west of 148<sup>th</sup> Avenue. This completes the missing gap of sidewalk at that location. In addition, the signal at the intersection is modified to allow for a protected northbound left turn onto SE 8<sup>th</sup> Street. It is likely that the City of Bellevue will implement the signal phasing changes in the next 2-3 years as warranted. The key elements are shown in the Final Report, Chapter 5 (**Figure 5.5**) and include:

- Add 6' sidewalk on north side of SE 8<sup>th</sup> Street, west of 148<sup>th</sup> Avenue, within existing gap behind the curb. Total length is approximately 460 linear feet.
- Add northbound left turn protected phasing on 148<sup>th</sup> Avenue.

### Project Purpose

This project completes the gap in the existing sidewalk on the north side of SE 8<sup>th</sup> Street, thereby improving pedestrian safety. The protected signal phasing improves the safety for motorists making left turns onto SE 8<sup>th</sup> Street. This location is the only intersection along 148<sup>th</sup> Avenue (within the study area) where left turns are "permitted-only".

### Existing Conditions

There is currently a curb and gutter along the north edge of SE 8<sup>th</sup> Street, with a missing gap of sidewalk approximately 460 linear feet in length. Wetlands are located north of the project site.

### Assumptions

- Improvements done within City right of way. No easements required.
- Approximately 250' of sidewalk will require thickened edge for installation of a pedestrian railing.
- Approximately 120 linear feet of 3' high keystone wall is required to support back of sidewalk.

### Cost Estimate

- \$182,000
- Costs based on current year (2002)
- All work to be done within existing Right-of-Way
- Cost estimate includes wetland mitigation costs
- Costs include 20% planning contingency to account for potential future water quality related costs and unforeseen costs.
- See cost estimate worksheet

### **Environmental Issues**

- New sidewalk (keystone wall) will impact wetland on north side of SE 8<sup>th</sup> Street. However, the encroachment would be a maximum of 360 square feet, and there is some doubt that this area would be designated as wetland based on the vegetation. The cost estimate includes \$20,000 for wetland mitigation which would likely be wetland enhancement.
- Does not require detention or water quality improvements under current code.
- Project is categorically exempt from SEPA requirements.
- Project may require a Corp 404 and 401 permit if it is determined that it encroaches wetland.

### **Political Issues**

- No impacts to businesses or residents.
- Not likely to be significant public opposition based on positive feedback from Transportation Commission and open house comments.

## SE 22<sup>nd</sup> STREET IMPROVEMENTS

### Project Description

The original SE 22<sup>nd</sup> Street improvement as shown in Alternatives 3 through 4 added a sidewalk only on the south side of SE 22<sup>nd</sup> Street, between 145<sup>th</sup> Place and 148<sup>th</sup> Avenue. There is an existing extruded curb and asphalt sidewalk on the north side of the roadway. As the project proceeded into the preliminary design phase, it was determined that the roadway widening would be most feasible if done symmetrically, thereby impacting both the existing north curb and the south side of the roadway. Therefore, the project was redefined to include bike lane and sidewalk improvements on both sides of the roadway. The bike lane improvements are consistent with the City's 1999 Pedestrian and Bicycle Transportation Plan. The key elements are shown in the Final Report, Chapter 5 (**Figure 5.6**) and include:

- Add curb, gutter and 6' sidewalk on the both sides of SE 22<sup>nd</sup> Street, between 145<sup>th</sup> Place and 148<sup>th</sup> Avenue. Total length is approximately 1840 linear feet.
- Add 5' bike lane on both sides of SE 22<sup>nd</sup> Street, between 145<sup>th</sup> Place and 148<sup>th</sup> Avenue. Total length is approximately 1800 linear feet. The existing shoulders could be used as surface for this improvement.

### Project Purpose

This project completes the gap in the existing sidewalk on the south side of SE 22<sup>nd</sup> Street, thereby improving pedestrian safety for residents and students at the Coal Creek Chapel and School. It improves the existing walkway on the north side of the road. It also implements the bike lanes as recommended in the City's *Pedestrian and Bicycle Transportation Plan*.

### Existing Conditions

SE 22<sup>nd</sup> Street is currently a two-lane roadway with an extruded curb and asphalt walkway on the north side of the roadway. The south side of the roadway has a two-foot asphalt shoulder and a ditch section for drainage conveyance.

### Assumptions

- A new storm drainage system will need to be installed on the north and south side of the roadway.
- Three feet of fill will be required the full length of improvements.
- A fill wall will be required on the SW corner of SW 22<sup>nd</sup> and 148<sup>th</sup> Avenue.
- Construction of keystone retaining walls to support the cut slope will reduce impact on the adjacent property and reduce loss of mature trees.
- Overhead power on north side of road would need to be relocated to back of sidewalk. If power is put underground, it would require franchise utility trench and vault excavation - cost to City would be approximately \$100,000 (40% of total cost).

**Cost Estimate**

- \$1,179,000
- Costs based on current year (2002)
- Right-of Way may be required for a portion of the work at western end. Costs include small amount for property acquisition.
- Costs include 20% planning contingency to account for potential future water quality related costs and unforeseen costs.
- See cost estimate worksheet

**Environmental Issues**

- Project will be exempt from SEPA requirements as it does not provide for vehicular capacity increases.
- Detention and water quality will be required under the current code, as the added impervious surface meets the threshold of 5,000 square feet.
- Small number of trees/vegetation impacted within church property.
- Eliminates existing drainage bioswale on south side of SE 22<sup>nd</sup> Street. The City could potentially work with the church to maintain the bioswale to improve water quality. This may also reduce the cost for storm water quality requirements.

**Political Issues**

- Minor impacts to church/school property .
- Not likely to be significant public opposition based on positive feedback from Transportation Commission and open house comments.

**TRANSIT QUEUE JUMP (SE 22<sup>nd</sup> STREET TO SE 24<sup>th</sup> STREET)****Project Description**

This project adds a southbound transit/HOV queue jump, from just north of SE 22<sup>nd</sup> Street, connecting with the new southbound lane being constructed at SE 24<sup>th</sup> Street (CIP R-117). Widening would be done on the west side of the roadway. This project would also replace sidewalk along the affected roadway portion. The key elements are shown in the Final Report, Chapter 5 (**Figure 5.7**) and include:

- Add transit/HOV queue jump from just north of SE 22<sup>nd</sup> Street (begins where existing transit pullout ends) to SE 24<sup>th</sup> Street (total length approximately 900 feet).
- Add 8' wide sidewalk on west side of 148<sup>th</sup>, between SE 22<sup>nd</sup> Street and SE 24<sup>th</sup> Street (total length approximately 600 linear feet).
- Add retaining walls where needed to protect adjacent trees.

**Project Purpose**

This improvement provides added benefit to transit, while also improving the capacity of southbound general purpose lanes by providing a separate lane for transit and right turning traffic at SE 22<sup>nd</sup> and SE 24<sup>th</sup> Streets. It benefits transit speed and reliability in the corridor, affecting 25 runs during the peak period.

**Existing Conditions**

Southbound 148<sup>th</sup> Avenue SE includes two lanes with curb, gutter and sidewalk. There are existing traffic signals in the intersections of SE 24<sup>th</sup> Street and SE 22<sup>nd</sup> Street.

**Assumptions**

- Includes construction of noise barrier wall to replace the existing noise barrier that would need to be removed. New noise barrier would be similar to the one currently being constructed on 140<sup>th</sup> Avenue.
- Includes construction of a rockery south of SE 22<sup>nd</sup> Street to support the cut slope along the existing church/school property. This will reduce the impact on the adjacent property and reduce the loss of landscaping.
- A 7' high 320' long cut retaining wall will be required adjacent to the apartment property on the NW corner of SE 24<sup>th</sup> Street.
- Improvements extend for roughly 750' and are all within right-of-way.
- Signal modifications will be required at SE 24<sup>th</sup> Street and SE 22<sup>nd</sup> Street.

**Cost Estimate**

- \$1,178,000
- Costs based on current year (2002)
- All work to be done within existing Right-of-Way
- Cost estimate includes water quality associated costs based on current code.
- Costs include 20% planning contingency to account for future potential water quality related costs and other unforeseen costs.
- See cost estimate worksheet.

**Environmental Issues**

- Preliminary SEPA will be required due to the widening of the roadway by one lane
- Detention and water quality will be required under current code, as the project adds impervious surface that meets the threshold of 5,000 square feet.
- New southbound lane decreases buffer between traffic and residences
- Three trees will need to be removed at the SW corner of SE 22<sup>nd</sup> Street
- May be loss of other trees west of roadway – Use retaining walls where possible to protect significant trees.
- No significant change to air quality

**Political Issues**

- No significant impacts to adjacent residences (No property acquisition required)
- Roadway widening likely to result in moderate public opposition based on feedback from Transportation Commission and open house comments.

## NE 8<sup>th</sup> STREET IMPROVEMENTS

### Project Description

Add an additional lane on NE 8<sup>th</sup> Street to provide dual eastbound and westbound left turn lanes. All widening would be done to the north side of roadway. The key elements are shown in the Final Report, Chapter 5 (**Figure 5.8**) and include:

- Widen NE 8<sup>th</sup> Street to the north by 12 feet, both east and west of 148<sup>th</sup> Avenue
- Provide dual left turn lanes (East and westbound) to 148<sup>th</sup> Avenue.
- Provide raised curbing to restrict left turn access in and out of properties within the affected project area to prohibit traffic crossing dual left turn lanes.
- Provide new curb, gutter and sidewalk on north side of roadway.

### Project Purpose

Future 2012 baseline operations at NE 8<sup>th</sup> Street and 148<sup>th</sup> Avenue NE are expected to be at capacity (LOS E) for the intersection as a whole, with significant queuing for both southbound and westbound traffic. Based on Sim Traffic simulation of the corridor, the intersection is expected to fail (LOS F), with over capacity demands for both the southbound and westbound approaches. Widening NE 8<sup>th</sup> Street for dual left turn lanes to 148<sup>th</sup> Avenue would change the overall intersection operation to LOS D, with still significant, but reduced queuing on both southbound and westbound approaches.

### Existing Conditions

The west and east legs of the intersection have five lane roadway sections with curb, gutter and sidewalk. There is an existing traffic signal in the intersection.

### Cost Estimate

- \$2,505,000
- Costs based on current year (2002)
- Cost estimate includes detention and water quality improvements for storm drainage as required under current code.
- Cost estimate includes an additional 20% planning contingency to account for future potential water quality related costs and other unforeseen costs.
- Three factors could increase the project cost, including: depth of the unsuitable material in the wetland; the requirement for ratio of wetland replacement; and availability of suitable property for replacement of the wetland.
- See cost estimate worksheet

**Assumptions**

- Will require extension of multiple culverts that carry Kelsey Creek under NE 8<sup>th</sup> St. Cost estimate is based on pipe extension with a minor amount of site work to provide fish passage.
- Project will require a Corp 404 permit, 401 Certification from Ecology, Clear and Grade permit and Street Use permit. Permitting process for a project impacting a Class A wetland may require two years from submittal to approval
- It will not be feasible to replace landscaping on the north side of NE 8<sup>th</sup> Street, because it will impact the wetlands and the Cascadian Business Park.

**Environmental Issues**

- Will significantly impact wetlands on northeast and northwest corners of intersection. Normal requirement is for replacement at 2:1 ratio, however, a higher ratio could be required by the Corp or Ecology depending on the quality of the wetland impacted. Cost includes the purchase of ¼ acre property, which will allow for replacement at 5:1 if necessary.
- The major portion of the affected wetlands belongs to the City of Bellevue Utilities, and is a regional detention area.
- Will require extension of multiple culverts that carry Kelsey Creek under NE 8<sup>th</sup> St. Cost estimate is based on pipe extension with a minor amount of site work to provide fish passage.
- Project will require a Corp 404 permit, 401 Certification from Ecology, Clear and Grade permit and Street Use permit. Permitting process for a project impacting a Class A wetland may require two years from submittal to approval.
- Project will require Preliminary SEPA review, a Biological Assessment, and consultation with US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS).

**Political Issues**

- Approximately 5,000 sq. ft. of Right of Way required on northwest corner, impacting wetland and an existing office park. Could be minor impacts to existing parking if 4' landscape buffer is required between sidewalk and parking lot.
- Raised curb on NE 8<sup>th</sup> Street will restrict several businesses to right-in right-out only, and may result in some opposition.
- Not likely to be significant public opposition based on feedback from Transportation Commission and open house comments. Support for traffic relief balances concerns for wetlands.

**TRANSIT / HOV LANE (LAKE HILLS BLVD. TO SE 22<sup>nd</sup> STREET)****Project Description**

This project adds a southbound transit/HOV lane from Lake Hills Boulevard to the transit queue jump, just north of SE 22<sup>nd</sup> Street. Widening would be done on the west side of the roadway. This project would replace sidewalk along the roadway, primarily between SE 15<sup>th</sup> and SE 16<sup>th</sup> Streets. The key elements are shown in the Final Report, Chapter 5, **(Figure 5.9)** and include:

- Add southbound transit/HOV lane starting at bus pullout just south of Lake Hills, continuing to the existing bus pullout just north of SE 22<sup>nd</sup> Street, near the pedestrian bridge (total length approximately 2,180 feet).
- Add 8' wide sidewalk on west side of 148<sup>th</sup>, between SE 15<sup>th</sup> Street and SE 16<sup>th</sup> St. (450 linear feet), and from SE 16<sup>th</sup> Street approximately 150 feet southward (Total of 600 linear feet).

**Project Purpose**

This improvement provides a significant benefit to transit and HOV's, while also improving the capacity of southbound general purpose lanes. It benefits transit speed and reliability in the corridor, affecting 25 runs during the peak period.

**Existing Conditions**

148<sup>th</sup> Avenue SE is currently a five-lane roadway with curb, gutter and sidewalk on both sides of the roadway. Portions of the sidewalk are only 6' wide (not to standard) while other portions are set back from the roadway. A landscaped median exists on most portions of the road.

**Assumptions**

North of SE 16<sup>th</sup> Street:

- Remove and replace existing sidewalk, curb and gutter
- Includes construction of noise barrier wall to replace the existing noise barrier that would need to be removed. New noise barrier would be similar to the one currently being constructed on 140<sup>th</sup> Avenue.
- Improvements extend roughly 640' back of crosswalk

South of SE 16<sup>th</sup> Street:

- Includes construction of noise barrier wall to replace the existing noise barrier that would need to be removed. New noise barrier would be similar to the one currently being constructed on 140<sup>th</sup> Avenue.
- The back of new sidewalk will extend into an apartment complex in the NW corner
- Concrete wall and parking stalls will need to be reconstructed
- Existing rock wall will need to be removed. Construction of a rockery to support the cut slope will reduce the impact on adjacent property reduce the loss of landscaping.
- Existing irrigation system is reconstructed.
- Improvements extend roughly 1540' back of crosswalk

- PSE guy pole and high tension power pole need to be moved back. Manholes along project will need to be relocated or adjusted.

**Cost Estimate**

- \$2,636,000
- Costs based on current year (2002)
- Property on SW corner of SE 16<sup>th</sup> Street shows that the City does not own the existing sidewalk. Costs include fee simple costs to cover needed right of way.
- Cost estimate includes water quality associated costs based on current code.
- Costs include 20% planning contingency to account for future potential water quality related costs and other unforeseen costs.

**Environmental Issues**

- Preliminary SEPA will be required due to the widening of the roadway by a lane.
- Detention and water quality will be required under current code, as the projects added impervious surface meets the threshold of 5,000 square feet.
- New southbound lane decreases buffer between traffic and residences
- Increase in impervious surface – Water quality associated costs
- Loss of significant number of trees west of roadway
- Extensive Right-of-Way required at the northwest and southwest quadrants of SE 16<sup>th</sup> Street
- Possible building impacts to multi family dwelling at southwest corner of SE 16<sup>th</sup> Street
- No significant change to air quality

**Political Issues**

- Some impacts to adjacent residences near SE 16<sup>th</sup> Street (Property acquisition required)
- Roadway widening likely to result in heavy public opposition based on feedback from Transportation Commission and open house comments.