

Response to Questions:

East Lake Sammamish Parkway NE – Inglewood Hill Road to 187th Avenue NE

Questions Received from Councilmember Kathy Huckabay

November 18, 2007

- 1) *How will this project be impacted by our participation in and the result of a lawsuit to challenge the validity of the NPDES permit requirement?*

Our participation in the NPDES lawsuit has no bearing on the project. As the lawsuit is an ongoing legal action with three distinct parties, the effect on the ELSP project is unknown. However, given that the project already includes enhanced treatment for the entire roadway surface, any impacts are anticipated to be minimal. Regardless of the outcome of the lawsuit, a NPDES permit will be required during construction.

- 2) *How many driveways are there on this stretch of road, in what sections (all or what pieces)? What percentage of driveways could be combined and what would be the cost impact of that reduction?*

The following table summarizes the number of driveways on ELSP between Inglewood Hill Road and 187th Ave NE:

<u>Segment</u>	<u>Total Driveways</u>		
	<u>west side</u>	<u>east side</u>	<u>total</u>
Project Corridor (Inglewood Hill Rd to 187 th Ave NE)	20	34	54
1 st Phase (Inglewood Hill Rd to approx. NE 30 th)	8	22	30

Within the overall project corridor about 30% (6) of the driveways within the project limits on the west side and about 20% (6) on the east side of ELSP might be candidates for consolidation. Within the first phase (Inglewood Hill Rd to approx. NE 30th) about 25% (2) of the driveways on the west side and 10% (2) on the east side of ELSP might be candidates for consolidation. When determining the number of candidate driveways, we looked for existing driveways that are close to one another (within about 50-feet), so that the amount of driveway reconstruction could be minimized.

When discussing driveway consolidation, an important factor will be the willingness of property owners to enter into easement and maintenance agreements between themselves. Most properties access the public street via driveways on their own property, and combining driveways requires that one property owner agrees to the use of their property by others to allow access to

the adjoining property. Maintenance of this joint driveway is typically a joint responsibility called out in the recorded easement. Some advantages to property owners can be that by sharing driveway maintenance cost, the impact on individual driveways can be reduced. Another advantage can be improved sight distances for entering the roadway, or less steep driveways. The discussions with individual properties concerning their desire to consolidate driveways would occur during final design.

The concept of a "frontage road" had been raised in one of the Council sessions as another method of consolidating driveways. Because of fire access requirements when multiple homes are involved, the minimum width of this frontage road would be 20-feet wide. The construction of such frontage roads would require additional right-of-way (or driveway easement agreements between property owners). For many of the driveways on the west side of ELSP, approvals to construct additional pavement would have to be acquired from King County to construct within the East Lake Sammamish Trail right-of-way. The construction of the driveways would add additional cost to the project because of the additional grading, pavement, and stormwater facilities that would be required. For these reasons, it is not recommended.

The cost impact of potential reduction in access points is unknown at this time. However, because of the rather limited number of driveways involved, it is not expected to be significant.

- 3) *The final design may exclude the landscaped medians for the 1000 feet referenced on page 12. What are the cost savings of reducing the footprint in this area?*

A specific cost estimate has not been developed for this reduction. A range of anticipated savings would be about \$380,000 to \$520,000. This would assume that there would be a 2 to 4-foot separation between the northbound and southbound lanes. This separation could be provided by median, barrier, or rumble strips ground into the pavement. Some additional savings could be achieved if the separation was dropped altogether, however the necessary roadway capacity is based on including a center median. The center median also provides safety benefits that are no longer provided if the median is dropped.

- 4) *Why not borrow from the 228th playbook and reduce the left turn options so that median can be reduced in width throughout longer stretches of the parkway. Please provide us with the cost impact of this scenario.*

This suggested project was represented by Concept 2 that was identified by Design Charrette participants in June 2005. It was dropped because it had the same cost as the preferred concept, but had undesirable characteristics compared to the preferred concept. Concept 2 was screened out of further consideration and the reasons for this were discussed at the City Council meeting

of May 16, 2006. Following is a brief review of the history associated with Concept 2.

Concept 2 was evaluated during the preliminary design stage, with the use of roundabouts as a means to allow access and provide U-turns. During the Council session of September 13, 2005 it was noted that there was strong dislike from those who participated at the August 2005 Open House because of the additional travel times for those who would access their driveways in the corridor by the elimination of the left-turns, and the need to come back via the roundabouts to access their driveways. At the November 1, 2005 Council meeting we discussed how we thought this Concept would save approximately \$5-8 million over the currently preferred project. We came back on May 16, 2006 to discuss with Council why the Concept with reduced left-turn options, and the use of roundabouts instead, did not achieve the cost savings anticipated (both Concepts were the same cost). There was no cost savings because of the additional right-of-way required around the roundabouts, and the significant grading work/walls required to construct the roundabouts. Concept 2 also made it difficult to allow pedestrians to cross ELSP.

228th Avenue is a 5-lane section, which more easily accommodates u-turns. The 3-lane section in the ELSP preferred concept is not wide enough to accommodate u-turns; consequently roundabouts were used to accommodate u-turns throughout the corridor.

- 5) *In conjunction with (3) above, what is the cost impact of reducing the median to 2-4 feet from 10 feet as shown in the plan.*

A specific cost estimate has not been developed for this reduction. A range of anticipated savings would be about \$310,000 to \$430,000.

- 6) *Are the bike lanes also going to serve as pulloffs for school buses, trash trucks and containers?*

School buses, U.S. mail and trash trucks could use the bike lane to pull off. School busses typically employ their flashers and extend their "stop" sign requiring other vehicles to stop when picking up or dropping off students. In the areas where school buses, U.S. Mail, and trash trucks are stopping, the center turn lane also exists. Trash containers should not be placed in the bike lane (they could be placed at the edge of driveways, or possibly in a space created in planter area).

- 7) *Please reduce the width of the planting strip between the bike lane and pedestrian pathway.*

The planting strip is currently configured per the City Design Standards (5-feet). It can be narrowed, if directed to do so by Council. One element to consider

when doing so is plant survival if the planter strip gets too narrow. Additionally, a narrower planter strip limits the opportunities to incorporate LID concepts.

- 8) *What are the implications of moving the planting strip on the east side of the road, delineating the bike lane and pedestrian path, to the left of the bike lane?*

This is something that could be explored during final design. The overall roadway footprint would not change (unless Council were to direct reducing the planter strip width). A disadvantage for bicyclists would be that they are not in as clear a view of motorists turning at driveways or intersections. An advantage would occur in other stretches where bicyclists would be separated. See the response to question 9 for additional information.

- 9) *What are the implications of moving the bike line on the west side of the road to the east side, placing the planting strip, delineating the bike lane and pedestrian path, between an expanded bike lane and pedestrian walkway? What are the pros and cons of combining the bike lanes on one side of the road? We all bike on the trail with minimal separation.*

Creating a combined use facility on the east side (a 10-foot multi-use path) could save 5-feet in the roadway section; however this would present a concern for emergency vehicle response. The significant disadvantage of this approach is that the multi-use path would be mixing a variety of users who are traveling at different speeds. This mixture of different speeds creates a safety issue if the volumes are high. Another disadvantage of creating a multi-use path is that conflicts tend to evolve at driveway locations and cross streets between bicyclists and motorists. Because commuter bicyclists are traveling at a fairly high rate of speed (10-20 mph), motorists who are turning right into or out of driveways tend not to see them approaching in their blind spots, causing higher collision rates. Keeping the bike lanes in the roadway addresses this issue.

- 10) *How can we make the pedestrian pathway or bike lanes more LID? Are their sections where we can target for demonstration or experimental materials that will increase infiltration and protect the lake? Joyce McCallum asked why are we no longer considering a path rather than curb gutter and sidewalk? Many requests have been made for a path, landscaping rather than curb gutter and sidewalk. Do you know what the public prefers? Remember the Olmstead vision of a city within a Park rather than Parks within a City? Could the Parkway not be improved with a greener aesthetic appeal?*

For the pedestrian facility, the use of pervious materials would be something to look at closely during final design (good chance this will work). We have used pervious concrete sidewalks successfully in other locations. Regarding other surfacing materials, the city has had a negative experience with soft surface pathways as they require a high level of maintenance due to weeding requirements. Using pervious materials in the bike lane is not recommended as it would create a problem in getting the stormwater from the through lane into a

collection system where the stormwater could be treated. A pervious concrete surface in the bike lanes would also result in course surface that is not desirable for the narrow tires commonly found on road bicycles.

Rather than a formal sidewalk, a wandering path could be used (assuming that it is still a hard surface for ADA purposes). In order to minimize any additional right-of-way acquisition to what is currently proposed, the "wandering" of the path would be fairly small (within the 11-foot zone shown for the sidewalk/planter area). A curb and gutter is very desirable to be able to collect runoff from the roadway to direct it into facilities where the stormwater can be treated before releasing to Lake Sammamish.

One of the goals of using planters and medians is to create a green, aesthetic appeal. These elements also help keep speeds down on the Parkway to the posted 35 mph limit by providing a feeling to motorists of a tighter more constrained corridor than would be present if these elements were eliminated.

A curb and gutter is the most effective method to collect roadway stormwater runoff (stormwater runoff must be collected to transport to the treatment facilities). Other methods exist, however are they are not as effective and require additional width.

Questions Received from Councilmember Nancy Witten
November 19, 2007

- 1) *What is the process for significant public input at this stage, such as, a charette, open house, survey, notice to stakeholders, public hearings, etc.? This is one of the most of the most expensive and controversial projects we have ever had, and I would like to hear from all interest groups and the public and give everyone an update and opportunity to provide effective input to the proposed updated design*

Other than reducing the median width by two feet (to address emergency vehicle access concerns), there have been no changes to the Preferred Concept that was presented to Council on May 16, 2006

There has been a significant public involvement program to date on the project. There has been a total of 4 Open Houses, 1 Design Charrette, 6 meetings with different community groups, and 7 meetings with the City Council (including tonight) devoted to the current project development on ELSP. The City's project website has been organized to solicit comments at any time on the project. If the project moves forward, there will be at least 2 more Open Houses to keep the

public informed of project development, and it is anticipated that at least 2 more City Council meetings will be held. In addition, each of the property owners who will have driveways affected by the proposed project will have individual meetings scheduled to explore the details of how best to reconstruct their driveways.

- 2) *Where are the pockets of parking so that we continue the staggered distribution of access points to the trail? What are the costs?*

No pockets of parking are currently planned for the ELSP project. Current City Standards are that on-street parking is not allowed on minor arterials such as ELSP. However, this has been a topic of discussion during several presentations on ELSP and some property owners have expressed an interest in having on-street parking. Others have been concerned that such parking spaces would be used not by local residents, but by users of the East Lake Sammamish Trail and did not want to see on-street parking. If desired by the Council, parking could be accommodated if requested by the adjacent property owners. This would require the dedication of additional right-of-way from those property owners in order to create the parking spaces. If the property were dedicated, the cost of creating the parking spaces could be accommodated within the current project contingency.

King County is planning on creating a parking area for the East Lake Sammamish Trail near the ELSP/Inglewood Hill Road intersection. We are coordinating with them to address the technical aspects of this proposed facility.

- 3) *Identify those improvements being done for safety and prioritize and provide cost information.*

There a variety of elements in the project being done to improve safety in the corridor. These include:

- A center left-turn lane wherever there are driveways in the corridor to allow left-turning vehicles to safely turn (the principal benefit is to avoid being rear-ended by traffic from behind),
- Bike lanes to provide a separated space for the higher speed bikes to use the corridor and a safe place for commuters to use alternative modes of transportation to-and-from work than traveling in their car,
- Sidewalks for pedestrians to safely travel along the corridor and to allow residents along the east side of the corridor to reach a safe place to cross ELSP to reach the East Lake Sammamish Trail (or their properties) on the west side of ELSP. This sidewalk also provides a safe place for students to wait for their school bus.

- 4) *Identify those driveways with sufficient volume and/or safety concerns to justify separate left turn lanes and comment on whether the remainder could be right turn in or out only.*

It is the volumes on ELSP that justifies the use of a left-turn lane. With current Average Daily Traffic (ADT) volumes of 17,900 on ELSP that will increase to 21,800 by 2030 with the full build-out of existing land use, and development of Town Center, the possibility of rear-end collisions between vehicles waiting to turn left and other vehicles will increase. One of the early concepts for the corridor was to prohibit left-turns and require right-turns in-and-out of the driveways. Roundabouts or U-turn pockets would be used to allow access to properties adjoining ELSP. This concept was discussed at the May 16, 2006 Council meeting and was dropped from further consideration because there was no cost savings, and additional inconvenience would have occurred to residents of ELSP as they would have to travel out of their way in one-direction to get to a roundabout.

- 5) *If there were driveways which were to be right turn in and out only, which ones would they likely be and where would they be able to turn around? Cost implications?*

No specific design concepts were developed that looked at only having specific driveways restricted to right turn in and out. One of the early concepts for ELSP, Concept 2, did consider restricting all driveways to right turn in and out, and constructing roundabouts to allow people to turn around. This concept was carried forward until the Council meeting of May 16, 2006 where it was dropped from further consideration. Some of the reasons were that it was about the same cost as the proposed concept, and it would require additional travel times for residents of the ELSP who would have to use the roundabouts to go in at least one direction.

- 6) *Why not consider a four lane configuration, at least for the most northerly segments of the roadway?*

A four-lane section would provide more capacity than the traffic demand that is forecasted by the City's 2030 traffic model (including the Town Center Preferred Alternative), it would have a wider footprint than the currently proposed project and therefore would cost more, and national studies (see "Road Diets" by Dan Burden and Peter Lagerway) have demonstrated that from a safety perspective, a three-lane section is safer in situations like the ELSP where driveways are present. A four lane configuration is not necessary.

Additionally, a 4 lane section is not needed from a concurrency capacity standpoint, so if built, we would be spending additional money to create unnecessary capacity with little to no safety benefits. Speeds on a 4 lane section would likely increase as drivers feel more comfortable with a more wide open cross section in all but peak hour times.

- 7) *Why not consider a three lane configuration with two lanes going north and left turn pockets at high volume road/driveway intersections? Discuss and please include safety and cost implications*

This would create more capacity than the traffic demand that the City's 2030 traffic demand model is predicting for the corridor (including the Town Center Preferred Alternative), and it would have a wider footprint than the currently proposed project, and would therefore cost more. Providing turn pockets at all driveways is a function of avoiding rear-end collisions because of the total volume on ELSP, and is not a direct function of the volume for each driveway. Further complicating the concept of adding and dropping turn lanes this is the fact that driveways are scattered throughout most of the corridor, making it impractical to add/drop turn lanes. It takes about 210-feet to transition from a turn pocket section into a non-turn pocket section, and another 210-foot to again transition back from a non-turn pocket section into a turn pocket section.

- 8) *Identify with specificity each of the actions we are taking in this project to clean up the runoff from the road into Lake Sammamish. Discuss options and cost implications. Are there other LID techniques we should be considering? Cost implications, please.*

All stormwater from ELSP will be collected at the edge of the roadway by curb-and-gutter and directed into catch basins. The stormwater will then be piped from the catch basins to stormwater vaults in the East Lake Sammamish Trail ROW. These vaults are sand filters designed to provide the enhanced treatment required by the Department of Ecology and the City of Sammamish for water entering Lake Sammamish. Specific pollutants of concern that will be treated are petroleum products, heavy metals, and phosphorus. The treatment approach has been reviewed and approved by the National Marine Fisheries Service (NMFS) and the National Oceanic and Atmospheric Administration (NOAA) who are the two federal agencies monitoring species of concern in Lake Sammamish. Agreements in principle have also already been reached with King County to construct the stormwater vaults within the East Lake Sammamish Trail right-of-way.

The approximate cost to implement the conveyance system portion of the project is about \$2.2M. The approximate cost for the stormwater treatment facilities is about \$1.4M.

LID techniques are being considered on the project. Rather than using conventional paving materials for the sidewalks, pervious concrete will be considered. An important function of the landscaped medians is to reduce the overall impervious area within the project limits that would be present if a continuous turn lane was used instead. The proposed stormwater treatment facilities incorporate LID techniques - we are using a series of smaller treatment facilities as opposed to a smaller number of large facilities. The use of other LID

techniques such as bioswales would increase the project footprint and would increase the project cost.

- 9) *Describe in detail the capacity improvements that will occur as a result of the three lane configuration with the median strip/left turn lane in the middle.*

The capacity of the current configuration of ELSP is 17,370 ADT. The proposed configuration for ELSP provides a capacity of 22,010. The principal increase in capacity is provided because of the reduced friction when left-turn vehicles are able to use the left-turn lane to either enter or exit the roadway without blocking other traffic. Other contributing factors are the separate bike and pedestrian facilities that provide a safe place for these users of the corridor away from vehicles using the corridor. Based on the City's approach to determining capacity per the Comp Plan, the median/left turn lane adds 4,640 vehicles to the calculated ADT capacity of ELSP.

The capacity increase provided by the proposed ELSP project is sufficient to meet the traffic demand in the corridor through 2030 with the build out level envisioned in the Comp Plan plus Town Center Preferred Alternative.

- 10) *Are we using AM or PM peak hours volumes to design for this road? Why?*

The City design standards for this roadway segment are driven by Average Daily Traffic (ADT), and not the AM or PM peak hour volumes. AM or PM peak hour volumes are typically used to design intersections or interchanges where the specific number of through-lanes, turn-lanes and length of these lanes are driven by the need to accommodate the different turn movements. This is not as important on sections of roadway that are between intersections.

- 11) *What takes this roadway out of the "failure" category if we focused on capacity issues just for the northerly most segment of this roadway, when considering the traffic volumes we expect from the town center, and focusing on am traffic volumes?*

All three of the ELSP segments north of Inglewood Hill Road are currently in concurrency failure. Improving only the northernmost segment does not provide enough capacity to eliminate these existing deficiencies – improvements are required along all three segments to address the existing failures.

The City's "failure" category is based on ADT volumes, and not on AM or PM volumes.

- 12) *What are we doing with the city of Redmond to see if they would be willing to consider pedestrian and bicycle improvements consistent with our plan and also four laning their portion of the roadway from our city border to 202?*

City staff regularly coordinates with Redmond staff, and Redmond has indicated that they are interested in being consistent with the Sammamish Improvements, however they have no plans to create a four or five lane section on ELSP.

Additionally, Redmond has two projects on ELSP in different stages of implementation within the next few years. The first project at the intersection of ELSP and NE 65th Street will provide and additional through lanes in each direction for a total of two through lanes. In the northbound direction this will better "feed" the new triple left recently constructed by WSDOT at the intersection of ELSP and SR202. This first project will be constructed in 2008. The second project would focus on repairing the failing concrete pavement sections on ELSP between 187th and NE 65th St. For this project Redmond has indicated that they are interested in being consistent with the Sammamish section of ELSP, but it is not part of their current program because of funding limitations. Until Sammamish moves forward with a project, they see no need to expend additional funding on their section of ELSP.

- 13) *How is this design integrated with the anticipated likely master plan improvements related to the East Lake Sammamish trail, such as the siting of bathroom facilities, parking and so forth?*

City staff coordinates with the ELST project team regarding their proposed master plan improvements. We are working with King County staff to address the technical aspects of the proposed facility near the ELSP/Inglewood Hill Road intersection

- 14) *Will this roadway be obsolete capacity-wise before it is built if there is growth beyond the anticipated up to 2,000 new units at the Town Center, e.g., development at the Pine Lake Center or the Sammamish Highlands? Assuming failure of the roadway if there is such additional growth, what are the options to avoid roadway failure?*

This project addresses the corridor needs through 2030, assuming the 2030 build-out envisioned in the Comp Plan plus the Town Center Preferred Alternative. It is unknown how much additional development can be accommodated by the Preferred Concept; however there is minimal reserve capacity after accounting for the Comp Plan build out plus the Town Center Preferred Alternative.

We are limited in our ability to build our way out of concurrency failures. It may be possible to construct improvements to the other northern access routes (Sahalee Way/228th Ave and 244th Ave NE). However if there were a future roadway capacity failure along ELSP due to additional growth proposals a likely option would include looking at methods to accommodate the increased demand such as enhanced public transit, rideshare, and Traffic Demand Management (TDM).