



**MEMO TO:** Members of the City Council

**FROM:** Mayor John Marchione

**DATE:** April 25, 2017

**SUBJECT:** Sound Transit Southeast Redmond Station Area

**I. RECOMMENDED ACTION**

At your April 25, 2017, study session, staff will share and seek Council input on preliminary at-grade and elevated light rail guideway evaluations for the Southeast Redmond station area. No action is required. A study session is scheduled for May 9 to review Southeast Redmond station concepts, which will show all significant station elements in relation to each other and the Marymoor Subarea. These study sessions are in advance of the Council selecting a preference for an elevated or at-grade station in Southeast Redmond.

**II. DEPARTMENT CONTACTS**

Rob Odle, Director of Planning and Community Development	425-556-2417
Nina Rivkin, Chief Policy Advisor	425-556-2103
Colleen Kelly, Assistant Director for Community Planning	425-556-2423
Don Cairns, P.E., Transportation Planning and Engineering Manager	425-556-2834
Jeff Churchill, AICP, Transportation Strategic Advisor	425-556-2492

**III. DESCRIPTION/BACKGROUND**

The Sound Transit Board is scheduled to update the preferred alternative – i.e., the station locations and vertical profile (at-grade, elevated, etc.) of the guideway – for the East Link extension to Southeast Redmond and Downtown Redmond on June 22, 2017. This memo provides background on the Southeast Redmond station area in preparation for your April 25, 2017, study session.

**Link Light Rail Extension**

The East Link extension to Southeast Redmond and Downtown Redmond is targeted to open in 2024, one year after East Link opens from Seattle to Overlake via Mercer Island and Bellevue. Preliminary design for the extension has begun and is expected to continue through mid-2018. An early task in this phase is “concept refinement,” where Sound Transit reviews the existing preferred alternative and considers changes to station locations and the vertical profile of the guideway in light of changed conditions.

### **The Existing Preferred Alternative**

Sound Transit adopted a preferred alternative for all of East Link – from Seattle to Downtown Redmond – in 2011, at the conclusion of several years of environmental review and alternatives analysis. The preferred alternative is memorialized in the East Link *Record of Decision* (ROD) issued by the Federal Transit Administration. The extension from Overlake to Downtown Redmond can proceed to design and construction, with a scheduled opening to Downtown in 2024, because the ROD included all of East Link from Seattle to Downtown Redmond.

The preferred alternative for the Downtown extension, known as E2 as described in the ROD, calls for an at-grade and retained cut alignment along SR 520 from the Redmond Technology Center Station at NE 40<sup>th</sup> St. to the West Lake Sammamish Parkway (WLSP) exit, at which point the rail would climb over the eastbound SR 520 off ramps to WLSP and remain elevated over WLSP and the Sammamish River, before coming to grade in Marymoor Park. The E2 alignment continues at grade along SR 520 with an at-grade station in Southeast Redmond, then turns toward the northwest, through the SR 520-Redmond Way (SR 202) interchange in a retained cut, climbs over Bear Creek, and then returns to grade in the Redmond Central Connector corridor in Downtown, with a station west of Leary Way. (Attachment A)

### **ST3 Representative Alignment**

Sound Transit developed a “representative alignment” for the extension to Downtown for the November 2016 ST3 ballot measure in order to develop a budget. The representative alignment did not undergo environmental review; it was created for budget purposes only. This alignment is different from the ROD alignment in that it assumes an aerial guideway through Marymoor Park, Southeast Redmond, and over the SR 520-Redmond Way (SR 202) interchange and Bear Creek before coming to grade in Downtown Redmond.

### **Refinements to the Preferred Alternative in the Downtown Redmond Station Area**

The City’s Downtown Transit Integration (TRAIN) Study served as the vehicle through which the City Council evaluated options for the Downtown station location and vertical profile. Four station area concepts were developed and evaluated. After public input, the Council recommended an elevated station in Downtown in the Redmond Central Connector corridor between 164<sup>th</sup> Ave NE and 166<sup>th</sup> Ave NE (the “east” location).

The City was able to consider changes to the station location in Downtown because the alignment through Downtown is straight, and environmental review conducted for the East Link ROD had considered a station in the 164<sup>th</sup>/166<sup>th</sup> Ave NE vicinity. The City Council’s recommendation for Downtown will be formally communicated to Sound Transit via letter in advance of the Sound Transit Board’s scheduled June 22 decision to update the preferred alternative.

Sound Transit’s preliminary estimates indicate that elevating the guideway and station in Downtown Redmond adds \$45 million relative to the ST3 budget. Sound Transit continues to review and refine these estimates. Up to \$20 million of this is due to elevating the station, with the balance due to elevating the guideway. Even though the track length is reduced by

moving the station east, reducing cost, the reduced length does not reduce costs enough to offset the increase due to elevating the guideway and station.

### **Refinements in the Southeast Redmond Station Area**

Refinements to the preferred alternative for the Southeast Redmond Station area are focused on the following geographic areas:

- Guideway through Marymoor Park;
- Southeast Redmond station; and,
- SR 520-Redmond Way (SR 202) interchange.

This entire guideway must be either entirely elevated or entirely at grade, with minor exceptions in Marymoor Park. Sound Transit has hosted a series of work sessions with City, County, and WSDOT staff over the past few months to develop and review refinements to the vertical profile of the guideway.

#### ***Context: Southeast Redmond Station Area Values***

The City Council provided input to a set of station area values on February 28, 2017, and has since provided additional input on important considerations for the Southeast Redmond station. The values and their major components are shown in Attachment B.

#### ***1. Marymoor Park Guideway Refinements***

Sound Transit is considering an at-grade or elevated guideway, or a combination of both, in Marymoor Park. The key discussion points for the Marymoor Park guideway have been:

- The amount of SR 520 right-of-way that the Washington State Department of Transportation (WSDOT) will allow Sound Transit to use;
- The resulting distance between the light rail guideway and Marymoor Park uses such as soccer fields;
- Differences in impacts to Marymoor Park and natural features like wetlands due to the vertical profile of the guideway (elevated or at grade)

The City is interested in the vertical profile of the guideway in Marymoor Park insofar as the profile impacts the location or profile of the Southeast Redmond station, project affordability, or overall system reliability.

#### ***2. Southeast Redmond Station and Guideway Refinements***

The Southeast Redmond station will either be at grade or elevated, and in either case will be roughly in the E2 alignment shown in Attachment A. Refinements to the vertical profile (at-grade or elevated) of the station are the most critical to the City because they touch on all of the City's station area values. However, regardless of whether the station is at grade or elevated, certain station area values will not be addressed until station design begins in summer 2017. Sound Transit, City, County, and WSDOT staff continue to develop a robust comparison between an at-grade and elevated station, including station area concepts that will be the focus of the Council's May 9 study session on this topic. The concepts will show all significant station elements in relation to each other and the Marymoor Subarea. Thus far, City staff have identified the following key differentiators between an at-grade and elevated station and guideway:

- Design flexibility. An elevated station and guideway allows for multimodal access to both the south and north sides of the guideway because the guideway is elevated. An at-grade station makes land north of the guideway inaccessible to the general public because the guideway would be fenced off (it could potentially be used for ancillary station facilities or other non-public uses). In general this means that there would be more station design flexibility in an elevated configuration to accommodate multimodal circulation, bus-rail integration, and station facilities.
- Safety. Passengers accessing the station platforms at an at-grade station would cross an average of one track, similar to the conditions at the Overlake Village and Redmond Technology Center stations. With an elevated station passengers do not cross tracks.
- Cost. An at-grade station and guideway in the Southeast Redmond area would save \$110m-\$136m vs. the ST3 budget when compared to an elevated station and guideway. As noted earlier, an elevated station and guideway in Downtown reduces the project savings by \$45 million. These estimates continue to be refined by Sound Transit and so are subject to change.

Some City values are not impacted by the decision to build an at-grade or elevated station. Of particular note:

- Transit Access, and Access and Mobility. The park-and-ride would attract the same number of trips in each scenario, and there are multiple locations the parking structure(s) could be built in either scenario. Multiple solutions also exist for non-motorized access.
- Integration with neighborhood. The look and feel of the station and its related facilities, as well as transit-oriented development potential, will be developed as more detailed site planning and design work occurs starting this summer.

### **3. SR 520-SR 202 Interchange Guideway Refinements**

Sound Transit has studied several elevated and at-grade concepts for the light rail and East Lake Sammamish Trail to cross the SR 520-SR 202 interchange. Key issues raised through review of the concepts include:

- Trail feasibility with at-grade rail alignment. In order to construct a grade-separated trail through the interchange, either the trail must be constructed over existing at-grade ramps, or the ramps must be rebuilt to accommodate an at-grade trail; constructing the trail under the existing ramps would put the trail below the flood elevation. When the light rail is at grade, the trail can take advantage of ramp rebuilds that are necessary to accommodate at-grade light rail. Preliminary estimates of trail cost in this scenario are \$4.5m-\$9.4m (estimates subject to continued refinement).
- Trail feasibility with elevated rail alignment. When light rail is elevated, trail construction bears the entire responsibility of grade-separating the trail from the freeway. This increases the trail crossing cost to \$18.8m-\$20.1m (estimates subject to continued refinement).
- Rail system reliability. All elevated concepts separate vehicle and rail traffic completely. Most at-grade concepts also separate vehicle and rail traffic completely; one concept included an at-grade rail crossing at the westbound on-

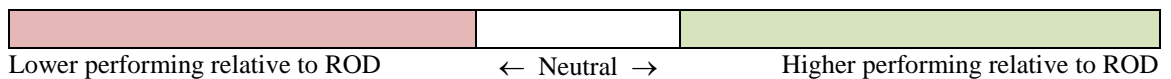
ramp to SR 520 at NE 76<sup>th</sup> St. Concepts with complete separation are more reliable due to lack of rail-car/truck conflict.

- **Traffic operations.** The elevated concepts have no impact on traffic operations because the rail crosses over all portions of SR 520. The at-grade concepts require rebuilding ramps to grade-separate vehicle traffic from light rail. This generated a number of different ramp configurations for both the eastbound off-ramp to Redmond Way and the westbound on-ramp to SR 520 at NE 76<sup>th</sup> St. The movement from westbound NE 76<sup>th</sup> St to westbound SR 520 is the most important to the City to maintain or improve because it carries more traffic than the right turn from Redmond Way to westbound SR 520.

In summary, the interchange concepts relate to the values of *Access and Mobility* and *Safety*. Specifically, the construction of the trail “missing link” is a high priority for both the City and the County.

**Preliminary Evaluation of At-Grade and Elevated Station and Guideway**

Based on several staff workshops convened by Sound Transit, City staff have developed a summary comparison of the at-grade and elevated options in the Southeast Redmond area. The evaluations cover the guideway from Marymoor Park, through Southeast Redmond, across the SR 520-SR 202 interchange, to Bear Creek.



<b>Criteria</b>	<b>At-Grade (ROD / baseline)</b>	<b>Elevated</b>
Traffic Impacts	<ul style="list-style-type: none"> <li>• Some interchange concepts reconfigure ramps, potentially affecting traffic operations</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
Bus-Rail Integration	<ul style="list-style-type: none"> <li>• Feasible</li> </ul>	<ul style="list-style-type: none"> <li>• Feasible</li> </ul>
Trail Crossing	<ul style="list-style-type: none"> <li>• Feasible; leverages rail crossing</li> </ul>	<ul style="list-style-type: none"> <li>• Potentially cost prohibitive</li> </ul>
Natural Environment Impacts	<ul style="list-style-type: none"> <li>• More ground disturbance and related impacts to natural areas and cultural resources</li> </ul>	<ul style="list-style-type: none"> <li>• Less ground disturbance and related impacts to natural areas and cultural resources</li> </ul>
Parks & Recreation Impacts	<ul style="list-style-type: none"> <li>• Similar amount of park land impacted permanently</li> </ul>	<ul style="list-style-type: none"> <li>• Similar amount of park land impacted permanently</li> </ul>
Land Use & TOD	<ul style="list-style-type: none"> <li>• Consistent with plans and supports TOD</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent with plans and supports TOD</li> </ul>
Construction Impacts	<ul style="list-style-type: none"> <li>• Less complicated to construct but may have greater temporary impact to SR 520</li> </ul>	<ul style="list-style-type: none"> <li>• More complicated to construct and may have less temporary impact to SR 520</li> </ul>

<b>Criteria</b>	<b>At-Grade (ROD / baseline)</b>	<b>Elevated</b>
Operations	<ul style="list-style-type: none"> <li>• Pedestrian crossing at station to access platform(s)</li> </ul>	<ul style="list-style-type: none"> <li>• No conflicts with other modes</li> </ul>
Cost Compared to ST3 Budget (preliminary and subject to continued refinement)	<ul style="list-style-type: none"> <li>• Affordable: net savings of \$65m-\$90m assuming elevated Downtown station and guideway</li> </ul>	<ul style="list-style-type: none"> <li>• Exceeds budget by \$45m assuming elevated Downtown station and guideway</li> </ul>

**Next Steps**

Sound Transit is hosting an interagency staff workshop on April 27 to develop Southeast Redmond station concepts, which will show all significant station elements in relation to each other and the Marymoor Subarea. Staff will share these concepts at the Council’s May 9 study session as a tool to help the Council move toward a preference for an at-grade or elevated station in Southeast Redmond. The concepts will include potential park-and-ride structure(s) and the street network to access the structure(s); though the bulk of access and circulation design will occur starting this summer.

Sound Transit will host an open house for the Downtown Redmond Link Extension on Wednesday, May 17, 5-7pm, at the Old Redmond Schoolhouse Community Center (ORSCC). The open house will provide an opportunity to re-engage the public about this project, which is active again after a five-year pause. It will also give the public an opportunity to view and provide input on concept refinements for the stations and guideway. Sound Transit will begin publicizing the event in early May.

**IV. PREVIOUS DISCUSSIONS HELD**

Past and anticipated future Council discussion and action dates are provided in the table below. Staff anticipates returning to the City Council on May 9 to share Southeast Redmond station concepts as described above. Staff will seek Council approval of a letter to the Sound Transit Board on June 6 that expresses the Council’s preference for station locations and vertical profile (at-grade, elevated, etc.) for Downtown and Southeast Redmond.

	<b>Date</b>	<b>Action/Discussion</b>
(past)	5/4/16	Council letter supporting ST3 and identifying Southeast Redmond station area interests
	2/28/17	Council input on Southeast Redmond station area values
	4/11/17	Southeast Redmond station area background
<b><i>(tonight)</i></b>	<b><i>4/25/17</i></b>	<b><i>Southeast Redmond station area evaluation and trade-offs</i></b>
(future)	5/9/17	Southeast Redmond station concepts and move toward concurrence on recommended option: at-grade or elevated station
	5/17/17	Sound Transit open house, 5-7pm at ORSCC

<b>Date</b>	<b>Action/Discussion</b>
6/6/17	Council letter to Sound Transit Board concerning updating preferred alternative for light rail extension to Downtown

**V. IMPACT**

**A. Service/Delivery:**

None

**B. Fiscal Note:**

None

**VI. ALTERNATIVES TO STAFF RECOMMENDATION**

N/A

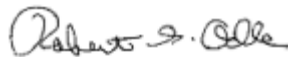
**VII. TIME CONSTRAINTS**

The Sound Transit Board is scheduled to select an updated preferred alternative for the Downtown Redmond Link Extension on June 22, 2017, including station locations and the vertical profile (elevated, at grade, etc.) of the Downtown and Southeast Redmond stations and the light rail guideway.

**VIII. LIST OF ATTACHMENTS**

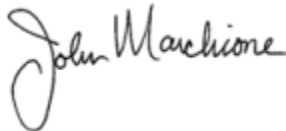
Attachment A-The E2 Alternative

Attachment B-Southeast Redmond Station Area Values



---

**Robert G. Odle, Director of Planning and Community Development**



Approved for Agenda \_\_\_\_\_

**John Marchione, Mayor**