

## Sound Transit 3 Expert Review Panel

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November 25, 2015

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Dear Madam and Sirs,

This is the second comment letter from the Sound Transit 3 (ST3) Expert Review Panel. We'd like to provide you with several comments from the panel's most recent meeting on November 9 and 10. During that meeting we had follow up discussions about a number of issues we raised in our August letter, and we received briefings on the work that has progressed since our July meeting. At the conclusion of the meeting the panel identified a number of comments they would like to make for your consideration. Given that the Sound Transit Board will be convening a workshop to discuss all of the potential ST3 projects on December 4<sup>th</sup>, the panel is sending this initial letter focusing on several key topics. We will follow up with a second letter that identifies a wider range of issues and questions.

We'd like to make the following four comments:

1. The methodologies for estimating costs for capital projects and operations and maintenance (O&M) are sound and consistent with industry practices.
2. In the development of ST3 project scopes and cost estimates, there is a need to provide more specific information regarding plans for integrating light rail and local transit services provided by operators across the region.
3. The letters that Sound Transit will be sending to local jurisdictions regarding ST3 projects should directly request their concurrence with project scopes.
4. The panel believes some of the projects added in August to the candidate list of ST3 projects don't appear to provide the same level of regional benefit as many of the other projects.

## **Methodologies**

At our July and November meetings we discussed methodologies being used by Sound Transit to identify capital costs, O&M costs and ridership related to the planning for candidate ST3 projects. We have some initial comments on the cost estimating methodologies. We are continuing discussions with Sound Transit staff regarding the ridership methodology.

### *Capital Cost Estimating Methodology*

Sound Transit staff has provided us with two briefings about the agency's capital cost estimating methodology. We have requested and reviewed comparisons between original ST2 cost estimates (at the time of the 2008 ballot) and current cost estimates for selected projects. We also heard a presentation about the agency's philosophy behind cost estimating, which is guided in large part by lessons learned from the experience with Sound Move projects. Those lessons were incorporated into the cost estimating for ST2 projects, and are being carried forward for the ST3 planning work.

The capital cost estimating for each ST3 project is based on the use of broad standard cost categories identified by the Federal Transit Administration, such as guideway and track; stations, stops, terminals, intermodal; systems; vehicles; right of way; finance charges, etc. Within each cost category specific construction items and activities are identified based on the scope of the project, and unit costs applied. The unit costs include labor rates, equipment rates, materials prices, contractors' overhead and profit. Those unit costs are developed based on conditions in the Seattle/King county region, and evaluated against historic unit costs for similar construction work. Several types of contingencies are then applied to the cost estimate.

It is important to recognize that at this stage of project planning (and when the projects go to the ballot) the necessary environmental work has not begun for most of the projects. The level of design is minimal - less than one percent in some cases. This makes cost estimating with any precision difficult. As a result, Sound Transit has developed a capital cost estimating methodology that includes a design allowance, allocated contingencies, unallocated contingencies, and project reserves. These allowances, contingencies and reserves are reduced as the project moves through the various stages of design through construction.

Review of Sound Transit's experience on seven ST2 projects indicates that the use of the allowances, contingencies, and reserves has enabled current project cost estimates to remain close to original and revised budget estimates. The original estimates reflect estimated costs at the time of the ballot measure, while the revised estimates were created after the 2008 - 2009 recession. On average, current estimates for the seven ST2 projects are 97 percent of the original

estimates, and 107 percent of the revised estimates. Sound Transit staff indicated there are sufficient resources to complete all of the seven projects.

The panel believes that the level of allowances, contingencies and reserves at this very early stage of planning and design is appropriate. Further, the capital cost estimating methodology is sound and consistent with good industry practice.

#### Operation and Maintenance (O&M) Cost Estimating

Sound Transit develops O&M cost estimates for each of the potential ST3 projects. The methodology used for the original ST2 estimates has been modified for ST3 planning to include data generated by Sound Transit's growing experience operating all three modes (regional bus, commuter rail, and light rail). Sound Transit maintains O&M cost models that are consistent with Federal Transit Administration guidance. The model includes identification of a number of variables that drive costs, such as train or bus hours, number and type of stations, track miles, number and type of vehicles, etc., and includes estimates for labor, fuel/electricity, parts, security, insurance and the cost to operate the maintenance facilities.

Cost models are updated annually based on actual experience. Sound Transit staff annually creates a five-year forecast for each mode of operations by comparing actual costs to the previous forecast. Any differences are investigated, including discussions with operations and maintenance managers, and any new service or staffing plans are identified. Costs are compared to external data forecasts (for fuel, labor rates, CPI, etc.) as part of the annual forecast process. The panel looked at a comparison of actual O&M costs against annual forecasted costs for all three modes. Since 2011 O&M costs for all three modes have been at or below the forecasted estimates.

Sound Transit has shown a multi-year history of having actual O&M costs track closely with forecasted costs. The panel finds the methodology for estimating ST3 O&M costs sound and consistent with industry practices.

#### **Regional Transit System Integration**

At our previous meetings panel members have expressed interest in understanding how all of the transit operators will be creating an effective, seamless system of public transportation across all modes for the region's transit riders. The panel feels strongly that planning for ST3 projects, even at this early stage, must actively consider the ways in which services for bus, light rail and commuter rail will be integrated. Successful integration must focus on the rider experience.

The panel invited representatives of the regional transit operators (Metro, Community Transit, Pierce Transit, Sound Transit, and Everett Transit) to describe lessons learned from system

integration efforts for ST2, and the planning that is underway for ST3 projects. We learned that Metro and Community Transit's long range planning assumes that as the light rail system is extended there will be a large increase in the number of riders who transfer between modes to reach their destinations. Specifically, they are assuming that bus service will connect with stations along the light rail spine, requiring riders to transfer between bus and light rail.

To further emphasize the importance of this integration, according to PSRC data, and assuming the build-out of ST2, we learned from Metro staff that by 2040, 8 percent of all residents in King County will live within ½ mile of the planned ST2 light rail stations or ¼ mile of any ST Express Bus stop. In comparison, by 2040, 68 percent of all residents in King County will live within ½ mile of all RapidRide stations or ¼ mile of any Metro bus stop. In other words, the ability to attract significant ridership to the light rail system is contingent on the region's ability to create a good bus/rail transfer experience at light rail stations.

Given the long-range plans being developed by the transit operators, it is essential that ST3 project plans include scope elements and cost assumptions that will allow for a seamless connection for passengers across modes and between operators. The panel learned that staff from Sound Transit and the transit operators are talking about these issues, but in the draft ST3 project templates we do not see an appropriate level of focus on system integration. For example, there is no mention on the draft project templates of the plans or costs to create a seamless connection for riders.

There is recent experience that should provide some valuable lessons learned for ST3 projects. The experience creating transfer points at Mercer Island, Mt. Baker station, and University of Washington suggest to the panel how important it is to create station plans that incorporate system integration from the very beginning of the planning process.

### **Letters to Jurisdictions**

In our August letter we commented that “the major concern the panel has with potential cost estimates at this stage of planning is that history tells us that significant alignment changes can occur between the cost estimates provided to the public prior to public votes, and final alignments actually built.” As a result, we suggested that Sound Transit create a letter of understanding with local jurisdictions through which the ST3 alignments will pass.

At our November meeting Sound Transit staff provided a copy of a letter used prior to final board action on projects to be included in the ST2 ballot measures. Staff indicated that a similar letter will be sent to jurisdictions for ST3 projects.

The panel suggests that the letter be strengthened to specifically request concurrence with the ST3 project scope that is being considered by the Sound Transit board. As we mentioned in August, concurrence should be requested for the vertical alignment (i.e., elevated, at grade, or below ground), the number of stations and their general location, the size and funding responsibility for parking and other access improvements, and per our earlier comments in this letter, the conceptual plans for transit system integration at stations.

We believe concurrence on these issues will strengthen Sound Transit's ability to deliver ST3 projects on time and on budget.

### **ST3 Candidate Project List**

The panel was briefed on the additional ST3 candidate projects that were added by the Sound Transit board at its August meeting. We had previously been briefed on the initial project list. After hearing from staff about the new projects added in August, panel members felt that a number of the new projects do not appear to have the same level of regional significance (i.e., impact on system ridership, travel time, reliability, etc.) as most of the projects on the original ST3 candidate project list. The panel encourages the board to use the evaluation measures staff have developed, when making decisions about the final ST3 package.

In December we will follow up with a second letter providing additional comments from our November meeting. In the meantime, if you have any questions about this letter we would be happy to meet with you for further discussion.

Sincerely,

A handwritten signature in blue ink that reads "Jim Jacobson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Jim Jacobson  
Chair

Cc: Expert Review Panel Members  
Ric Ilgenfritz, Sound Transit  
Amy Scarton, WSDOT