

**Expert Review Panel  
Meeting Summary  
April 5 and 6, 2007  
Mayflower Park Hotel, Seattle, WA**

**Panel Members:** Darlene Cimino-DeRose, Alan Kiepper, William Lorenz, Steve Lundin, Mike Meyer (Chairperson), Thomas Schmitt, Siim Sööt; Alonzo Wertz; John Howell (Panel Administrator)

**Speakers:**

*Sound Transit staff* – David Beal, Don Billen, Sheila Dezarn, Joni Earl, Jim Edwards, Joe Gildner, Bob Harvey, Brian McCartan, Susan Peterson, Matt Shelden, Doug Wentworth  
*Sound Transit Consultants* – Tom Backer (Sound Transit outside counsel)  
*Members of the public:* John Niles, Will Knedlik

## Thursday, April 5

### ***Tour of Light Rail Construction (Sound Move)***

Panel members toured much of the Sound Transit light rail initial segment now under construction, and funded through Sound Move. The tour included: the Seattle Downtown Transit Tunnel, the Beacon Hill Station and tunnel, the Operation and Maintenance Facility at Forest Street, and the construction of the light rail line in the Rainier Valley. Joe Gildner of Sound Transit led the tour and answered the Panel's questions.

A major focus of the tour was on “lessons learned” that may be applicable to construction of the facilities proposed for Sound Transit Phase 2 (ST2). Comments on these lessons were as follows.

- *Getting bids:* Sound Transit is using design-bid-build, fixed price contracts, so there are risks to contractors due to increases in the price of some materials, such as steel and concrete, and an upward trend in fuel and asphalt. Some contracts include an adjustment clause for steel. It has been challenging to get bids for new tunnel construction, since there are not many tunnel contractors in the United States. There have also been some problems getting bids for work at the airport. Some contractors prefer not to bid on design-bid-build projects.
- *Labor market:* There have been shortages of carpenters and other skilled labor. However, there is a project labor agreement, and the labor trades are committed to providing the workforce needed for the project.
- *Coordination of work:* Work in the Downtown Tunnel has required close coordination, since there are three systems contractors and one civil facility contractor working simultaneously. It has been very helpful to have weekly meetings with all contractors to take a three-week look-ahead at who needs to be where, when, and how to do integrated testing. Sound Transit also conducts “safety summits” with contractors.
- *Coordination with governments:* Good coordination has also been crucial in areas under the control of different public agencies, such as the area by Safeco Field where King

County Metro has a parking facility and Washington State Department of Transportation (WSDOT) has been working on an I-90 ramp.

- *Retrofit challenges:* Challenges in the retrofit of the Downtown Tunnel have included as-built drawings that did not accurately reflect the current layout of utilities, and new federal security requirements that apply to the infrastructure for light rail but also require adding security infrastructure for buses. The most unforeseen conditions were encountered in adding the stub tunnel at Pine Street, where the light rail trains will change direction.
- *Emergency systems:* The local fire and police departments have control over the tunnel and station emergency system requirements. Sound Transit has construction services agreements with the City of Seattle and City of Tukwila for emergency management procedures for the facilities within their city limits. It has been helpful to have a standing Fire/Life Safety Committee meeting monthly.
- *ADA compliance:* Work needed to be done to ensure that the downtown tunnel station platforms would provide access to all riders for both light rail and buses, in compliance with requirements of the Americans with Disabilities Act (ADA).
- *Right of way:* Sound Transit needed to learn the right-of-way certification process. The area around Stadium Station has, from east to west, a bike path, light rail, dedicated bus, road and railroad, with an at-grade crossing. Sound Transit had to move the roadway and power lines to the west to open up the needed space. To go east, the light rail will need to transition to elevated guideway to avoid the railroad.
- *Excavation:* Because of the local glacial soil environment, there is no way to predict every layer of clay and soil. Work at the underground Beacon Hill station revealed that the intended platform location consisted of too much sand. So the platform was moved 88 feet to the west. In addition, the contractors needed to use jet grouting where there was interlayered sand, and slurry wall technology to support the excavation. The Beacon Hill work has required use of some of the allocated contingency funds to mitigate initial risks.
- *Outreach in Rainier Valley:* The Rainier Valley community includes residents speaking 11 different languages. With the light rail at-grade work disrupting traffic patterns, there has been a need for significant in-person outreach. Four community outreach workers have been needed full-time.
- *Stormwater management:* Sound Transit needed to get an individual National Pollution Discharge Elimination System (NPDES) permit for the Rainier Valley site. The requirements for stormwater management are stricter than for a general permit.
- *Utility relocation:* Along Martin Luther King Way, Sound Transit undergrounded the power, cable and phone lines as the first step of the project. This process took longer than expected. There has been some discussion about the amount of field engineering that needs to be done for utility work.
- *Soil contamination:* The Rainier Valley at-grade work has encountered a good deal of hydrocarbon contamination in the right-of-way, which needed to be cleaned up. This suggests that more environmental investigation be done in advance when such work is to take place.
- *At-grade work:* There are many issues involved in the at-grade work, such as laying sidewalks to fit and to conform to ADA requirements, and enabling easy auto and pedestrian crossings at intersections. One task that took more time than expected was filling potholes.

- *Station-area development:* Station-area development has been underway at the same time as Sound Transit’s work on the light rail in the Rainier Valley. This means that much of this development will be complete when the light rail begins running. But the simultaneous work has added some coordination challenges.

### ***Afternoon Session***

Chairman Mike Meyer opened the afternoon session at 2:30 PM and welcomed the Panel and guests.

### ***PSRC Consistency Report***

#### **Matt Shelden and Bob Harvey (Sound Transit)**

To ensure that the ST2 plan is consistent with the long-range, regional transportation strategy, the plan will need to be certified by the Puget Sound Regional Council (PSRC). (See materials in Tab 4 of the meeting notebook.) This review is required by state law, but the process is not defined by law. Sound Transit staff have been working closely with PSRC staff on packaging the draft ST2 plan. The main guidelines PSRC is using to review ST2 are from their “Guidance for Major Capacity Investments.”

PSRC has found that ST2 is consistent with Destination 2030 policies, although they still need to review the final versions of the benefit-cost analysis and financial plan. The benefit-cost component is not required by Sound Transit’s enabling legislation but is required by PSRC for projects over \$100 million. This analysis is new, so PSRC does not have established criteria for its assessment. Sound Transit is working with PSRC staff to define what will be measured.

Sound Transit will submit its final report to PSRC after the Sound Transit Board adopts the ST2 plan (expected in late April). PSRC’s Transportation Policy Board will review the plan and make a consistency finding recommendation to the Executive Board. That Board, to meet in late May, will review the recommendation. If it finds the ST2 plan consistent with regional long-range plans, it will issue certification.

### ***Follow-Up on ST2 Maintenance Facilities***

#### **Matt Shelden and Bob Harvey (Sound Transit)**

The Panel previously voiced questions on the number and size of maintenance facilities included in the ST2 plan in relation to the system configuration and number of vehicles. There was a conference call recently on this topic with Matt Shelden, Bob Harvey and David Beal of Sound Transit, and some of the Panel members. (See materials in Tab 5 of the meeting notebook.)

The assumptions for the facilities are based on: the experience of other light rail systems around the country; the service legs as planned in ST2; the real estate available; and the operating plan. The Forest Street facility is sized for 105 vehicles, which can service the segments from Northgate to South 200<sup>th</sup>. The physical footprint of the Forest Street base is capped, based on an agreement with the City of Seattle and a Sound Transit resolution. Full implementation of ST2 will involve as estimated 233 vehicles. So another base approximately the size of Forest Street is needed somewhere on the North-South line. The second base will be built somewhere on the south line.

In addition, Sound Transit has determined that a smaller maintenance facility is needed on the Eastside to reduce deadhead and provide efficient operator access to the system. This would enable starting cars from the east in the morning.

### **Questions from the Panel**

Q. Forest Street is a wonderful facility, and given that there is no potential to expand at that site your reasoning on the need for additional facilities makes sense. But the cost and scope of the east maintenance facility, and the cost of the south facility, is a concern if the south facility needs to be the same size as Forest Street. How can you justify the Forest Street's construction cost at approximately \$64 million (in 2006 dollars) while the south facility is estimated at \$150 million and the east at \$102 million?

A. We probably have too much in the budget for the south facility. We have a better idea of the cost now. But cost estimation at this level is still rough. Changing the budgets for the maintenance facilities is a question for the Board.

Q. There were a series of questions about the accuracy of the estimates for maintenance facilities and the need to provide flexibility in the budget for future expansion.

A. The potential overestimate of costs for the maintenance facilities is a unique case within ST2, identified late in the process of developing the plan. The fact that the exact locations for maintenance facilities in the south and east have not been identified, and the complexity of siting the facilities, makes the issue more complicated.

Q. Are the other maintenance facility sites in the south and east landlocked?

A. Sound Transit doesn't own and hasn't yet chosen other locations for maintenance facilities.

Q. What's the operating plan for headways and the number of cars required?

A. The Eastside will need 70 to 80 cars to provide three-minute headways to downtown. There will be three-car trains from Lynnwood to Kent/Des Moines during peak periods. The most expensive segment is Northgate to Tacoma, where four-car trains are needed. The average speed is 20 to 29 miles per hour.

### **Panel Comments**

- The cost estimate for the maintenance facility on the south light rail line is estimated to be twice the cost of the Forest Street facility, and the east link facility is half again as much. Panel members believe the budgets for the additional maintenance facilities are too high.
- It is likely that Sound Transit will need to revisit their decisions about maintenance facilities before the 2030 planning horizon. Preserving some land adjacent to new maintenance facilities could provide an important cushion for future expansion needs. It is reasonable public policy to spend more money up front to have options for future expansion, given the likely lower cost of land now compared to the future.

## ***Report on Compliance with High-Capacity Transit Legislation***

**Tom Backer (outside counsel to Sound Transit)**

State law (RCW 81.104) includes detailed requirements for planning high-capacity transportation systems. A March 2007 Technical Memorandum (in the meeting notebook, Tab 6) and compliance matrix show the provisions in the statute, and how the ST2 plan compiles.

### **Questions from the Panel**

Q. Are you required to give Sound Transit a legal opinion on the finance plan?

A. No.

Q. At what point is the ST2 plan final for the purpose of the statute?

A. It would be considered final with Board approval at the meeting on April 26.

### **Panel Comments**

- **Population growth.** At several places, the technical memorandum refers to population growth of 1.2 million by 2030. It might be more effective to refer to the population growing by twice the current size of the City of Seattle.
- **Panel review of finance plan.** Chair Mike Meyer noted that the Panel has the responsibility to comment on the final ST2 Plan, and can't do that until the Board votes on it. The Panel has seen the finance plan assumptions and policies, but has not yet seen the schedule assumptions that drive the financing.

David Beal directed the Panel's attention to the project cost estimates (Tab 11 in the meeting notebook), which inform the finance plan. Also, he noted that the Panel will get an update on financial policies in the next day's meeting.

### **Public Comment**

Note: See Tab 14 in the meeting notebook for written statements.

### **John Niles (Coalition for Effective Transportation Alternatives)**

Mr. Niles has lived in Seattle since 1982. He formerly worked for the Mayor of the District of Columbia, and was president of a public policy consulting firm. His remarks at this meeting are as a volunteer for the Coalition for Effective Transportation Alternatives.

Mr. Niles noted that to date, 196 pages of meeting notes and letters have been generated from the Expert Review Panel. The key question for the Panel is: Has the Expert Review Panel said enough about the highest source of risk and uncertainty in the entire ST2 Plan – the six-mile Seattle North Link tunnel? He urged the Panel to provide a clear, forceful and conclusive statement on the tunnel.

Mr. Niles also suggested that the Panel consider several other questions:

- What is the relationship of the ST2 vote in November to the construction of University Link, which is part of ST1? Mr. Niles said that the University of Washington has said they don't want a Sound Transit terminus on university property if there is enough money to reach Northgate, and King County Metro is looking at bus rapid transit to the university.
- What reasonable, low-cost capital alternatives were evaluated and published for the markets North Link would serve from Seattle to Northgate?

- What does the progress to date on the one-mile Beacon Hill tunnel suggest about the likely cost and construction schedule for the six-mile North Link tunnel?
- What are the climate change implications in constructing the North Link tunnel? Mr. Niles projected the construction would produce 632 metric tons of carbon dioxide.
- What is the full 20-year cost of ST2, and are the assumptions reasonable in light of experience?
- What is the forecast change in traffic congestion in key highway corridors, such as I-90, I-5, and SR 520?
- What is the new timeline for completing the adopted 124-mile high-capacity system, given the scope and budget?

Mr. Niles suggested that these questions are important because of the scale of the project: the largest investment of tax revenue in the region.

### **Panel Comment**

Chairman Meyer stated that the Panel will address many of these issues in its upcoming letters of comment.

### **Will Knedlik (Eastside Transportation Association)**

Mr. Knedlik suggested that the most important item to include in the Panel's letter of comment is to bring to the legislature's attention that an expert review panel should not have to do such important work on a gratis basis. The Panel's work is very important and needed, and Panel members should be paid for their time. The legislative mandate for the Panel requires the review of detailed plans for the system.

Mr. Knedlik said that ST1 and ST2 will be virtually identical to the master plan from the past. But that master plan included a 17 percent debt-to-equity ratio, while Sound Transit's current financial assumptions are for a 30 percent debt-to-equity ratio. Sound Transit will float \$7.4 billion in bonds against a legal requirement for a maximum of \$800 million in bonds.

Mr. Knedlik asked the Panel to review the financial assumptions carefully.

The meeting adjourned for the day at 4:30 PM.

## **Friday, April 6**

### ***Introductory Comments and Major Events Since the Last Panel Meeting***

#### **Joni Earl (Sound Transit)**

**Recent activity.** This year (2007) is the first time the budget has been more than \$1 billion, but it is a peak of activity for both construction and operation. Construction for Sound Move is two-thirds complete, and two-thirds of the construction float has been used. The agency expects to use some of the unallocated contingency, but expects the reserve to stay the same.

A major focus now is on opening the Seattle downtown tunnel in September. On University Link, the design team is focusing on value engineering ideas.

There was a construction fatality at Beacon Hill tunnel recently. Sound Transit met with the contractors and postponed re-starting work until all procedures were checked. The procedures to respond to an emergency have worked. Extra resources have been put on job site safety. Sound Transit has re-centralized safety and security, and put quality assurance in one group.

Regarding the Panel's questions on maintenance bases, Ms. Earl will ask the staff to go back to look at the numbers on construction and right-of-way, and do an analysis on the potential for cost savings. She will talk with the Board next week but would not expect Board action on this question at that time.

**Ballot measure.** Sound Transit is investigating the “dual majority law,” which would allow one “box” for voters to check for the vote (instead of separate votes for the transit and for the roads plans), but the measure would have to pass by more than 50 percent in each district. Work on the ballot measure is moving forward. The legislature is discussion possible amendments regarding the University of Washington station and SR 520. There is concern that Sound Transit's work at Husky Stadium might preclude options for 520. Ms. Earl is working with WSDOT to iron out concerns. Governance has been an issue of concern in the legislature.

The Regional Transportation Investment District (RTID) dropped the Alaskan Way Viaduct from the roads plan for the ballot, and reallocated the funds to other projects, including SR 520. There is tentative agreement on covering the cost of the R8A project (which is required for Sound Transit to use the center roadway on the I-90 Bridge for light rail)—RTID would cover half, and Sound Transit and WSDOT would split the other half. RTID has changed their schedule so they can do more work with city councils in the region. This puts their Board's adoption of their plan in late May.

Sound Transit has been doing active public outreach on ST2, including six open houses and 40 joint speaking engagements with RTID.

### **Questions from the Panel**

#### **Ballot Measure**

Q. Are issues resolved with the University of Washington on the terminus on their property?

A. The university's goal is for Sound Transit to extend to Northgate. They are looking at what they would do if the vote on ST2 is unsuccessful.

Q. Please say more about the decision to extend light rail to Tacoma.

A. There has been strong interest from Tacoma and Pierce County representatives on the Sound Transit Board not to stop at the Port of Tacoma/Fife. Looking at growth projections and employment activity, it is clear there will be increased need for transit for Kent, Des Moines and Federal Way. It is important to the Board to serve major employment centers, as they are doing to the East by extending light rail to Overlake.

Q. Why the change in the timing of RTID's decision on the ballot measure?

A. (from David Hopkins, WSDOT's liaison to RTID): There is a short time between the end of the legislative session and the date ballot titles are due for the election. The RTID Board will meet twice in April and in May. The Executive Board is expected to adopt the plan on May 31.

Q. Are there implications for the fall ST2-RTID vote from the recent Seattle vote on the Alaskan Way Viaduct?

A. The viaduct is no longer in the RTID package for the fall ballot. Sound Transit's concern was that the controversy about the viaduct would reduce public confidence on transportation issues generally, and in government's ability to come to consensus across jurisdictions.

Q. How does the sequencing of projects work with RTID and Sound Transit? What about impact on the public?

A. Both plans are constrained because of cash flow coming from taxes. But the agencies are discussing the order of activities in corridors where there will be joint activities, such as Sound Transit and WSDOT's work on/near 520.

(from David Hopkins): WSDOT's construction mitigation team looks at all projects and their impact, and identifies ways to mitigate the impact on the public. There is a construction bubble for a few years between Sound Transit and WSDOT in terms of impact on the public. RTID is developing sequencing plans for its projects.

Q. What about contractor availability?

A. Sound Transit design teams have brought in small contractors to help identify ways to break contracts into smaller parts to make the best use of smaller contractors and the labor force.

### **Finance Plan**

Q. Regarding the question raised in public comments yesterday about debt-to-equity ratio, was there a 17 percent ratio established for Sound Move?

A. Sound Transit does not agree that this ratio was established. Ms Earl said she would share with the Panel the analysis of this issue conducted by Sound Transit's legal counsel.

Q. One ongoing Panel concern has been that Sound Transit should work now to seek all sources of revenue for projects in both governmental and private or public-private partnerships. While it may seem early, gearing up to create these partnerships takes time.

A. We have talked about this internally, but the focus right now needs to be on putting the finance plan together. We are working with a Capital Hill-Broadway coalition on partnership around the Capital Hill station. The Board still needs to be confident as to how much in public dollars could be in play for such partnerships. We are looking at how other systems around the country have handled this.

Q. An observation is that the financing plan for ST2 appears to be totally local, so there is not the need for the environmental review that would be needed for federal dollars. But if there is a possibility of getting federal money, the scope of analysis and project options would have to expand. The Federal Transit Administration (FTA) process would probably reopen the scope of

analysis either for the National Environmental Policy Act (NEPA) work or for New Starts funding.

A. We have now introduced federal dollars into the finance plan. We had meetings in Washington, D.C., with FTA and our Congressional representatives, and have added to the finance plan one New Starts grant and some other federal grants.

Q. Which projects would look for federal funds?

A. Under the current federal criteria, Northgate would likely be the best option. We have one New Starts grant now and would have to look at how many federal grants we could have, and how the criteria may change in the future.

Q. Do you expect to use any of the reserve in Sound Move?

A. We anticipate using 100 percent of the allocated contingency and a portion of the unallocated contingency.

Q. Are there trends you're seeing in construction contingency?

A. The Rainier Valley engineering estimate was \$160 million, the bid was \$130 million but is approaching the engineering estimate. The biggest unanticipated costs have been for hazardous materials cleanup in the Rainier Valley and the changes at Beacon Hill needed because of soil conditions. The downtown tunnel and Tukwila segments seem to be on track. Our biggest challenges so far have come from work underground.

Q. The tour we took of light rail construction showed why the First Hill station site was abandoned. Even on Beacon Hill where it is flat and not as densely built up, the work is still very challenging.

A. Yes, we put in a test shaft at Beacon Hill and had to change the station design because of the ground/soil conditions we found.

### **Expert Review Panel Process**

Q. Given that the Panel's work will presumably be ending soon, it might be useful to get some critique of the Panel. Have the comments been useful? Should the Expert Review Panel process be continued? If so, what suggestions do you have for improving the process?

A. The Panel has zeroed in on critical issues. The Panel's analysis and questions have sent Sound Transit staff back to look at issues and analysis, such as I-90, the finance plan, and the sensitivity analysis. The Panel has taken its responsibilities seriously. Your Administrator has been relentless in following up and coming to Board meetings to raise the Panel's issues. This is a 20-year plan, so it's critical to have this review.

### **Panel Comment**

One of the lessons learned mentioned in yesterday's tour had to do with the quality assurance/quality control process and the environmental mitigation needed in the corridor. This process can tell you how much testing you need to do in advance. It is important to keep looking at alternate bid methods. There is a lot of creativity on this elsewhere in the country.

## **Request from the Panel**

Panel members requested a copy of any materials the staff takes to the Board regarding the maintenance bases and any new analysis on costs.

## ***Major ST2 Activities Since the Last Panel Meeting***

### **Sheila Dezarn (Sound Transit)**

The Sound Transit Board adopted the ST2 draft package at its January meeting, opting for the high (0.5 percent) sales tax rate. This included a 46-mile extension of light rail to Lynnwood on the north, Overlake on the east, and Port of Tacoma/Fife on the south. The Board identified two priority further extensions—to Redmond on the east and Tacoma Dome on the south—that have such a high priority that some ST2 funds will go to the analysis and right-of-way acquisition that would put these segments in position to be constructed when funds are available. The package also funds three corridor planning studies: SR 520 University of Washington to Redmond, Lynnwood to Everett (including funding for preliminary engineering and right-of-way), and South Bellevue to Issaquah. Other projects include enhancing the Sounder stations and parking, and a Bothell to Renton bus rapid transit (BRT) corridor. The total package is \$11.1 billion, of which \$9.6 billion is for capital construction.

Sound Transit conducted extensive public outreach in February and March about the draft ST2 package. (See summary handout.) This included six public meetings; information booths at fairs, events, malls and workplaces; 50 speaking engagements; and a household mailer. Staff talked with 7,000 people face-to-face. This outreach was done along with RTID, billed as “Roads and Transit” to show the total package coming to the ballot.

The Board has been focused on developing the finance plan and consulting with the federal delegation to get numbers to put into the plan. Staff is also developing fare revenue projections.

In a workshop session last Thursday (March 29), the Board reviewed all the projects in the draft plan, discussed project timing and the policy issues embedded in the plan, and got a preliminary report on public comment, and on the financial plan and policies. The Board provided direction for the some changes, the largest one of which was to add the segment from Fife to the Tacoma Dome (moving this segment from a high priority unfunded designation to a funded project).

Staff took a revised plan and new map to the Board yesterday (April 5) to confirm, and walked through the plan appendices on revenues and subarea amounts, projects and financial policies. The appendices are still being developed and finalized since they are derived from the Board’s decisions on what to include in the plan. Staff re-ran all changes in the financial model and concluded that the plan is still affordable. There will be a Board meeting next Thursday (April 12) to discuss any amendments to the plan, with action on amendments slated for April 26.

After the April 26 Board decision, staff will finalize the package and submit it to the PSRC. The PSRC Board is expected to reach a decision in May as to whether to certify the consistency of the ST2 plan with regional plans.

## **Panel Comment**

In the draft plan document, it would be useful to have a very brief description of how Sound Transit arrived at the projects—a brief summary of what was considered and how the process took place. This would be helpful for the public to see.

## ***Follow-Up on Outstanding Issues from July Panel Meeting***

### **David Beal (Sound Transit)**

Sound Transit's letter of April 3, 2007, responds to the Panel's January 8, 2007, letter of comment. (See Tab 9 in the meeting notebook.) Mr. Beal commented on several of the topics:

- *Level of detail in project cost estimates:* Every segment of the light rail projects has been analyzed, with right-of-way and geographic information system (GIS) data superimposed. While the light rail projects do not have more than 5 percent engineering completed, the conceptual plan is quite detailed.
- *Private investments:* Sound Transit understands that the Panel is suggesting that Sound Transit pursue these investments as early as possible, but appreciates the fact that the Panel is not suggesting counting on those revenues in the financial plan unless there are firm commitments.
- *Interpreting public survey results:* The staff is discussing the Panel's advice, and looking for ways to be clearer in presenting survey results.
- *Right-of-way costs:* A 25 percent miss in estimating these costs would be a total 3 percent cost overrun. Sound Transit will watch for trends, especially in the early years of the project, and look for ways to address them.

### **Don Billen (Sound Transit)**

Continuing on issues from the Panel's letter:

- *I-90 bridge:* Sound Transit is looking at the related engineering issues. There is a need to do additional work at the expansion joint. We are also looking at movement on the bridge. So far, there has been study of the extremes, but we still need to look at the normal range of movement to get a better idea of the frequency and what to expect.
- *Environmental review:* State Environmental Policy Act (SEPA) review is done for the long-range plan. Sound Transit is now using the recent guidance from the federal government on NEPA.
- *City of Bellevue alignments:* The city's preference is for a tunnel, but there is strong interest by other stakeholders in at-grade and aerial. Sound Transit is continuing to do sensitivity analyses, testing the cost of the tunnel and the impact on the overall project cost.

## **Questions from the Panel**

Q. On the contingency methodology, would you put maintenance money into contingency?

A. The letter is using the term "contingency" broadly; such money would go into reserve.

Q. Has Sound Transit made any progress pursuing project term sheets with jurisdictions?

A. Sound Transit is continuing discussion on project scopes with the affected jurisdictions, with some confirmed in writing. The issue has come up in some conversations as to whether there is a cap on Sound Transit funding and involvement.

Q. Is there a method to estimate right-of-way for the table (handout: “ST2 Draft Plan: ROW and Total Costs for LRT Projects”)?

A. The estimates are done parcel by parcel based on reviewing comparable properties. These estimates are done in-house by the right-of-way division, and have a solid base.

### **I-90 Bridge**

Q. On the I-90 bridge there is a need to look at the transition, as well as the expansion joint. It is still not clear how it will work in transition.

A. That is part of the current scope of work.

Q. Will work on extreme conditions for SR 520 (i.e. seismic, tsunami, wind storms, etc.) help in reviewing I-90?

A. I-90 was designed with a higher ability to deal with storm events than 520 was.

Q. Are train speeds restricted in storm events or in some other context?

A. Possibly in normal operation it would be best to move at less than 55 mph across the transition joint. We don't know yet what the operating speed will be.

### **Environmental Review**

Q. Do you have anything in writing yet on environmental review for the federal grant?

A. Not yet. We are working closely with the federal agency. We have finalized all the environmental methodologies.

Q. Is there a risk to project development for East Link if there is no very clear evidence yet of FTA concurrence with Sound Transit's scoping process results? The environmental process is very easily challenged. This is a significant risk, but you have a defined opportunity to address it at this stage when you can address all the alternatives. NEPA needs to be satisfied that the range of alternatives has been researched adequately.

A. There is no formal document, but there will be a summary of the process and work with FTA. The Environmental Impact Statement (EIS) looked at build and no-build alternatives, and referred to prior work on other alternatives. There was a court challenge on this. The court ruled that Sound Transit's planning was adequate.

### **Bellevue Alignment**

Q. Have there been discussions with Bellevue about providing funding for the tunnel option?

A. Once we get cost estimates, we will talk with them. The current conversation is for Bellevue to help control the scope throughout the project. Sound Transit will be talking more with the City of Bellevue and with downtown property owners about local funding options in Bellevue. There are still a variety of opinions in east side communities about whether a tunnel, aerial, or at grade alignment would serve Bellevue and the east side best.

Q. Would the tunnel be bored or cut-and-cover?

A. We are now making bore holes to check soil conditions and are collecting building foundation information. At least a portion will be cut-and-cover, however.

Q. What if a tunnel prohibits light rail from getting to downtown Redmond as part of ST2?

A. The difference between tunnel and aerial alignment in downtown Bellevue won't allow for light rail all the way to downtown Redmond.

### **Panel Comments**

- Would encourage Sound Transit to start the conversations with the City of Bellevue and downtown property owners about funding for the tunnel sooner rather than later.
- Suggest looking at alternatives for contracting, such as the negotiated contracting mentioned discussed on the tour yesterday.

### **Capital Construction Bidding Climate for ST2**

#### **Jim Edwards and Susan Peterson (Sound Transit)**

Contracting and construction activities on Sound Move projects will inform Sound Transit staff on ST2 contracting activities. Sound Move projects are in two categories: under \$10 million, and \$10 million to \$25 million. Projects in the first category have come in approximately 20 percent over the engineer's estimate. Traditionally, the engineer's estimate should be in the middle of the range of the bids. But Sound Transit is getting most bids over the engineer's estimates. (See handout, "Construction Bid Results 2005 to Present.")

For one project that had a large specialty item (an elevator), there were only two bids, since it was not appealing to small contractors. For an I-90 stage 1 project that went out for bid in January 2007, there were five bids, but all were higher than the engineer's estimate. The spread was 15 to 25 percent. This was an A + B bid on project and schedule, in an effort to encourage faster completion. But contractors were not interested in the schedule part, though all planned to do the work at night when traffic is lighter. In the end, the project had to draw on Eastside program reserves, which requires a supermajority vote of the Board.

Lessons from Sound Move contracting include the following:

- An engineering estimate that is six months old isn't current enough, given the recent steep increases in the costs of some commodities.
- Contractors are running into two challenges: liability limits and the limit to the number of good workers available.
- There are a limited number of subcontractors for some kinds of work. For example, several of the bidders on the I-90 stage 1 project mentioned above used the same subcontractor for electrical work.
- Sound Transit is in competition with many other construction projects in the area for subcontractors, skilled labor and even some materials. Right now there are \$15 million in construction projects underway on the Eastside and \$3 billion in Seattle.
- Construction materials prices have had alarming price increases in the past year, such as a 77 percent increase for asphalt, and 81 percent for copper (see handout slide, "Construction Materials Prices").

Sound Transit has a process for managing program cost impacts. When the differences go over 10 percent, a request goes to the Board to use reserves for the appropriate subarea.

David Beal noted that a staff person had planned to give a presentation on how the issue of cost increases has come up for the airport work. But the presenter was not able to attend the Panel meeting. Mr. Beal will send the Panel a written report on the situation and implications for ST2, or reschedule the presentation for the next meeting.

### **Questions from the Panel**

Q. On the I-90 project you mentioned, should the staff have known that bids were likely to be high?

A. They should have known about the traffic conditions presenting scheduling challenges, and did peg the costs for asphalt and some other commodities higher than before. But they thought the engineer's estimate was reasonable.

Q. Was the incentive in the contract to get time or dollars?

A. It was not an incentive in the sense of a bonus.

Q. What is your definition of "mega" projects? Does this apply to any ST2 projects?

A. FTA's definition is \$500 million or over. Sound Transit tries to keep projects under \$200 million. Most ST2 projects are in the \$200 million range.

Q. Does Sound Transit have an escalation clause in the contracts for commodities?

A. Sound Transit hasn't used this mechanism in the past, but will need to consider it for ST2, especially for projects that continue over two years.

Q. Has the Board been briefed on these challenges and the need for an escalation clause?

A. Staff is scheduled to go to the Finance Committee on April 19 with this information.

Q. Has this experience been fed into the financial plan for ST2 that sets escalation factors?

A. This information has been included in ST2 estimates. However, this is a cyclical industry. China is making its own steel now, so there is less demand; Mexico is making cement. The market adapts. There are only three or four places in the world for copper, though, so there will be volatility in those prices.

Q. For situations where the bids were all higher than the engineer's estimates, has Sound Transit asked a panel of experts to review the situation and perhaps find information that the agency can't get? Independent review teams have the ability to have frank discussions with contractors.

A. We are doing that now in a few cases. We have asked the Association of General Contractors (AGC) to review our plans, assess the best way to do the estimates and bidding, and whether we need to change plans or procedures. Having an independent group interview contractors would be a good idea to consider on larger projects.

### **Panel Comments**

Tom Schmitt offered to provide the staff with some ideas for contractor incentives that have been successful in other locations. Another Panel member suggested looking at some creative strategies in bonding. Sound Transit might pursue bonds to help reduce the risk on contractors.

## ***ST2 Final Plan Development***

### **Sheila Dezarn (Sound Transit)**

Ms. Dezarn presented the maps of the final ST2 plan. See Tab 11 in the meeting notebook.

### **Questions from the Panel**

Q. Has there been Board discussion on projects to prioritize for the future?

A. Not yet.

Q. The Vision 2020 document included rapid transit going north. What is being discussed now?

A. The Board has emphasized connecting the four urban centers—Seattle, Tacoma, Redmond and Everett. There will be more discussion on this topic.

Q. The dotted green line on the map looks much like the proposed monorail line.

A. Connecting the University of Washington to Seattle to Ballard has been in the Sound Transit long-range plan for some time. The link on the map from Seattle to West Seattle to Burien is new. This would position the Board to revise the long-range plan.

Q. Is there any presumption on mode?

A. The Board is thinking of a light rail extension, but the study will look at options. For example, University of Washington to Ballard could be a streetcar, since this is a denser neighborhood.

Q. The University is talking with WSDOT about changes to SR 520. Are you also working with WSDOT?

A. Sound Transit is co-lead on the environmental work for the 520 bridge replacement, so conversations are underway.

## ***Vehicles and Ridership***

### **Bob Harvey (Sound Transit)**

At yesterday's discussion of the maintenance bases, the Panel had questions about the number of light rail vehicles and ridership projections. Mr. Harvey provided a spreadsheet with projections. The operations department uses a 12.5 percent spare ratio. There will be two ready-reserve trains in case there's a gap in service, especially during peak hours. So Sound Transit will need 206 cars moving. But there is a peak requirement of 244 cars.

## ***ST2 Financial Plan Development***

### **Sheila Dezarn (Sound Transit)**

"Making Connections" is the ST2 draft plan (see Tab 12 of the meeting notebook). Staff is now preparing additional information for the Board on costs and ridership for the Board's priority extension from Lynnwood to Mill Creek/Martha Lake. The Board also has requested more language about coordination with WSDOT on sequencing and traffic impacts (p. 16). Some Board members have asked for more discussion on transit-oriented development. Appendix B is the financial plan. Appendices C and D provide the requirements on ridership and travel times, along with operating and maintenance costs. Appendix D fulfills the requirements on examining impacts. Staff will be expanding the Social Impacts table to add information on services for people with limited mobility.

### Questions from the Panel

Q. Page 9 says there are 23 planned new stations; page 6 says there are 22. This needs to be consistent.

A. Staff will recheck.

Q. On page 7, costs are in 2006 dollars, but in the Appendix, they are in 2030 dollars. Are you using 2006 dollars throughout the plan or year-of-expenditure dollars?

A. We use 2006 dollars to describe the system, but year-of-expenditure dollars in the tables.

Q. What is RTID using?

A. RTID mainly uses year-of-expenditure dollars.

Q. Where is the subarea equity detail?

A. That will be in Appendix A. There will be a page for each subarea showing the projected revenues.

Q. Will Appendix A be in 2006 dollars?

A. That is the plan.

Q. What is the traffic impact of the First Hill Streetcar? Is it one-track or two tracks?

A. It runs in the middle of the street, so the lanes of traffic will be reduced from four to three. The streetcar hasn't been designed yet. The costs are for two tracks.

Q. What is assumed in the schedule about additional process requirements for Northgate Link, given that there might be a federal grant?

A. We have taken the project through the federal New Starts process, so it is not likely there will be delay to fulfill federal requirements.

Q. The travel time savings on page C9 – do these assume 2030 congestion levels? And how are the dollar savings calculated?

A. Yes, this assumes 2030 congestion. In dollar savings we use WSDOT's value for drivers of \$25, and for freight, half the wage.

Q. When will the Board next review this document?

A. At the April 12<sup>th</sup> meeting, the Board will receive a version with the numbers filled in.

Q. How is this document used?

A. Sound Transit will send a summary version to all households. The full plan will be posted on the Web site and made available on request. Sound Transit will also send it to local jurisdictions and major agencies.

Q. Can we get the final version of the plan so the Panel can comment?

A. We can send the final version that will go to the Board next week with all the numbers filled in.

## **Panel Comments**

Page 24 discusses the eventual tax rollback. Sound Transit might want to add the roll-back from the motor vehicle excise tax (MVET), as well. Also, the car rental tax (p. 20) does not require additional voter approval. The document should state this tax authority exists and make clear that Sound Transit can raise the car rental tax at any time without a vote of public.

## **Financial Policies and Plan**

### **Brian McCartan (Sound Transit)**

See “Proposed Update to Sound Transit Financial Policies for ST2,” and “ST2 Financial Plan – Board Workshop” in Tab 12 of the meeting notebook. Some key changes are:

- *Subarea equity*: Make the calculation at the end of the year instead of item by item (#5, p. 2). This would enable tracking at a higher level.
- Give the Board more flexibility to allocate funds to subareas (#9, p. 4). The Board already has this authority, but the policy change would make it more explicit.
- Remove the current requirement for contingency at the subarea level (#11, p. 5).
- *Performance audit*: Eliminate the requirement for an annual performance audit (#16). The state now has a performance audit program, so Sound Transit no longer needs this requirement. The financial audit is still required annually, however.
- *Debt service*: Debt service limits are changed to a single agency-wide measure (instead of by subarea) to improve consistency (p. 7). There is also a change in debt service coverage (#15, p. 6).

## **Questions from the Panel**

Q. What requirements are there on bonding capacity limits and debt-equity?

A. The legal debt requirement is based on the property tax. The issue is whether there are older, embedded bond requirements.

Q. In the discussion of future phases (p. 7), aren't taxes intended to cover costs not covered by farebox revenue?

A. Mr. McCartan will look at this section to clarify it.

Q. What do you do if there is a surplus in a subarea?

A. In Sound Transit's first phase, there was a surplus in the East King subarea. This was used partly for additional hybrid bus service. The remainder went to reserves that will be used for ST2.

Q. The policies were sent to the subarea groups. How have they been received?

A. There were initial concerns that we were diluting the core commitment of subarea equity. But most of the representatives accepted the revised policies once they understood them. There was some concern that the policy gives the Board too much authority to distribute grants, and an interest in revising the language to indicate direct benefit to each subarea.

## **Response to Panel's March 22, 2007 Letter Comments on the Financial Plan**

### **Doug Wentworth (Sound Transit)**

Mr. Wentworth reviewed a handout entitled “ST Finance Division Response to Expert Review Panel Items in March 23, 2007 Letter.” Some key items were:

- *Sales Tax on Car Rentals:* The Board has not shown interest in increasing this tax. But it could be listed as a contingent revenue source.
- *Right-of-Way Costs:* This cost is approximately 12 percent of the capital program for ST2. Sound Transit has done a sensitivity test. Right-of-way may not be a make-or-break factor, but it is significant.
- *Contingency Factors:* We have assumed a fairly high bond interest rate of 6 percent, and a conservative debt service coverage of 1.5 percent. We have also identified warning indicators.
- *Debt-to-Equity Ratio:* We looked at the ratio from other transit agencies that have constructed systems. The range is from a low of 0.28 in Santa Clara to a high of 0.66 in Los Angeles. Our estimate falls in the middle. Debt-equity ratio is not widely used by transit agencies, however.

Mr. Wentworth presented a handout on the cash flow profile for ST2. Work through 2018 includes the Northgate program and the build-out to Bellevue. The rest of the extensions start in 2019. For ST2, 2023 is the peak year for cost distribution.

### **Questions from the Panel**

#### **Right-of-Way**

Q. Why is RTID using 7 percent for right-of-way costs, while Sound Transit is using 6.5 percent?

A. We're not sure that RTID is using 7 percent for the whole plan.

Q. Regarding the right-of-way forecast, the residential median prices were in Seattle neighborhoods, but most of the light rail construction for ST2 is outside Seattle.

A. The estimate for the overall project is not as important as for individual properties. The cost for right-of-way is extremely localized.

#### **Cash Flow**

Q. From the sensitivity analysis, which factors would have the most impact?

A. Rising construction costs and sales tax growth appear to have the most impact. Revenues are less sensitive. Timing is also an important factor, such as general economic conditions at the time that Sound Transit issues a request for bids. We know the critical times in the project and can watch for this.

Q. What is the year of lowest coverage?

A. It's 2029. We have five years of interest only. Usually one year after construction is over, operation and maintenance begins. In one to two years after service starts, debt service steps up.

Q. The underlying cash-flow analysis includes assumptions on project sequencing. Have these assumptions been incorporated into the finance plan?

A. The finance schedules are mostly driven by affordability. We need to go back now and review the details of the actual projects and sequencing. We have not done any work on contractor availability yet with RTID in the mix. This is a big issue we need to address.

Q. Regarding the growth rate of operation and maintenance, have you done any modeling at higher rates?

A. We have done some stress tests. There is a good deal of impact.

Q. The sales tax from auto rentals, does it come mostly from the South King subarea?

A. No, it comes from throughout the region.

### **Project Coordination and Sequencing**

Q. Is Sound Transit talking with other government agencies on projects that may have mutual impact? Also, are you looking at internal coordination around ST2 segments? For example, the opening of light rail to the University District is two years before going farther north. Perhaps the boring contractor could move from one project to the other.

A. (from Sheila Dezarn) Yes, we're talking with the state about how to coordinate on SR-520 and for Airport Link, and WSDOT's SR 509 project. On use of the boring machine for North Link, we are looking at ways to make continuous use of the machine.

Q. Are you systematically going through all ST2 projects to look at where there might be cross-impacts with RTID projects?

A. (from Sheila Dezarn) There is a Joint Planning Group from Sound Transit, RTID, WSDOT and PSRC. They went through all projects in each plan to identify those where coordination or integrated work is needed. They went through this exercise for every corridor. This is separate from the issue of cash flow. We will work closely with the other agencies in the design phase.

### **Finance Plan**

Q. How is work going with the Citizen Oversight Panel?

A. They think we are understating maintenance and operation cost inflation. We believe our estimates are appropriate.

Q. When is the finance plan final? The Panel is required to review the plan.

A. The longer we have to work on with the financial package the Board agrees on, the more detail we will have. We will get a new revenue forecast this summer. We're still struggling with when to call the plan complete.

Q. Before the vote on the ST2 package, the Panel will need to review the plan.

A. The planning assumptions you have already reviewed will drive the plan.

### **Request from the Panel**

The Panel requested a chart of cost coverage in each year, and the letter from the Citizen Oversight Panel about their cost inflation estimate.

### **Issues for Panel's Letter of Comment**

Issues the Panel members identified included the following:

- Using an independent review panel for situations with bids higher than engineer's estimates
- Escalation adjustment and incentives
- The need to document agreements with local jurisdictions

- Maintenance facilities:
  - Cost estimates for the south maintenance facility, and whether the land acquisition is sized appropriately for future expansion, given the constraints at the Forest Street facility
  - Scope of Eastside maintenance facility
  - Whether there is sufficient justification for three maintenance facilities, given the staffing needs and costs
- A list of projects to be done if additional funds are available, with balance among subregions
- Caution that using federal money could introduce more process/studies than anticipated
- Continue to follow population and employment trends
- Continue to get to the bottom of bonding capability
- Watch the trend of engineer's estimates compared to bids
- Follow up on I-90 bridge

### ***Next Steps***

There was discussion about when the Panel can review the missing pieces in the Finance Plan, such as coverage ratios and a detailed project schedule, and whether the Panel needs to come together for this review. The Panel also has made a number of requests at this meeting. The Board is about to take significant action. Panel members felt that the Panel needs to digest and comment on these in order to fulfill the Panel's responsibility to voters.

The Panel considered a few dates for a possible meeting, and asked John Howell and Mike Meyer to determine if the Panel has done what is required by the authorizing legislation. Mr. Howell will coordinate on meeting dates.

The Panel members agreed that the letter of comment from this meeting needs to be produced quickly. The Sound Transit Board will meet April 12<sup>th</sup>, and take action April 26<sup>th</sup>. Panel members agreed to provide their draft sections for the comment letter by April 10<sup>th</sup>. Chairman Meyer and Mr. Howell will compile the letter.

The meeting adjourned at 3:30 PM.

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