City of Bellevue

Management Brief

TO: Mayor Davidson and Bellevue City Councilmembers

FROM: Goran Sparrman, Transportation Director
David Berg, Transportation Deputy Director

DATE: June 27, 2011

SUBJECT: B-7 Revised Final Analysis Report

As Council knows, the third and final Open House for the B-7 Revised Final Analysis report will be held at City Hall on Wednesday, June 29. The format for the open house will consist of a 30 minute presentation by Arup starting at 5:30pm, followed by a public Q & A session from 6:00–6:45pm. The open house, where the public will be able to ask questions and comment on the final Interim Analysis report, will conclude at 7:30pm. All questions and comments will be captured and form the last deliverable by Arup, the third Open House report. To be most efficient with the time, we will be soliciting questions from the public ahead of time, but they will also have the opportunity to ask questions that night.

In addition, we recognize Council has had questions on the scope of work that formed the basis for the Arup contract. The scope of work as approved by Council on October 4, 2010, and used in negotiating the contract with Arup, is attached (see Attachment 1). As discussed with Council on June 13, and previously on May 16, February 14, and during individual Council briefings, staff had approved additions to the scope of work. A listing of those changes, dates they were authorized and the dollar amount of the change is attached (see Attachment 2). This is the same listing Council received on June 14 via email.

The two most significant changes, described below, had been highlighted to Council in past presentations as additions to the original Arup scope of work. At the first Council check-in on February 14, the additional option being considered for the BNSF corridor, LRT plus a regional trail/freight rail, was highlighted. At the second Council check-in on May 16, both the BNSF added option and the change to the project limits, from the NE 2nd portal to the south end of the downtown transit tunnel, were highlighted. Although staff did not speak to the specific dollar amounts for these changes, we did speak to these two changes in particular to make sure Council was aware of the additional work being performed by Arup.

Staff has encouraged Arup throughout this process to identify any alignment modifications that would meet Council's objectives of improving performance, reducing impacts, and reducing costs as compared to the original B7 alignment. This was spoken to directly at the March 7 Council meeting. To that end, the City Manager, staff and Arup performed a brainstorming session in late April where Arup was asked to hypothesize what other options/alignments, beyond the B7-Revised alignment currently being studied, could possibly be identified. Arup discussed a number of alternate alignments at the very conceptual level, but concluded all would be equal or more costly than the current B-7 Revised alignment under study.

SCOPE OF WORK
East Link B7-Revised Concept Report

Phase 1: Conceptual Engineering and Screening Assessment of B7-Revised Alternative

Key Outcome:	**Definition of B7/C9T to NE 2nd portal ("B7-Revised") alignment, 5% Conceptual Engineering (CE) and environmental analysis based on screening criteria**
Deliverable:	**Concept Design Report for B7-Revised alignment and 5%CE drawings**
Timeline:	**6-7 months**
Cost:	**$670,000**

Task A: Confirm Layout of B7-Revised Alternative

1. Review available analysis of DEIS B7 alignment, including Sound Transit East Link Project DEIS, KPFF South Bellevue Station Location Analysis, OTAK Mercer Slough Wetlands review, and David Evans B7 DEIS Peer Review. Review available documents regarding C9T and its NE 2nd Street variants. Review City of Bellevue NE 2nd Street plans, WSDOT I-405 Master Plan, and WSDOT Main Street and NE 2nd interchange plans.
2. Based on Council direction, identify optimum location for B7-Revised alignment. For the purposes of this scope and budget, utilize the East Link DEIS B7 alignment and C9T 2nd Street portal as a base to develop a new alternative alignment with the following modifications:

- Near the Bellevue Way/I-90 Interchange, add the KPFF "A-2" station and park and ride, and adjust B7 light rail line as needed to meet station requirements and provide connectivity from park-and-ride
- On the BNSF ROW, based on independent legal analysis of rail banking status, locate tracks to minimize costs (not necessary to accommodate planned regional trail).
- Exiting the BNSF corridor and travelling north on 118thAvenue SE, locate guideway to minimize property impacts and right-of-way acquisition costs.
- Eliminate 118th Station (as in DEIS B7 alignment)
- At existing Red Lion site, add East Main station (no park and ride)
- On 114th, transition from elevated to at-grade adjacent to the Hilton Hotel and travel north under Main St. to connect to a NE 2nd portal compatible with the C9T tunnel alternative

3. If consultant determines that a design deviation is necessary, prepare a technical memo discussing the feasibility issues and make recommendations on design deviations to be advanced.
4. Project Management: Develop Project Management Plan, detailed timeline for tasks and deliverables, and identify process for incorporating public and Council input into analysis.
5. Agency Coordination: Kick-off meeting with City staff. Introductory meetings with WSDOT and Sound Transit staff to gain background knowledge on issues along B7-Revised analysis.
6. Public Involvement: Project kick-off open house to share B7-Revised base alignment, analysis process and timeline, and information about key opportunities for public input in process. (See "Public Involvement Scope" Section later in document for more detail.)

7. Council check-in: Provide direction on B7-Revised design to be advanced to next tasks and confirm screening criteria for Concept Design Report analysis.
8. Update layout based on Council direction.

Task A

Key Outcome: **Confirmation of base B7-Revised to be advanced to next steps; introduction of study and process to the community.**

Deliverable: **Layout of B7-Revised alignment and technical memo discussing major feasibility issues and design recommendations.**

Timeline: **1 month**

Task B. Conceptual Engineering and Transportation Analysis of "A-2" Station

A critical focus in this analysis is the design of the South Bellevue Park-and-Ride based on the proposed A-2 option identified by KPFF. As indicated by KPFF, further design and transportation analysis is needed to advance the A-2 concept. As this has been identified by Council as a critical element for improving ridership on the B7-Revised alignment, an initial detailed review of design, transportation, and costs is proposed to assess access, feasibility, ridership, and neighborhood impacts.

1. Design: Building upon the KPFF analysis, the design analysis will include looking at topography issues, ingress and egress geometrics including grades, turning radii and sight distances, cut/fill necessary to construct a park-and-ride and parking structure on the site, and other issues relating to the park and ride footprint and construction impacts and feasibility. The design work will be undertaken in conjunction with the transportation analysis below. Any design modifications based on the transportation access analysis will be identified and assessed during this phase.
2. Transportation: Assess both the macro and site-specific traffic impacts of proposed A-2 station.
    a. Transportation Modeling: Using 2030 as a horizon year, use the BKR model to provide overall volume and turning movement information in proximity to the station, and identify level of service (LOS) at key intersections along, and in close proximity to, the identified new station location. Update modeling based on more focused transportation access analysis noted below.
    b. Assess ingress and egress feasibility for both cars and buses at the proposed station and park-and-ride site. Start with work done by KPFF in their July, 2010 report, and modify as necessary based on additional work. Analyze the implications of the A-2 site and access on any potential impacts of bus routing and travel times, as well as traffic impacts on adjacent arterials and local streets.
3. Visual simulation: Develop two visual simulations for A-2 station. Develop massing models for stations and park-and-ride and conduct technical work to compose simulations.
4. Cost: Update KPFF cost estimate to reflect more advanced design information, while staying consistent with Sound Transit's cost estimating methodology.

5. Project Management: Up to four meetings with City staff to advance design and transportation analysis; contract administration.
6. Agency Coordination: Meetings with Sound Transit and King County to discuss specific design and programmatic requirements and to review cost estimates. Meeting with WSDOT to discuss location and transportation impacts relative to I-90 mainline and interchange.
7. Public Involvement: Open house to share A-2 Station conceptual design and traffic analysis results with community, and seek community feedback.
8. Council check-in to provide results of A-2 Station conceptual design and traffic analysis results, share community feedback and seek Council direction.
9. Adjustment to design based on public and Council feedback.
10. Write tech memo summarizing analysis and design recommendations.

Task B

Key Outcome: **Advance design of A-2 station, constructability review, and transportation analysis; gain public input on A-2 station.**

Deliverable: **Technical Memo summarizing design updates and transportation analysis, including renderings of design concepts.**

Timeline: **2 months**

The next tasks, Task C, Conceptual Engineering to 5%, and Task D, environmental screening analysis, are performed in tandem to inform one another. Conceptual Engineering will bring the new alternative to the same level of CE as the other alternatives in the East Link DEIS. The environmental screening analysis will bring the information available about the B7-Revised alignment to an equivalent level of the 112th Avenue Concept Design Report. These are parallel processes to allow adjustment of the design of the alignment to avoid, minimize, and mitigate impacts. The process would begin with a basic (approx. 1%) level of CE work to better define the alternative and inform the first stages of the screening analysis.

Task C. Conceptual Engineering (CE) up to 5% Design

Design B7-Revised to allow for environmental analysis and cost estimates comparable to DEIS.

1. Define preliminary conceptual B7-Revised horizontal and vertical alignments (1" = 50' scale) utilizing the following information:
    a. Proposed B7-Revised alignment layout from Task A above shown on aerial photo
    b. Ortho photos with two-foot contours information
    c. Approximate locations of Right-of-way and private property lines
    d. Sound Transit's Draft Environmental Impact Statement and associated plans and reports (December 2008)
    e. City of Bellevue's South Bellevue Station Alternative Location Analysis (prepared by KPFF, July 2010)
    f. City of Bellevue's Analysis of Potential Impacts from Sound Transit on Mercer Slough (prepared by OTAK, August 2010)

g. City of Bellevue's Peer Review of Segment B7 of Sound Transit's East Link Light Rail Project (prepared by DEA, July 2010)
h. Existing sensitive areas (Mercer Slough) information
i. WSDOT record drawings for I-90 and I-405
j. Existing WSDOT and other available geotechnical information
k. WSDOT I-90 South Bellevue Interchange Structure and Soil Monitoring Program reports
l. Sound Transit light rail design criteria
m. Legal analysis of freight rail compatibility in BNSF corridor.
n. WSDOT I-405 Master Plan
o. Bellevue Light Rail Best Practices

The CE design will include further refinement of the B7-Revised alignment to include, but not be limited to, layout of the transition from the A segment to B7-Revised, placement of the alignment in the BNSF right of way, horizontal and vertical alignment along I-405 including affects to the Main Street overcrossing of I-405, layout of the East Main P&R station, and layout of the transition to the C9T segment. For the elevated section along I-405, conceptual pier placements will be identified.

2. Determine locations of abutments and piers through Mercer Slough, including conceptual pier design.
3. Perform iterative refinements of horizontal and vertical alignments to avoid and/or minimize adverse impacts to private properties, businesses, sensitive areas, and noise and visual impacts. The refined preliminary conceptual alignment will provide the basis for determining general feasibility and conducting environmental review in Task D.
4. Project Management: Up to five meetings with City staff, regular progress reports and check-ins, and contract administration.
(Agency coordination, public involvement, and Council check-ins covered under Task D.)

Task C

Key Outcome:	**Definition of alignment sufficient to conduct environmental analysis based on screening criteria**
Deliverables	**Defined 5% conceptual engineering, horizontal and vertical alignments** **Conceptual cross sections at typical sections throughout the B7-R route** **Conceptual pier design through Mercer Slough** **Conceptual design for connection with Segment C**
Timeline:	**3-4 months**

Task D. Environmental Screening Analysis

Environmental analysis based on screening criteria of B7-Revised Alternative to a level consistent with Sound Transit's 112th Avenue Concept Design Report.

1. Conduct independent environmental analysis of up to eight environmental screening criteria (to be confirmed by the City Council). Develop methodologies consistent with Sound Transit's Concept Design Reports. Analysis should include discussion of potential avoidance and mitigation opportunities for impacts. The following criteria are proposed for discussion and budget scoping purposes:
   a. Transportation: Assess traffic impacts of new alternative, using 2030 as a horizon year. Identify level of service (LOS) at key intersections along, and in close proximity to, the entire alignment and station locations. Identify major transportation impacts on local arterials. Assess impacts on bus travel times and routing based on new (A-2) station design and location. Identify other major transportation impacts and proposed mitigation, particularly in close proximity to park-and-rides and stations.
   b. LRT Ridership: Prepare light rail ridership forecasts for the alignment by station, for Segment B, and for East Link as a whole. Ridership forecasts will be for 2030, and would be based on the proposed alignment identified in Tasks A and B; an optional task, not included in this scope and budget, would be to prepare additional ridership forecasts of other options. In order to be consistent with earlier work done by Sound Transit on other alternatives, the scope assumes that Sound Transit's light rail ridership model and methodology would be utilized.
   c. ROW and Property Impacts: Define ROW needs and property impacts for B7-Revised alignment. Identify number of businesses and residences impacted and estimated time to secure all property rights.
   d. Visual: Develop two visual simulations at each of four locations along B7-Revised alignment: (1) the crossing of Mercer Slough just north of I-90; (2) light rail in BNSF corridor as it passes by residential uses accessed off of 118th Avenue SE; (3) at an East Main station; and (4) the light rail approach to downtown connecting to a NE 2nd Street tunnel including the Red Lion and Sheraton sites. Develop massing models for stations and park-and-ride and conduct technical work to compose simulations.
   e. Environmental: Identify and evaluate potential construction and operational impacts to the affected ecosystem, including but not limited to water bodies, wetlands, wetland buffers, vegetation and wildlife habitat, particularly for priority, threatened or endangered species. The analysis will consider habitat loss, water quality and hydrology and discuss functions and values of impacted areas. The evaluation will be based on existing, available information from local, state and federal resources for screening purposes. A more detailed analysis, including field reconnaissance, would be conducted as part of Phase 2.
   f. Cost estimates: Develop 5% engineering cost estimate range that includes design completion, construction, ROW acquisition and all mitigation costs for property impacts and environmental impacts, including appropriate contingencies. The cost estimate shall be consistent with Sound Transit's cost estimating methodology for similar work.

g. Noise: Conduct noise analysis to predict potential noise levels associated with B7-Revised alignment. Analysis includes independent measurement of ambient sound at six locations; construct computer noise models to predict sound levels, utilizing Sound Transit noise data; review FTA regulations and identify "impact" per FTA regulations; develop mitigation recommendations.

h. Constructability: Discussion of construction methods; constructability assessment; construction impacts and potential mitigation approaches.

2. Prepare a Concept Design Report presenting the CE drawings, environmental analysis, and additional analysis in a format accessible to the public and decision-makers. Include Draft, Review Draft, and Final Concept Design Report. (Allow for two reviews and production costs.)
3. Project Management: Up to five meetings with City staff, regular progress reports and check-ins, and contract administration.
4. Agency Coordination: Up to five meetings and coordination as necessary with appropriate agencies (e.g. Sound Transit, WSDOT, Corp, DOE) to conduct analysis.
5. Public Involvement: Open House to share 5% CE and Concept Design Report findings; seek community reaction and feedback on next steps. (See "Public Involvement Scope" Section later in document for more detail.)
6. Council Check-in: Brief Council on 5% CE design, screening analysis, and public feedback. Seek Council direction on next steps.

Task D

Key Outcome: **Completion of Phase 1, definition of B7-Revised alignment, 5% CE, and environmental screening**

Deliverable: **Final Concept Design Report**

Timeline: **3-4 months**

Change #	Costs	Date Initiated	Approval Date	Discription	Notes
Change 1	$10,770	2/8/2011	2/18/2011	City staff requested consultant's Deputy Project Manger to attend nine project Steering Committee meetings.	Consultant's Deputy Project Manger attended two project Steering Committee meetings, five meeting with Councilmembers (Council briefings) , and two meetings with the City Manager.
Change 2	($3,839)	2/16/2011	2/18/2011	Adjustment as a result of work performed by Sound Transit.	Scope assumed consultant to obtain Sound Transit Model. Sound Transit required that ridership modeling be performed by Sound Transit's consultant.
Change 3	$31,911	2/7/2011	3/17/2011	Pre-Tipping Point conceptual engineering and environmental screening for a second alternative B7-Revised alignment within the BNSF Corridor which provides an additional 18ft corridor for a trail and future freight rail use.	Based on the City Attorney's office recommendation to comply with rail banking regulations, the second option was added. Information on adding an 18ft corridor for a trail and/or future freight rail was provided to Council through both Feb. 14 and May 16 Council meetings
Change 4	$3,566	2/14/2011	2/22/2011	Additional renderings and supporting photography on the A-2 Station	Arup and Staff recommended adding two additional photo-composites for the A-2 station to show the views from houses across 113th.
Change 5	$21,814	2/18/2011	3/17/2011	Extending project limit to Downtown Station	Arup recommended and staff agreed to extend the project limits to Downtown Station in order to be able to compare to other Sound Transit alignments. Information regarding this change was presented by Goran sparrman at the May 16 Council meeting.

Original Contract Amount	$670,722
Total staff authorized changes	$64,222
New total Contract	$734,945
Total to date (as of May 31st)	$650,000
Estimated spending to complete report	$50,000
Estimated Final Costs	$700,000