

Eastside Transportation Association

"Dedicated to improving our quality of life and environment by reducing congestion through increased mobility"
P.O. Box 50621
Bellevue, WA 98015

25 February 2009

Attention: East Link DEIS Comments
Sound Transit
Union Station
401 South Jackson Street
Seattle, Washington 98104

ATTENTION: EAST LINK DEIS COMMENTS

Dear Mr. Irish:

The Eastside Transportation Association (ETA) is recognized by many at Sound Transit as an opponent to the choice of LRT for the East King subarea. We believe that our position is consistent with the October 2002 I-405 Corridor Program Record of Decision which states: "A bus rapid transit (BRT) system would be implemented throughout the I-405 corridor with appropriate east-west connections to Redmond and Issaquah. Unlike the fixed-guideway high capacity transit proposed in Alternatives 1 and 2, this system would consist of express buses operating in improved access HOV lanes on I-405, I-90, and SR 520. The BRT system would provide superior transit service by use of HOV priority lanes, frequent schedules, and easily accessible stations."

While we regret Sound Transit's choice and believe there are many flaws and omissions in the DEIS to support our position, we also recognize the region's voters have approved new taxes to fund the construction of a system for the East King County subarea. Accordingly, we have reviewed the DEIS and the alternative choices, proposed alignments and related impacts. ETA will focus on alternatives that have the greatest long-term flexibility and which will do the least damage to our transportation system, both long and short term. We offer the following comments.

1. B7 is the best choice for Segment B. The reasons are:

- While still LOS F, B7 is the only Segment B alternative with average delay less than existing 109.5 seconds. The other B alternatives would experience delay significantly worse than existing and No Build (see details in Item 15 below).
- The BN SF alignment (Alt. B7) would require the fewest number of property acquisitions (see Table 4.1-2, p. 4.1-3, DEIS)
- The BN SF alignment (Alt. B7) will minimize neighborhood impacts. The only impact cited by ST is view of the elevated structure by users of the I-90 trail (see Table 4.4-2, p. 4.4-14, DEIS). However, the number of users is small and they already view the structures of I-90. Also these view impacts are far different than that of a residence with full-time, permanent view of an elevated structure.

- ETA feels strongly that permanent roadway capacity should be preserved. ST also claims that, after mitigation, no intersections fail to meet local LOS standards and operate at an LOS worse than No Build (there is one exception in Segment C) (see Tables ES-4, and 5 of the DEIS Executive Summary). Tables D-2, D-8, D-10 and D-14 in Appendix D to the H1 Transportation Technical Report indicate this is not true. Those tables show the following numbers of intersections that fail to meet the local LOS standard and with estimated delay worse than No Build to be:

Segment B Alternatives	Segment C Alternatives	Segment D Alternatives
B1: 2	C1T: 3	D2A: 5
B2a: 2	C2T: 2	D2E: 5
B2E: 1	C3T: 2	D3: 4
B3: 2	C4A: 1	D5: 4
B7: 1	C7E: 2	
	C8E: 2	

The mitigation section of the H1 Transportation Technical Report refers to Table D-14 for detail. Results on that Table are shown only for Segments, not by alternative within segments. That table shows, for Segments B and C, the number of intersections that fail to meet the local LOS standard and with estimated delay worse than No Build to be (the number after mitigation is shown in parentheses):

- Segment B: 3(2)
- Segment C: 2(2)
- Segment D: 3(3)
- Continuing growth will make it vital to preserve the ability to expand roadways. Alternative B7 is the best in Segment B because it does not use existing roads. The DEIS says that lanes taken for East Link will be replaced. However, maintaining the existing lane count may not be enough. Surface and elevated alternatives may constrain future roadway expansion. The need to widen Bellevue Way was identified during the Downtown Implementation Plan (DIP) update. Alternatives using Bellevue Way, particularly B1, will take some of the width available for roadway expansion.
- B7 will not affect arterial capacity during construction.
- B7 and B2E provide better level-of-service at the intersection of 112th SE/Bellevue Way

2. C2T may be the best available choice for Segment C. This has the attributes of being underground, of being able to connect to B7, and using NE 6th, which is already devoted to transit, HOV and pedestrian traffic. Unfortunately, its cut-and-cover construction will seriously disrupt traffic and may be devastating for adjacent businesses. Could there be a way to move this to a shorter route on 108th NE or 110th NE and to employ mined tunnel construction?

3. Segment D. All of the Segment D alternatives potentially restrict the ability to expand SR-520. A major expansion of SR-520 will probably be required in the future. Current Bellevue

plans for the Bel/Red corridor and Redmond plans for Overlake Village are not included in the ridership estimates. ST justifies this because the respective Councils have not adopted the plans. Then why were these plans allowed to determine alignment alternatives in Segment D? Where else has ST incorporated provisions that have not been adopted? Taking of the I-90 center roadway comes to mind; that has not been adopted by WSDOT.

4. Ridership at the 118th SE Station. Review of the population density figures and modes of arrival at Segment A and B stations suggests that the 118th SE station was treated differently and underperforms in comparison. This station has relatively high population within 1/2 mile, has unusually low parking utilization and is adjacent of I-405, which has an adopted plan for BRT service. What is the explanation for the unusual performance of this station?

5. Why invest \$2.8 to \$4.4 billion for only 9,500 new transit trips in 2030? This is an investment of \$600 million to \$900 million to add one new rider (at 2 trips per day per new rider). The 9,500 new rider trips per day represent only a 1.7% increase in projected regional daily transit ridership in 2030 (Table 4-10, page 4-23 of DEIS Appendix H-1) This is less than one year of projected transit trip demand growth for the region.

6. Boardings on Segments. What is the significance of boardings per segment alternative? Because segment boardings have secondary effects on other segments including changes in bus services, performance of the total East Link is more meaningful. The DEIS recognizes this on page 3-23 with, “Due to the proximity of the East Main Station to Segment B, project-wide ridership presents a more informative assessment of alternatives B3 and B7 than Segment B daily boardings. “

7. East Link does not support downtown Bellevue growth projections. The City projects at least 610,000 daily person-trips in and out of downtown Bellevue in 2030. The 2030 East Link total daily boardings estimate for downtown Bellevue is only 8,000, or 16,000 trips both ways combined. About 25% of those trips are transfers from rail feeder bus routes to/from Kirkland and East Bellevue. As a result, East Link will serve only about 2% of total CBD trips by 2030.

8. East Link ridership is Seattle-centric. ST has failed to disclose that more than 80% of East Link trips are oriented to and from Seattle. With only 20% of East Link trips internal to the Eastside, there is minimum benefit to Bellevue or other Eastside communities. Please confirm or deny our 80/20 assertion with appropriate supporting information.

9. How did Sound Transit Estimate Cost-Effectiveness? ST reports cost-effectiveness per total East Link rider, even though only about 20% are new riders (p. 6-16, DEIS and also in H1 Appendix). Cost-effectiveness should be reported per new transit rider and should include operating and maintenance costs. Those changes would result in a cost of \$55 to \$80 per trip.

10. Why is there No Low-Cost, Transportation System Management Alternative provided in the DEIS? In addition to No Build, reasonable alternatives should be provided. In analysis of person throughput on I-90 (see p.3-38), there is no acknowledgement that a well-designed BRT system could far exceed the East Link capacity with all-seated comfort, and allow other high-occupancy vehicles. A well-marketed vanpool expansion program could well outperform East Link as well.

11. Why were No Alternatives Evaluated for Segment A? The DEIS should include reasonable alternatives, but has none for Segment A. Surely there must be alternatives to taking the Center Roadway of a vital highway facility. According to Sound Transit's Leonard McGhee (ETA meeting on 27-Jan-09), none were ever considered except for a comparison of SR-520 and I-90. That comparison was not within a SEPA or NEPA analysis. Eliminating Segment A would also seem to be an alternative that would favor the East King subarea and permit investment of the Segment A costs in a way that would provide far greater transit benefits to the subarea taxpayers.

12. DEIS fails to disclose serious technical issues with converting I-90 center roadway to light rail. The Expert Review Panel has called attention to these issues (see pp. 18,19, Final ERP letter, 30-Oct-08). These include:

- Effect on bridge life expectancy
- Stray current mitigation
- Impact of track installation on the bridge.
- Design of expansion joints
- Seismic vulnerability
- Effects of wind and waves

How and when will these issues be resolved? Do the cost estimates include these items? If so, how can estimates be developed for something that has never been constructed before and not designed? Do the O&M cost estimates include the cost of Sound Transit taking responsibility for maintenance?

13. Cost of the I-90 Center Roadway. The capital cost estimates do not include the major item of paying WSDOT, as required by law, for the taking or use of the Center Roadway. Replacement cost for these lanes would certainly be in the billions of dollars. Please provide a detailed explanation of the assumed cost to acquire this ROW.

14. Loss of roadway capacity during construction. The DEIS does an inadequate job of disclosing what drivers will actually experience during construction. Partial or full closures can be a serious inconvenience for residents and devastating for some businesses. ST should provide more specific information by segment/alternative, including:

- Time of day for partial or full closures
- Duration of closures (weeks, months, years)

In Segment B, all the alternatives would have serious impacts for all alternatives except B7. The others all will interfere with Bellevue Way. In Segment C. the worst construction impact would be with alternatives C1T and C2T because of extensive cut and cover construction. The least disruptive would be C3T because of its mined tunnel.

15. Traffic Conditions at South Bellevue Park & Ride/Connections to I-90. The DEIS does its best to not disclose what would happen with tripling the number of parking spaces. It only discloses that:

- No Build and all Segment B alternatives would operate at LOS F at the southerly access intersection (pp. 3-56, 58), and
- At Screenline 4, “With the East Link project, congestion would improve slightly...” (p. 3-11).

These “disclosures” would surely lead a reader to believe that future conditions would be no worse than today’s. However, that is not true. That is borne out by the Table from Appendix D of the H1 Appendix (which would be seen by few readers). That shows average delays of:

- Existing, 2007: 109.5 seconds
- No Build, 2030: 90.9
- B1: >150
- B2A: >150
- B2E 141.5
- B3: 141.5
- B7: 93.6

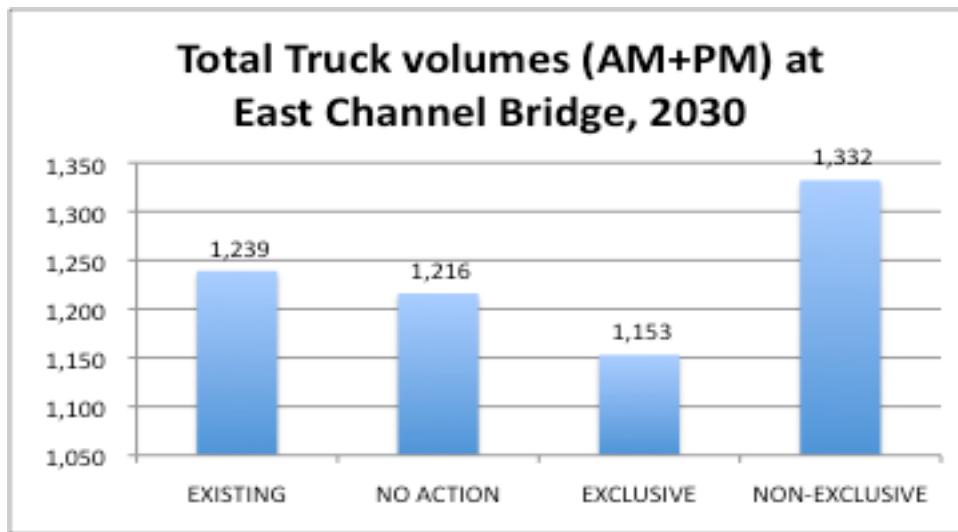
Note that:

- Delays for B7 are only slightly higher than No Build.
- Delays for B7 are less than existing delays.
- Delays for Build conditions are about 60% worse and in some cases into the >150 second, undefined range.

Readers may also have missed the definition earlier in the document that Screenline 4 includes both Bellevue Way and I-405 (pp 3-5, 3-7). By averaging volume to capacity conditions on Bellevue Way and I-405, ST has masked the actual operations on Bellevue Way. The H1 Transportation Appendix acknowledges that that the volume to capacity ration (v/c) would improve slightly “...as the I-405 program provides additional capacity” (p. 3-9). Also, by placing Screenline 4 north of the SBP&R, ST has avoided the worse operations between SBP&R and I-90. The DEIS text, described above does little to inform what the actual driver experience will be.

16. Vehicle Throughput on I-90. If the person throughput goes up as ST claims, that is good. However, vehicles are important too. Transit does not and will not connect all the origins and destinations and, for many, transit does not provide a competitive service for other reasons. PSRC projects a regional population and vehicle trip increase of 35% to 40% **by** 2030. In comparison, the DEIS projects a vehicle throughput increase of only about 10% at Screenline 2 (floating bridge) by 2030. WSDOT in their 2006 I-90 Center Roadway Study projects a decline of 10% with exclusive use of the center roadway by HCT (this includes an interpolated adjustment to a 2007 base year). The DEIS correctly points out that center roadway capacity is constrained by end conditions, particularly at the west end. However, those conditions could be corrected and probably at a lower cost than East Link. Please provide a reconciliation of the DEIS assumptions and conclusions compared to the WSDOT study.

17. Freight Movements on I-90. The DEIS has a lengthy discussion of vehicle and person throughput on I-90 but nothing specific about trucks (Section 3.5, starting on page 3-28). Section 3.8 starting on p. 3-89 does provide a more detailed discussion of freight. The text strives to show that travel times will improve with East Link on the center roadway and does show that truck volumes would be down in the peak direction. WSDOT's [I-90 Center Roadway Study](#) showed the negative effect of exclusive use of the center roadway for HCT. For example, the chart below shows peak period truck volume from page 19 of the WSDOT study. It shows



higher truck volumes can be supported with the “non-exclusive” case (with buses, Mercer Island traffic and HOV in the center roadway). Trucks will not use the center roadway but forcing all the other vehicles

to also use the outer roadways, higher volumes and increased weaving will reduce capacity.

18. High Occupancy Vehicle (HOV) Operations. East Link would be built at the expense of service to far more important HOV needs. In Seattle, East Link may remove buses from the D2 roadway, and will remove other HOV's from D2 (see p. 3-33). If East Link has exclusive use of the D2 roadway, buses would be rerouted to other roadways to access I-90 from South Seattle (such as 4th Ave S via SR 519); the PM bus travel time would increase up to 13 minutes east-bound in 2030 (p. 3-42). According to the WSDOT Center Roadway study, this would more than double bus and HOV travel times between Seattle and Bellevue Way (p. 16, WSDOT Center Roadway Study and see the chart below). In no East Link case would HOV be allowed on the D2 roadway. What are the impacts on HOV travel times?

In south Bellevue, Alt B1 would eliminate eastbound and westbound HOV access to I-90. Other Segment B alternatives would either eliminate the eastbound off-ramp or require reconstruction. In serving regional travel needs, carpools and vanpools are orders of magnitude more important than the trivial role played by Sound Transit's light rail. In East King County, trips in carpools and vanpools are 25 times those on transit (for year 2030, based on PSRC'S 2007 update of the Metropolitan Transportation Plan, Table 8-21). This will hurt vanpool use. That is important because vanpools offer the opportunity for far more use than light rail and at a tiny fraction of the cost.

19. East Link Capacity of 9,000 to 12,000 people per hour in each direction. ST says this is equivalent to 6 to 10 freeway lanes of traffic (p. 3-3, DEIS). This is based on a “comfortable” capacity of 600 persons per train to a “crush” capacity of 800 persons with a headway (time between trains) of 4 minutes. To ST, “comfortable” means fewer than half are seated.

- How could crush capacity be sustained for an entire hour? That would require a station queue equaling or exceeding train crush capacity for every departure during the peak hour. U.S. light rail don't operate at more than half this level for the peak hour.
- Downtown Seattle Transit Tunnel limitations may prevent achieving this headway. Earlier ST figures showed a minimum East Link headway of 5 minutes.
- The planned peak period headway in 2030 is 9 minutes not 4 minutes (p.3-36)
- In this specious comparison, ST used a freeway lane capacity of 2000 vehicles per hour with 1.17 persons per vehicle. A fair comparison would also use crush capacity of a freeway lane with 2,200 vehicles per hour with cars carrying 6 passengers resulting in 13,200 persons per hour per lane. Therefore, at crush capacity, LRT doesn't quite reach the capacity of one freeway lane. Of course, no freeway would operate at such crush capacity, but neither do light rail systems,
- The DEIS follows the practice of comparing bus capacity with all passengers seated with light rail assuming that many will be standing. The usual argument is that light rail is smoother, and that, therefore, it is easier for standees. However, BRT on major routes would have similar characteristics, as opposed to local bus routes operating on minor arterial and collector.

20. Person Throughput on I-90. On page 3-1, the DEIS says, “The East Link project would increase the i-90 person capacity across Lake Washington by close to 60% without any roadway widening. Was this based on another hypothetical and unrealistic estimate of capacity (see #19 above)? The 60% claim is grossly inconsistent with figures in Tables 3-19 and 3-20 on page 3-38

21. East King County Subarea Funding. Why should funding for all of East Link east of the Rainier station be funded by the East King County subarea? As described in no. 8 above, only about 20% of East Link ridership serves Eastside trips. The other 80% is to serve trips beginning and/or ending in Seattle. ST subarea equity policies permit funds to be used outside of a subarea if the subarea is benefitted by the investment. Consistent with this policy it seems an 80/20 sharing of this cost between the N. King and East King subareas would be equitable. Please explain why the N. King subarea is receiving the majority of the benefit but pays none of the cost.

22. Park-and-Ride facilities (p.3-13). Why are there no Park-and-Ride facilities in the City of Seatte? As described in no. 8 above, only about 20% of East Link ridership serves Eastside trips. The other 80% is to serve trips beginning and/or ending in Seattle, so why not some park-and-ride on the Seattle side?

23. ST claims that passenger transfer rates would “...stay similar with and without light rail...” This section tries to mask the reality that more transfers will be required with East Link that are required today with a bus system. (See, for example, Table 2, Appendix C, ST2 Plan, which shows a 14% higher transfer rate in 2030 with the ST2 plan)

24. I-405 ROD - HCT Plans. As mentioned in the opening paragraph of this letter the October 2002 ROD for the I-405 project, approved by the Sound Transit board, reached a different conclusion regarding the HCT choice for the same project area studied by the East Link DEIS. Please provide a detailed description of what facts have changed since 2002 to justify changing the HCT plans for the project area that were previously approved by Sound Transit.

In conclusion, the DEIS has many flaws, inconsistencies, contradictions and outright misrepresentations of the true impacts of the proposed East Link plan. Acquisition of the I-90 ROW in and of itself is likely a fatal flaw as no possible case can be made that this ROW is not needed for highway purposes. Existing studies show the contrary to be true. In the event an argument for granting use of the Center Lanes is proposed the required compensation is not provided for in the East Link financing plan to the extent required by law. As a result much more work is required by ST before a preferred alternative can be selected in good conscience by the ST board.

Thank you for the opportunity to provide our comments and we look forward to receiving a detailed response before moving any further ahead in this long process.

Respectfully submitted,



Richard A. Paylor, Chair
Eastside Transportation Association