From: White, John
Sent: Wednesday, February 25, 2009 8:55 AM
To: 'Posthuma, Ron'; Grotefendt, Amy (Consultant); Powers, Bob; tracie.sunday@seattle.gov; OClaire, Christina
Cc: Paananen, Ron; Bandy, Mark
Subject: RE: Ballard Spur Tunnel Idea

Please see Mark Bandy's thoughts below on travel time differentials. If the assumptions look acceptable to everyone, we can incorporate this info into the response.

John

From Mark:

Off the cuff I told some people at Monday and Tuesday open houses that this idea might save two to three minutes. One mile at 15 mph takes 4 minutes to travel; same distance at 40 mph takes 1.5 minutes. Difference of 2.5 minutes, so two to three minutes difference.

-----Original Message-----
From: Posthuma, Ron [mailto:Ron.Posthuma@kingcounty.gov]
Sent: Wednesday, February 25, 2009 7:24 AM
To: Grotefendt, Amy (Consultant); Powers, Bob; tracie.sunday@seattle.gov; OClaire, Christina
Cc: Paananen, Ron; White, John
Subject: RE: Ballard Spur Tunnel Idea

I'm fine with what is written but could we also put in something on the travel timed saved from such a spur to get a sense of the benefit in relation to the cost?

-----Original Message-----
From: Grotefendt, Amy (Consultant)
[mailto:GrotefA@consultant.wsdot.wa.gov]
Sent: Wednesday, February 25, 2009 7:10 AM
To: robert.powers@seattle.gov; tracie.sunday@seattle.gov; Posthuma, Ron; OClaire, Christina
Cc: Paananen, Ron; White, John
Subject: FW: Ballard Spur Tunnel Idea

Bob Donegan sent in a question about the feasibility of boring a tunnel under Mercer Street -- below is our proposed response, which we would like to send from the RPs. Can you please review and let me know if you have any comments? We'd like to send out this week since the question came in on Feb. 13 (original question below). Thanks.

Proposed Response

Bob,

The project team has reviewed your idea for a second bored tunnel under Mercer to connect Northwest Seattle with the north-south bored tunnel under First Avenue. A few of our thoughts are below:

* The park area at 15th Avenue and Mercer Place would be a sufficient size to launch the tunnel boring machine.
* Due to the density along Mercer Street, there are limited opportunities for ventilation and control structures, which may affect the design of the tunnel and require more costly ventilation systems.
* Assuming a single bore tunnel, the required length to connect from a city street cross section (four lanes side-by-side) to the bored tunnel (four lanes stacked) would require approximately 1,000 to 1,500 feet of transition on either end of the tunnel.
* The length of the route would be about one mile assuming the mid point of Kinnear Park for the start of the boring machine to approximately Fourth Avenue N. and Mercer Street (in front of

McCaw Hall). Including the transitions at either end, the total length of this new roadway would be 1.5 miles.

* Ending the tunnel in front of McCaw Hall would require an extensive cut-and-cover section for retrieving the boring machine and making the connection to Mercer Street. The presence of a drainage tunnel under Mercer may affect the location of the eastern portal.
* The grade between McCaw Hall and Aurora Avenue would most likely not exceed five percent.
* Using the current cost data for the bored tunnel under downtown Seattle, we estimate a tunnel under Mercer Street would cost between $1.0 and $1.5 billion.

A couple of other thoughts on the connection between Northwest Seattle and the bored tunnel.

* The trips using the Elliott and Western ramps to get to and from the viaduct are not exclusively comprised of people from Northwest Seattle neighborhoods. The ramps are also being used by people living closer to the viaduct and by people with jobs in Belltown and northern downtown. For example, in the morning commute, while 40 percent of the vehicles that use the Elliott Avenue on-ramp are registered in Ballard or Magnolia, others are registered in places like Queen Anne, downtown Seattle, and even outside King County. A similar situation is seen in the afternoon commute, with 22 percent of the Western Avenue off ramp vehicles registered in Ballard or Magnolia and large portions from elsewhere. The point in mentioning this is not to diminish the importance of the connections, but that a bored tunnel connection between 15th/Elliott and Mercer would not serve all of the trips that currently use these ramps.
* With the bored tunnel hybrid alternative, access for vehicle trips from Northwest Seattle will be similar to today's access for getting through downtown Seattle. From Elliott Avenue just south of the Magnolia Bridge they can take Mercer Street to Aurora Avenue and into the bored tunnel or continue on Elliott Avenue to Alaskan Way along the waterfront. Both trips are about the same distance (two miles) and the Mercer route will have one or two more traffic signals than the Alaskan Way route.

I hope this helps answer your questions -- please feel free to call me at 206-382-5270 if you have any further questions.

Thank you,

John White

Bob's Question

The issue of 35,000 vehicles a day that enter the viaduct at Western or exit at Battery street is becoming a huge issue for the freight guys in Ballard and NW Seattle. We have talked about a tunnel spur off the main tunnel toward 15-Elliott as an option, which the project team prices at $77M to $1B. When I ask for details, they explain the cut and cover portion where the spur connects to the main tunnel will be expensive.

Here is an alternative. Can this work?

At 15th and Mercer Place on the west end, there is a public park cut into the rapidly rising slope of Queen Anne hill. How about boring a tunnel there to the ESE and bringing it out of the ground on Mercer between the Opera House, KCTS TV and the parking garage? Mercer is downward sloping to the east there--probably 3-4-5% slope.

This avoids having to do a cut and cover connection.

This avoids the narrow Mercer Place 2-3 lane street.

This avoids dumping 35,000 vehicles into a neighborhood.

Is this possible?

What would it cost?