

City of

Bellevue



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DATE: June 6, 2013

TO: Bellevue Transportation Commission

FROM: Judy Clark, Modeling and Analysis Group Manager, 425-7858
jclark@bellevuewa.gov
 Kevin McDonald, AICP, Senior Transportation Planner, 452-4558
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SUBJECT: Downtown Transportation Plan Update: Modeling Parking Costs

At the request of Commissioner Vic Bishop (*please see attached recent e-mail at the end of this memo.*), staff in the Modeling and Analysis Group have undertaken the task of running a new iteration of the BKR travel demand model for the Downtown Transportation Plan Update to analyze the changes in mode split, particularly the transit mode, that result from reduced assumed parking costs. Parking cost is a “sensitivity test” variable we can input in the model to test the effect on transit ridership.

Summary of the Issue

Commissioner Bishop has expressed curiosity with regard to the model output, particularly with regard to the daily transit passenger volumes projected for Downtown Bellevue in 2030. The model suggests a significant five-fold increase in daily Downtown transit ridership between 2010 and 2030. Staff has suggested that this model result may be a reasonable projection in light of the planned regional investments in Downtown transit service and facilities, the transit-supportive intensity and mix of land uses, and the propensity of Downtown workers and residents to use transit as part of their daily routine. Looking forward to 2030, the trajectory of modeled transit ridership growth closely resembles the past 25 years of transit ridership growth. Specifically, the 1985 – 2010 annual growth rate for daily transit ridership was measured at 8.5% while the 2010 – 2030 annual growth rate is projected at 9.1%

Mr. Bishop’s essential concern is related to the assumed cost of parking that is embedded in the model, both for short-term parking and long-term commuter parking – wondering if the assumed parking costs may be too high, therefore driving the model to forecast more people to the transit mode than may actually occur.

Original Parking Cost Assumptions

Projected parking costs that are embedded in the Downtown transportation travel demand model are derived from the Puget Sound Regional Council and are considered the regionally

accepted conservative estimates for modeling purposes. For Downtown Bellevue, short-term and long-term costs for the 2010 baseline and the 2030 base year analysis are considered for the entire Downtown area as follows:

2010 Short Term	2010 Long-Term	2030 Short-Term	2030 Long-Term
\$2.45/hour	\$7.36/day	\$9.20/hour	\$27.93/day

For purposes of long-range transportation planning, the same parking rates are assumed throughout Downtown Bellevue. In reality, the parking cost varies from location to location, from building to building, and even from person to person. Given this variability, staff believes that an area-wide average is appropriate for area-wide modeling purposes. However, this assumption is called into question, considering especially that much of the short-term parking supply in Downtown Bellevue is currently free to the users. Therefore, for a supplemental model run staff has embedded some variability in Downtown parking costs depending on whether the parking is in the high-demand “core” area or on the edges of Downtown.

Supplemental Model Run

To test the “sensitivity” of the transit ridership projections to the cost of parking, a separate model run was done with the following 2030 parking cost inputs:

2030 Short Term Core*	2030 Long-Term Core*	2030 Short-Term Edge*	2030 Long-Term Edge*	2030 Short-Term and Long-Term Bellevue Square
\$4.60/hour	\$13.97/day	\$2.45/hour	\$7.36/day	\$0.00

Core: Downtown area bounded by NE 4th St, NE 10th St, Bellevue Way, 110th Ave NE

Edge: Downtown area outside of the “Core”

Bellevue Square: Traffic Analysis Zone 11 - 100th Ave NE, Bellevue Way, NE 4th St, NE 8th St

Model Results

Staff is continuing to work with the model run with the adjusted inputs on parking costs and will present the results at the June 13, 2013 Transportation Commission meeting.

From: Vic Bishop <vicbishop@earthlink.net>
Sent: Friday, May 24, 2013 3:42 PM
To: Krawczyk, Paul
Cc: ernie@esimas.com; Clark, Judith; McDonald, Kevin
Subject: Sensitivity Testing of LOS Calculations based on reduced transit ridership

Paul,

At the May 9 Transportation Commission meeting the parking cost data that Judy provided for the BKR model in the Mode Split module was discussed, including the Management Brief that was distributed. (You were gone and Mike Matter substituted for you).

As you know, I continue to question why the model estimates what seems to be unreasonably high transit ridership in downtown. I still don't know what is driving that.

However, I have concluded that my only real concern is the potential impact of high transit ridership would have as a result of lower vehicle trip generation, and therefore an impact on the LOS results.

Therefore, I discussed the idea of a "sensitivity test" with Kevin during the meeting. The idea would be to reduce the transit ridership significantly (arbitrarily by say, 50% - instead of increasing from 3% in 2010 to 9% in 2030, reduce the increase to 6% in 2030), translating the reduced ridership to increased vehicles in 2030 and see what that does to the LOS map. If it makes no significant difference in the LOS map, then I can remove my concerns about over estimating the transit ridership.

Kevin promised to discuss this idea with Judy Clark and see what it would take. There was an idea that maybe Judy and I could discuss it so it does not get out of the realm of possibility.

I want to follow up on this concept.

Vic Bishop