City of
Bellevue
Post Office Box 90012 ▪ Bellevue, Washington ▪ 98009 9012

DATE: December 5, 2013

TO: Bellevue Transportation Commission

FROM: Kevin McDonald, AICP, Senior Transportation Planner, 452-4558
kmcdonald@bellevuewa.gov

SUBJECT: **Staff Report**
2030 Baseline vs Build Roadway Projects
http://www.bellevuewa.gov/downtown-transportation-plan-update.htm

At the October 10, 2013 Transportation Commission, a question arose in the context of the Downtown Transportation Plan agenda item discussion, regarding the value to roadway operations of the individual 2030 Build scenario projects relative to the 2030 Baseline. This Staff Report memo provides information that is available from the BKR travel demand model (traffic volume) and the Dynameq operational model (average delay of vehicles at intersections).

2030 Build Scenario Projects

At the outset of the Downtown Transportation Plan, the 2030 travel demand model included forecast land use and a set of reasonably assumable transportation capacity projects – the 2030 Baseline Scenario. The basis of these projects was set in 2010. Through 2010/11 circumstances changed a bit with respect to the status of several projects such that they were trending toward being reasonably assumable by 2030. A new modeling platform added these three projects in what has been called a 2030 Build Scenario, as described below:

- Southbound Off-ramp to NE 10th Street
  From I-405 southbound to NE 10th Street, the project would provide a southbound ramp at NE 10th Street and improve access to Downtown Bellevue for vehicles approaching from the north.

- 124th Avenue NE/SR-520 Interchange
  Project would complete the interchange by adding ramps for SR-520 access at 124th Avenue NE to and from the east.

- NE 6th Street Extension
  From the center of I-405, NE 6th Street would be extended east to 120th Avenue NE, in a grade separated configuration over 116th Avenue NE and the Eastside Rail Corridor, and touching down to provide local access between the Eastside Rail Corridor and 120th Avenue NE. This would be a HOV and HOT lane access roadway, except for general purpose access to parcels just west of 120th Avenue NE.

Information presented in PowerPoint slide format on the following pages shows a minor amount of change to traffic volume in Downtown Bellevue from the three projects modeled individually, but there were greater cumulative changes, largely increases in traffic volume with all three projects modeled together. Traffic volume summaries are provided for roadway segments that showed a change of at least 100 vehicles in the PM Peak hour - raw model data output is also provided which shows changes of 50 vehicles of greater. Vehicle delay at intersections is not available on an individual project basis, but as previously demonstrated, the improvement to vehicle delay at Downtown intersections is substantial with all of the 2030 Build Scenario projects combined. Vehicle delay is provided at intersections that showed a change of at least 10 seconds in the PM peak hour.

DOWNTOWN BELLEVUE TRANSPORTATION
VOLUME AND LEVEL OF SERVICE
2030 BASELINE VS BUILD

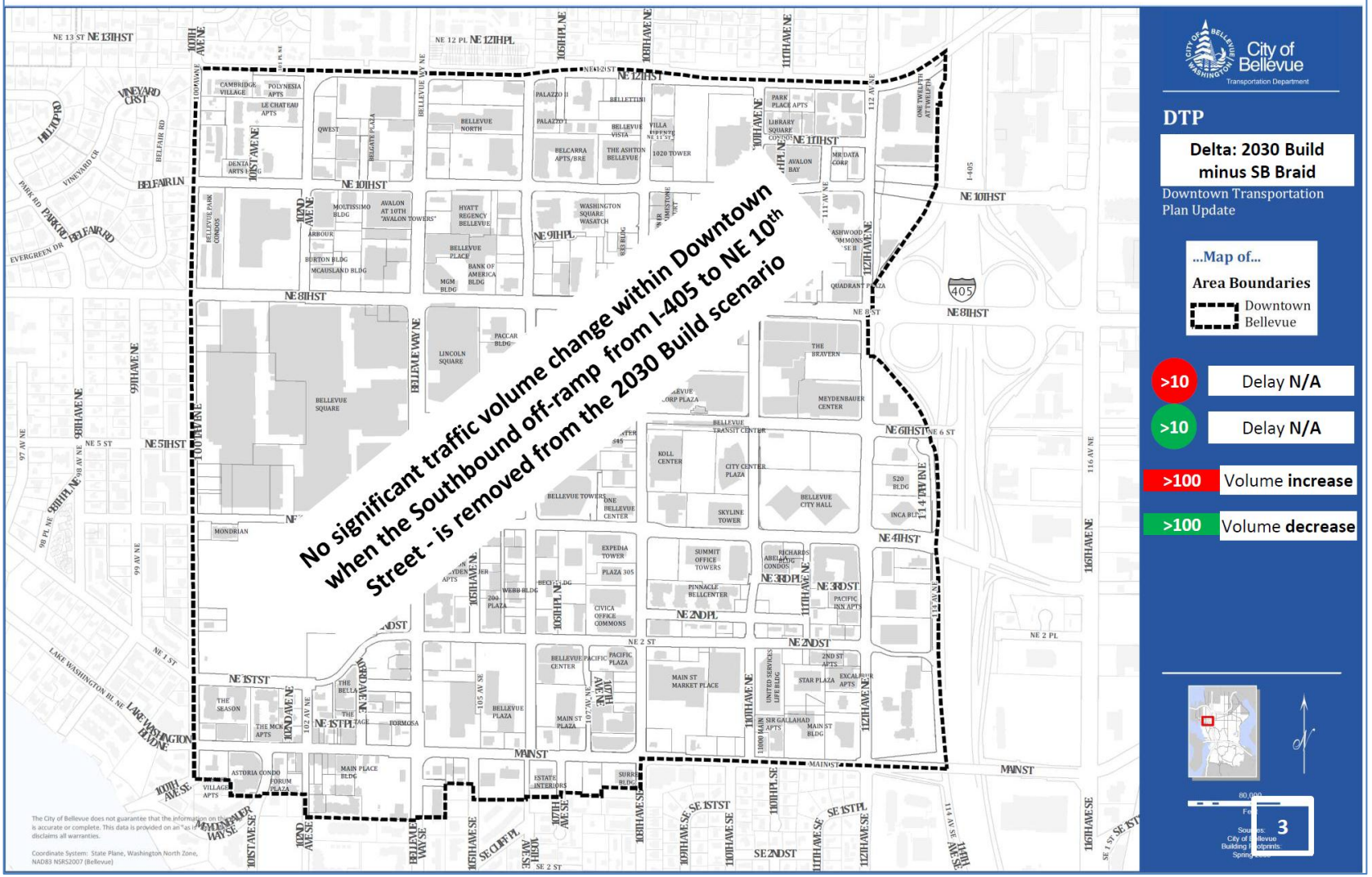
TRANSPORTATION COMMISSION
DECEMBER 12, 2013

Overview

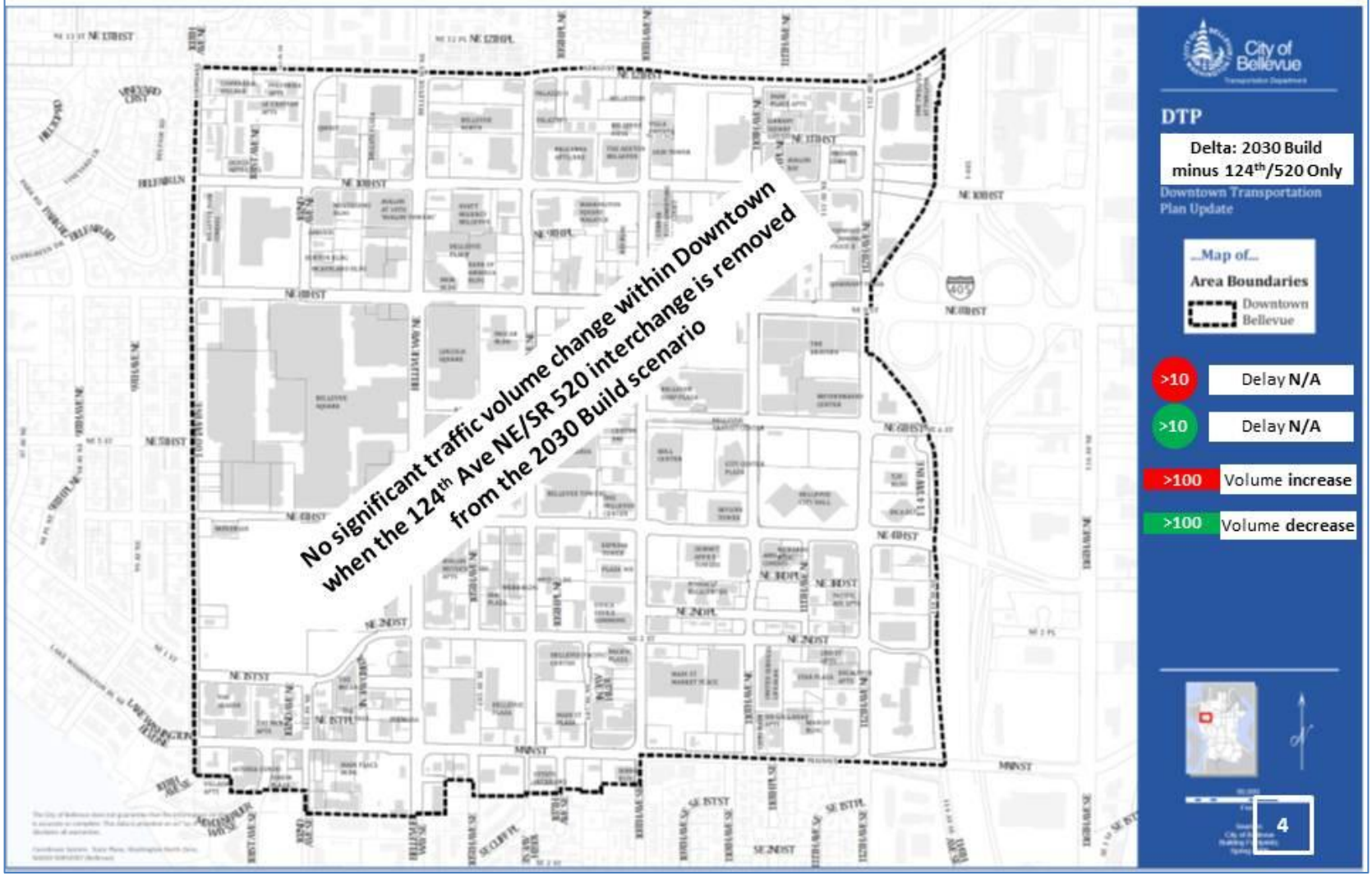
Transportation Commission requested analysis of effect of individual 2030 "Build" scenario projects

- NE 6th Street Extension
- 124th Avenue / SR 520 Interchange
- Southbound off-ramp from I-405 to NE 10th St.

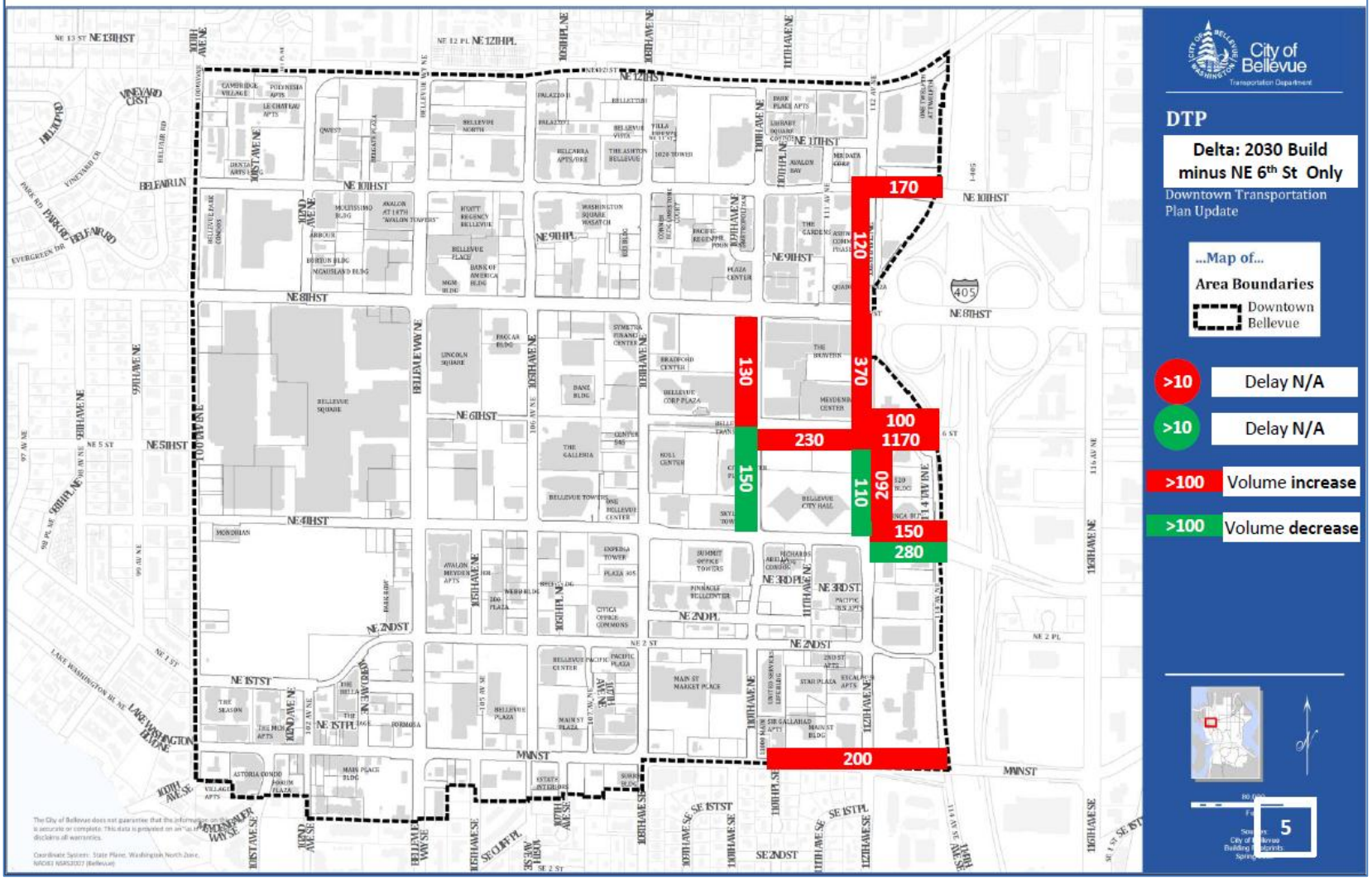
2030 Build minus SB Ramp @ NE 10th St



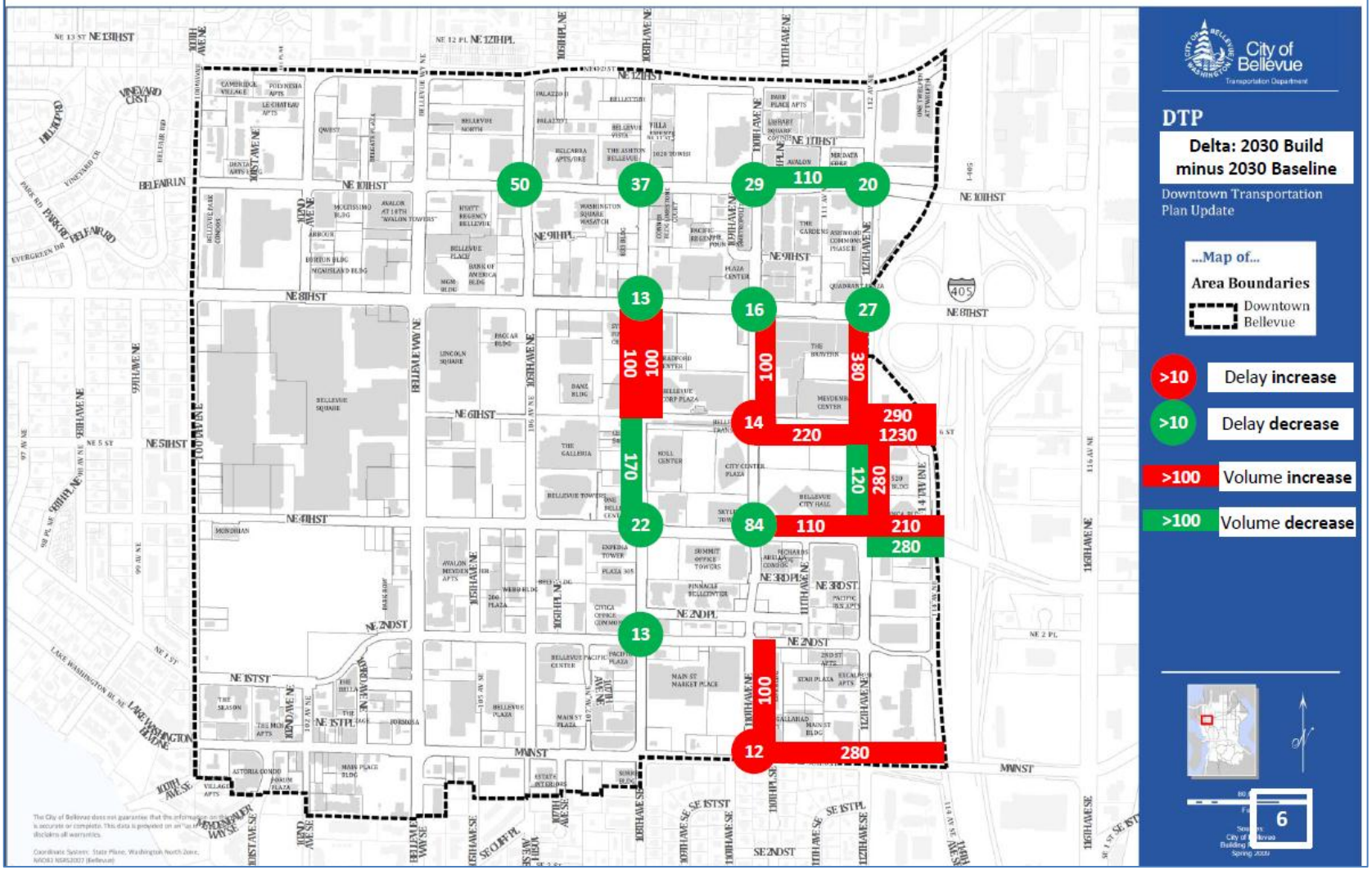
2030 Build minus 124th/SR 520 Interchange



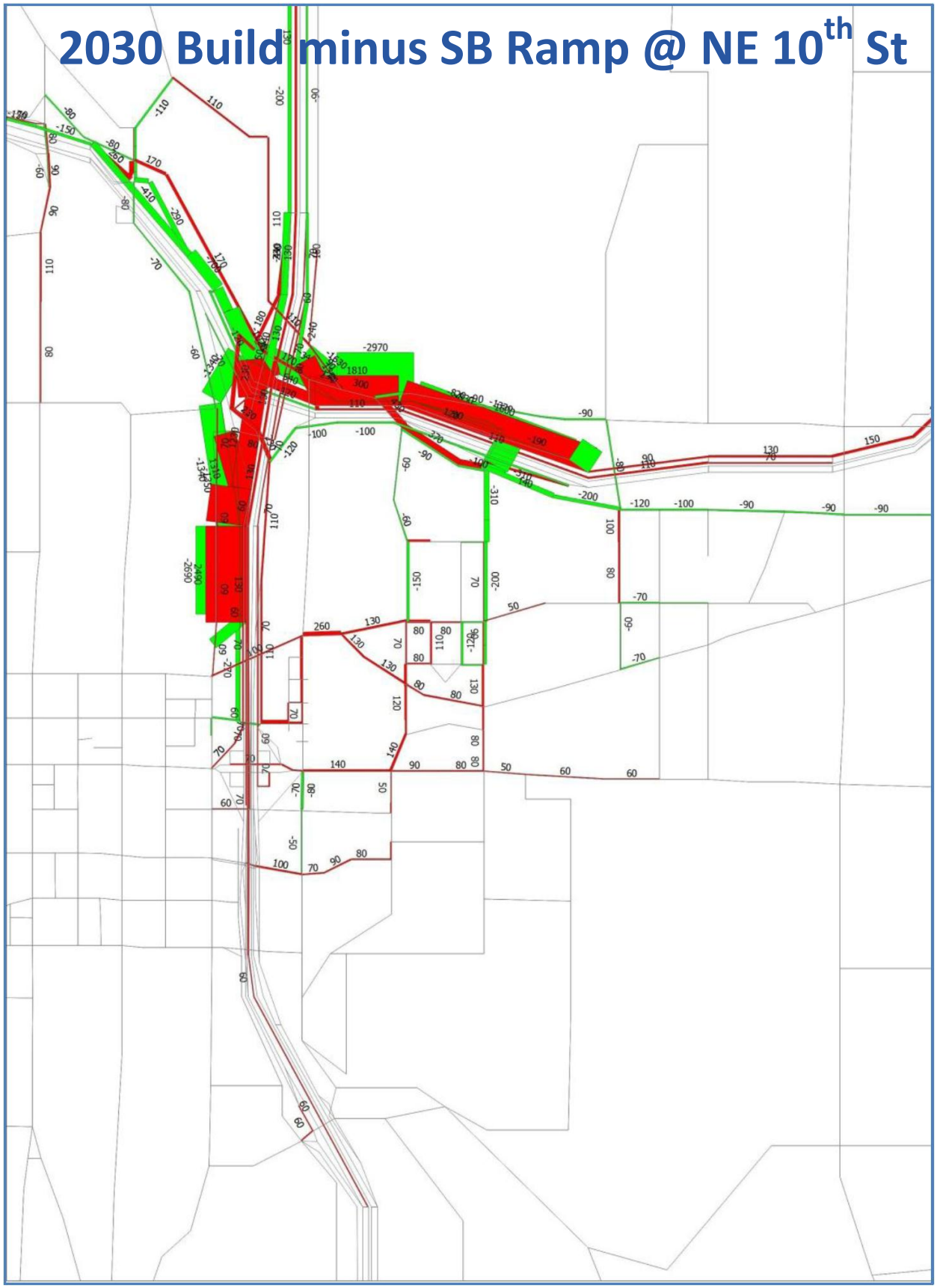
2030 Build minus NE 6th Street Extension



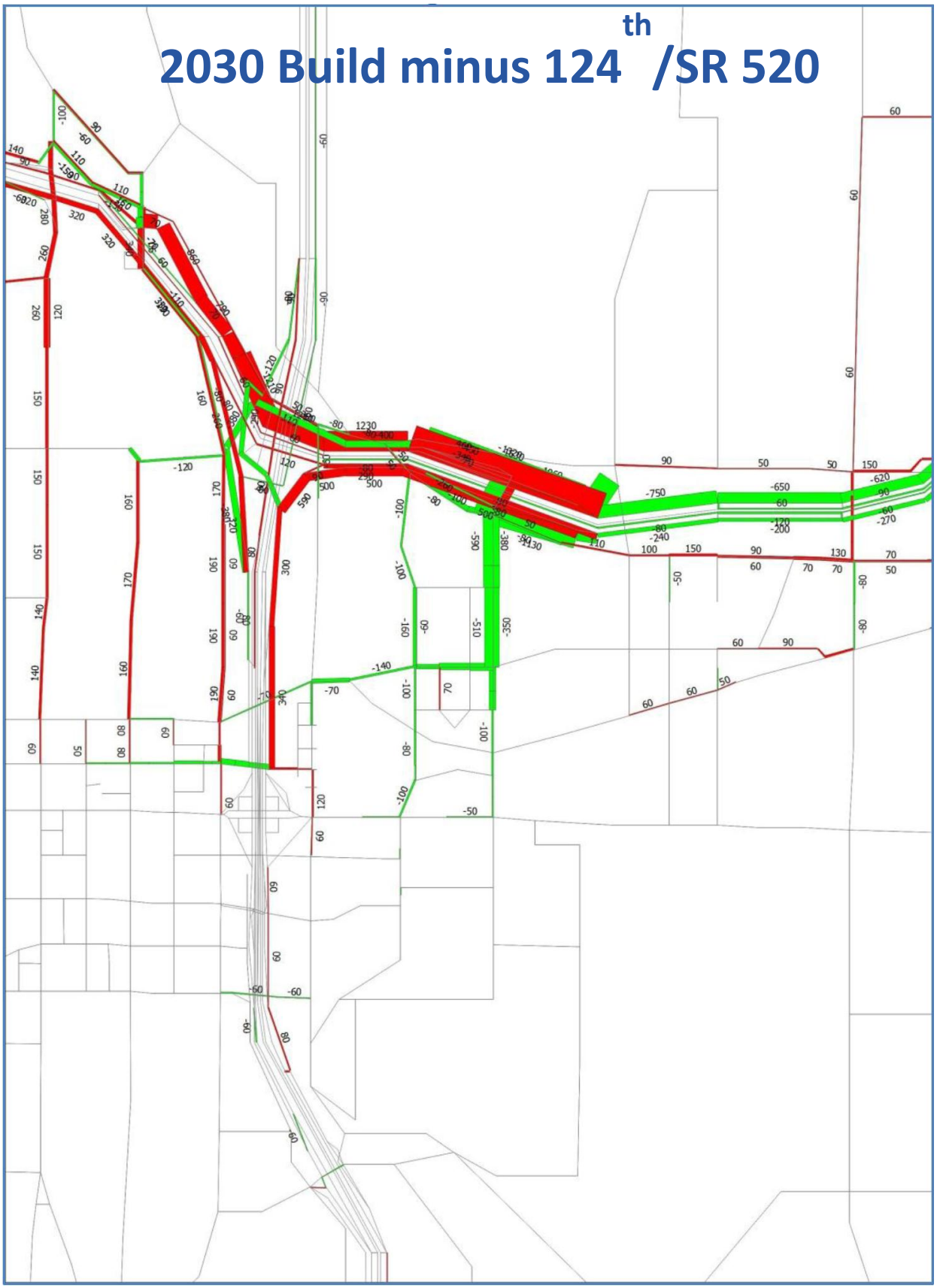
2030 Baseline minus 2030 Build



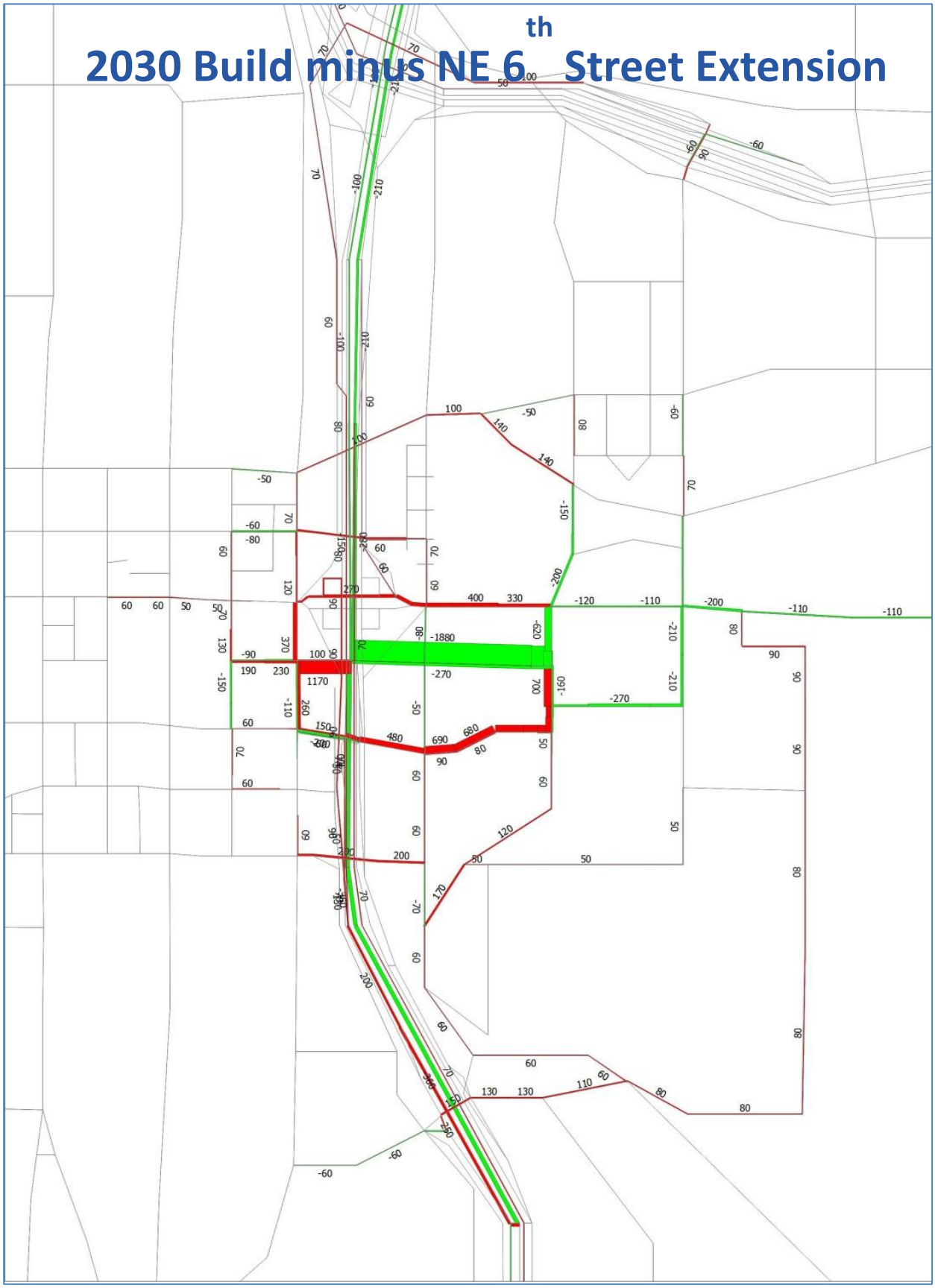
2030 Build minus SB Ramp @ NE 10th St



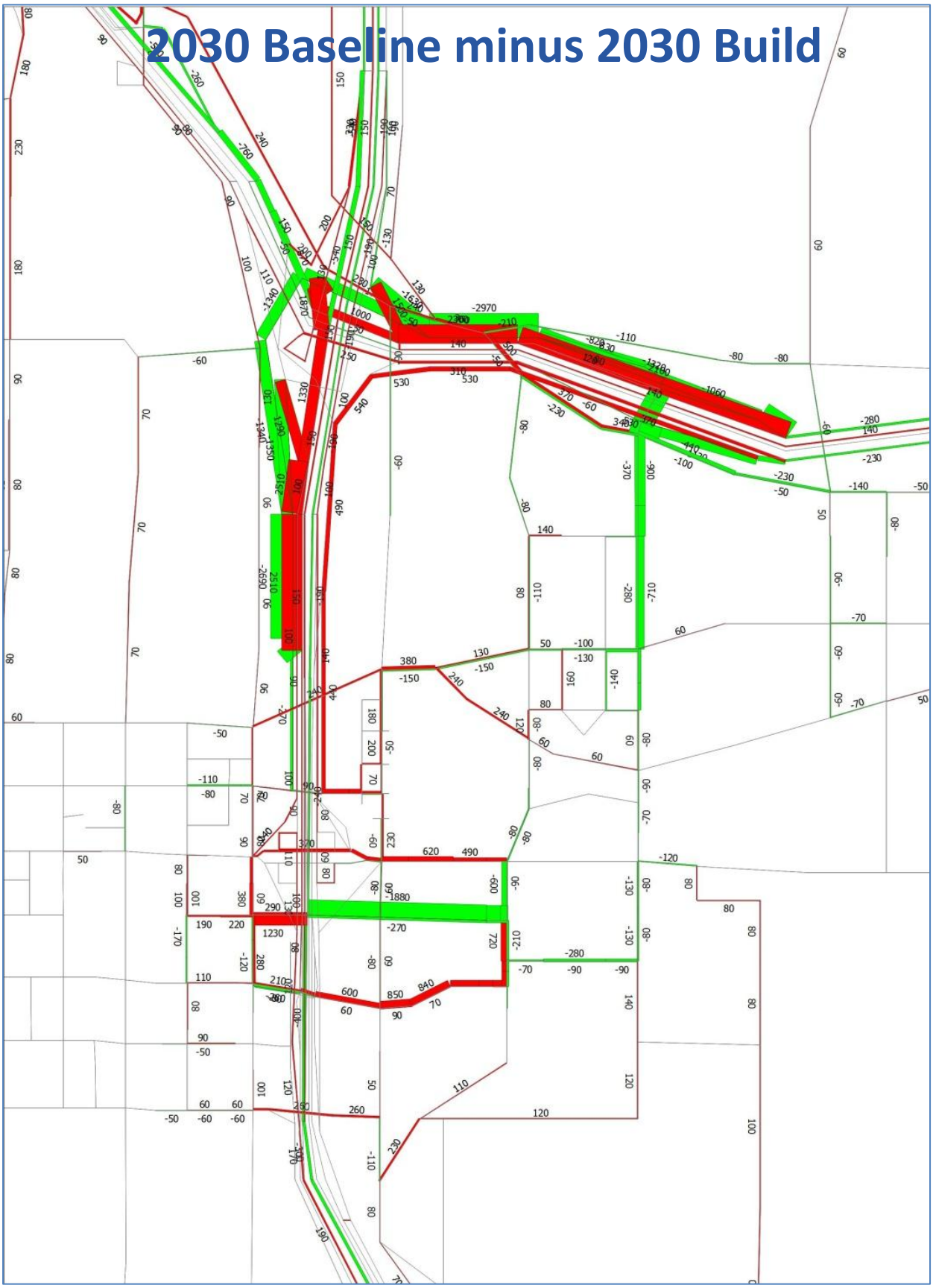
2030 Build minus 124th /SR 520



2030 Build minus NE 6th Street Extension



2030 Baseline minus 2030 Build



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Downtown Transportation Plan Update: NE 6th Street Extension
http://www.bellevuewa.gov/downtown-transportation-plan-update.htm

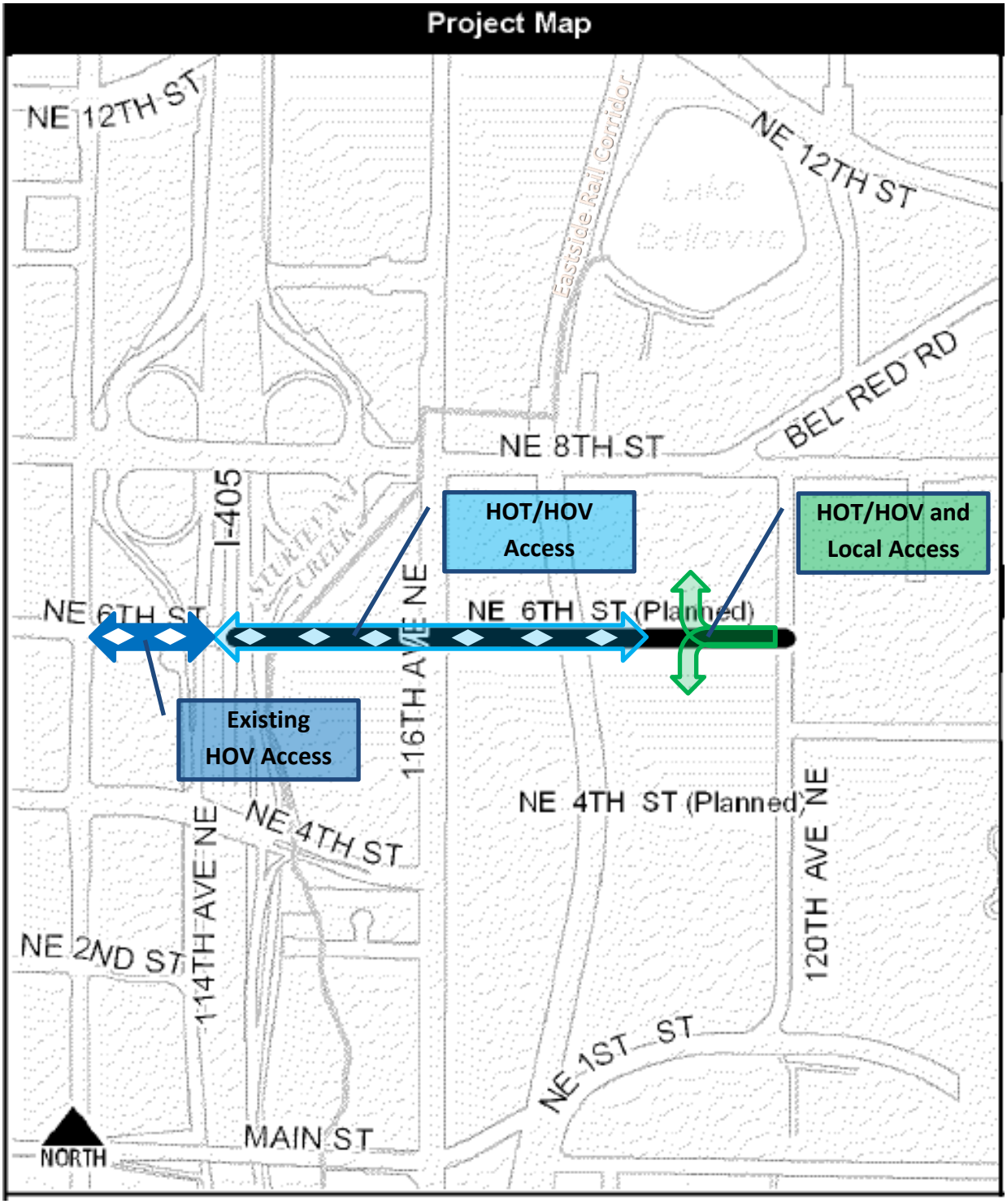
At the November 14, 2013 Transportation Commission meeting, a question arose in the context of the Transit Master Plan agenda item discussion, regarding the lane management of the planned NE 6th Street Extension. Specifically, how does the TFP project description for that project match up with the way the project is coded in the 2030 BKR travel demand model, considering that the roadway is intended primarily for access to the center-running HOV/HOT lanes on I-405?

The following information responds to the question, and confirms that the modeling done for the Downtown Transportation Plan and the Transit Master Plan is consistent with the TFP project description. The attached annotated map describes how the road would be managed.

TFP Project Description
TFP-211

The project will extend NE 6th Street from the existing I-405 HOV interchange to 120th Avenue NE. The facility will be designed to accommodate multiple mobility options, including HOV, transit, general purpose, and non-motorized. Conceptual design alternatives have been completed to coordinate with WSDOT's I-405 improvements and with Sound Transit's East Link alignment. The roadway extension will cross Sturtevant Creek, which is in a pipe at this location; it is anticipated the project may involve shifting the pipe slightly to the east (to accommodate a bridge pier). The project would likely be a regional or outside agency-led effort in which the City may choose to participate financially. The funding allocation is a placeholder that may be used for additional predesign or other early implementation efforts.

NE 6th Street Extension Lane Management Planning and Modeling

The NE 6th Street extension is assumed to be HOV/HOT only but must allow non-HOV general purpose vehicle access to the land uses adjacent to NE 6th Street just west of 120th Avenue NE. To accommodate this access, the roadway is coded for modeling purposes to allow non-HOV vehicles. Model results of this lane management configuration show that there would be about 5,200 total PM peak hour HOV/HOT auto trips, over 50 transit trips west of I-405, 15

transit trips east of I-405, with only 19 SOV trips that continue through the interchange across the freeway and do not turn onto I-405.