Preliminary Traffic Modeling of East Main Station Area Redevelopment Scenarios

May 26, 2015

Introduction and Context

Previous Discussion

- Review of transportation facilities and future changes
- Redevelopment Scenarios

Traffic Concerns

- Neighborhood access – the closure of SE 1st Place and SE 4th St at 112th Ave SE forces drivers to use Main St, 108th Ave SE and 110th Ave SE to enter and exit the residential neighborhood
- Increased cut-through traffic, especially on 108th Ave SE resulting from street closures as well as potential redevelopment in the area east of 112th Ave SE.
- Traffic safety – more traffic on some residential streets that may not have sidewalks
- Hide & ride parking in residential areas by people using the future light rail station

Outline

- **Methodology**
- **Assumptions**
- **Preliminary Traffic forecast**
- **Eastlink Ridership forecast**
- **Surrey Downs: East Entrances Closure Traffic Impact Analysis**

Methodology

- Vehicle traffic:
  - BKR Model for forecasting trip generation and distribution
  - The forecasts are preliminary and subject to refinement using the more detailed traffic simulation model.

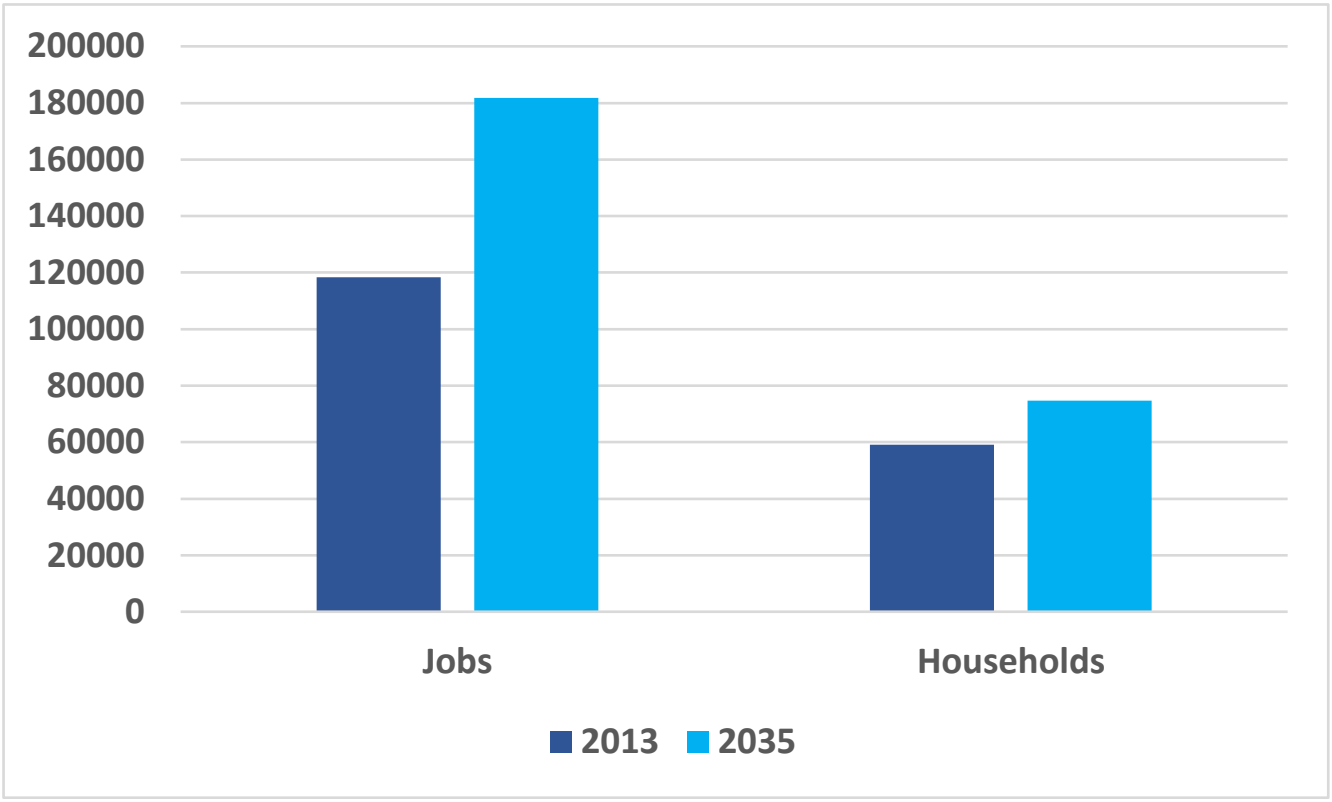
- East Link Ridership, pick-up and drop-off estimation:
  - Baseline - based on ST forecasts contained in the Final EIS
  - Other scenarios – used the BKR model to estimate the relative differences from the Baseline Scenario.
  - % of pick-ups/drop-offs were cross-checked with ST on-board surveys conducted at Sounder Commuter Stations in Kent, Auburn, and Puyallup.

Transportation Network Assumptions

Transportation projects in/near the vicinity of the study area would be in operation or completed:

- East link light rail
- Bellevue Way HOV lane SB from 112th to I-90
- NE 4th St. extension to 120th Ave NE.
- 120th Ave NE widening and realignment
- I-405 Express Toll Lanes north of NE 8th St.
- I-90 Express Lanes closed to vehicle traffic

City of Bellevue Background Growth Assumption



Data Source: Puget Sound Regional Council, excluding construction related jobs

Comparison of existing traffic volume with 2035 baseline

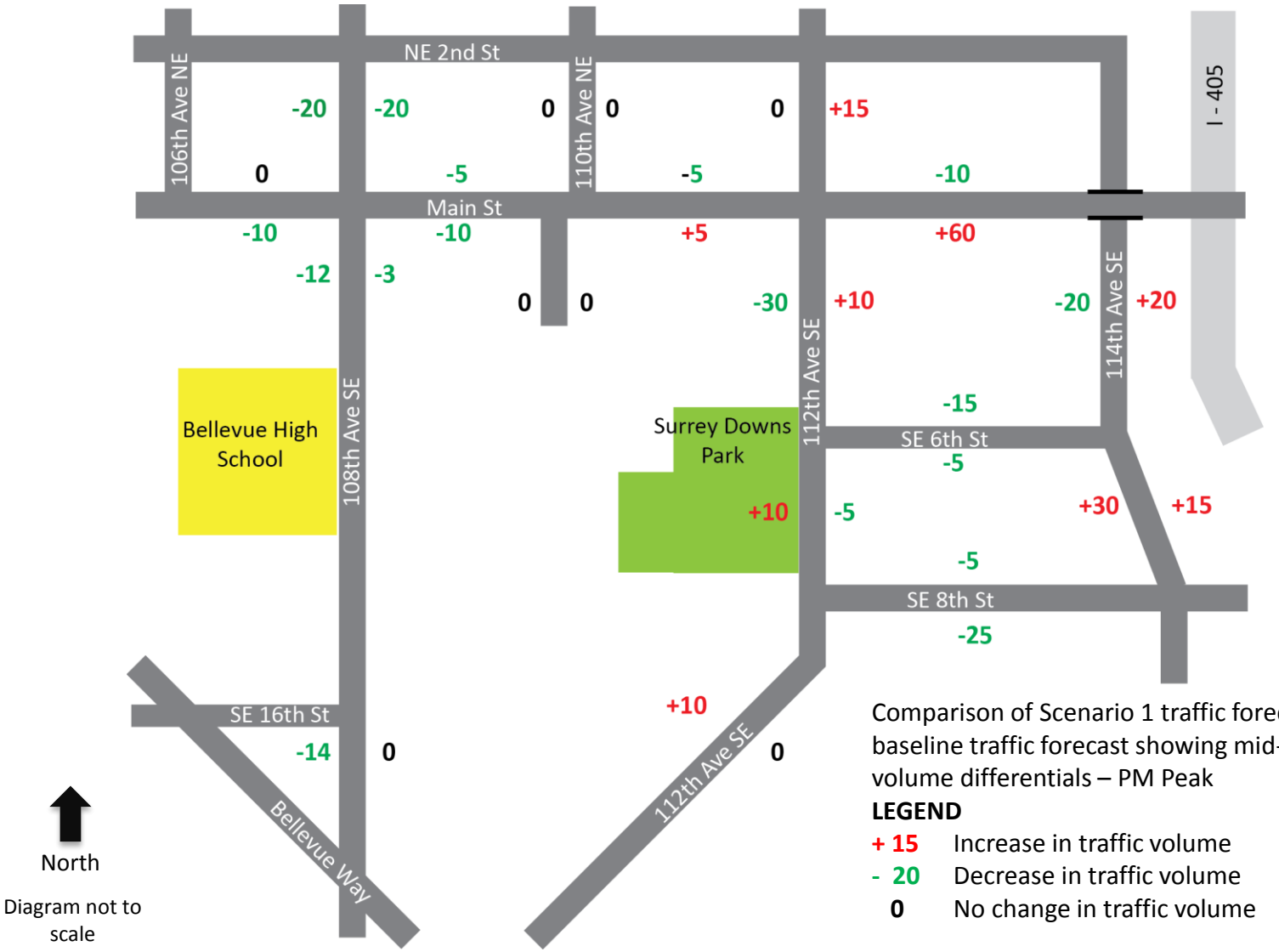
Comparison of existing traffic volume with 2035 baseline traffic forecast showing mid-block volume – PM Peak

LEGEND

1480 Existing traffic count

1690 Baseline 2035 traffic forecast

Scenario 1 (Low Bookend) compared to Baseline

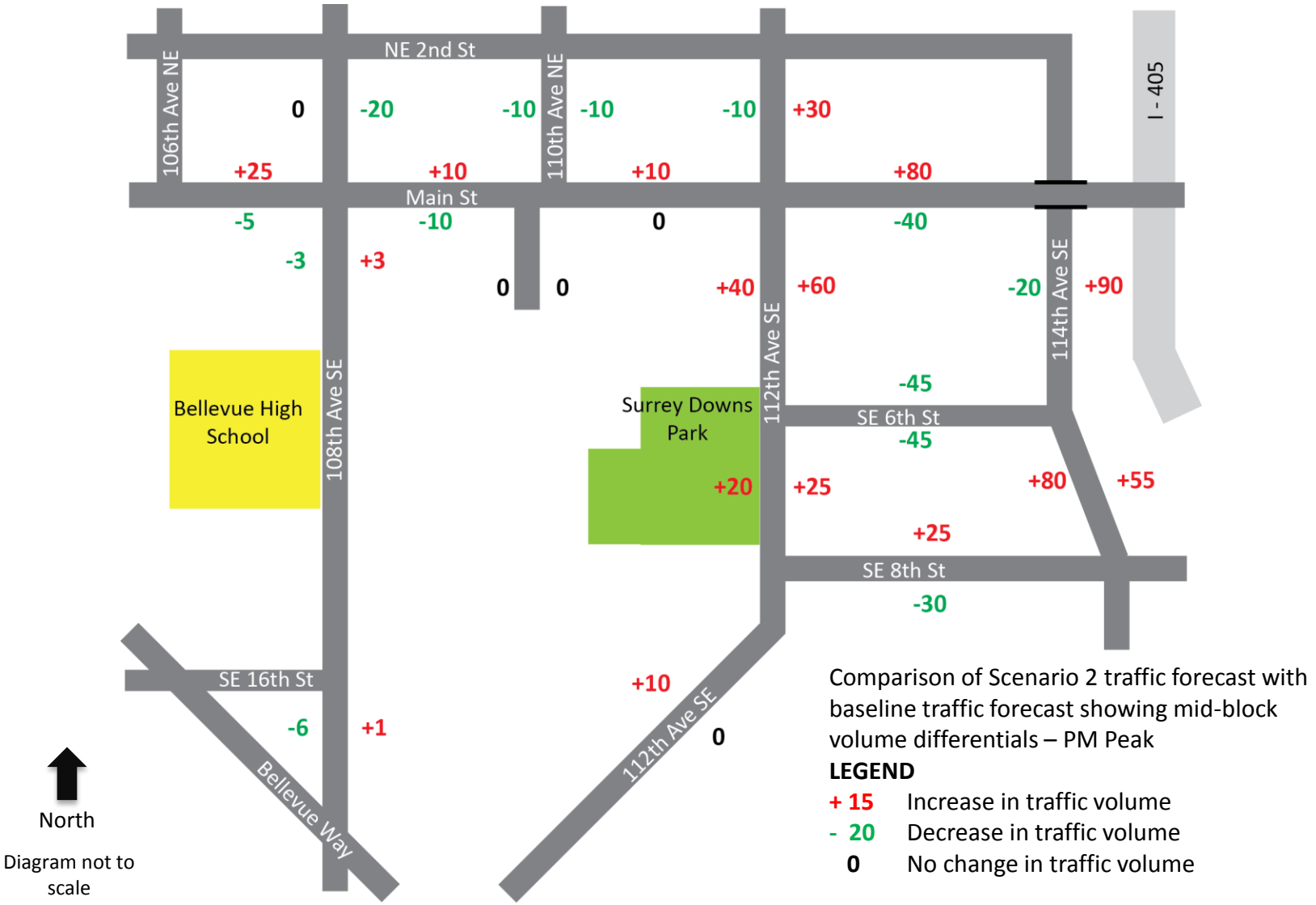


Comparison of Scenario 1 traffic forecast with baseline traffic forecast showing mid-block volume differentials – PM Peak

LEGEND

+ 15	Increase in traffic volume
- 20	Decrease in traffic volume
0	No change in traffic volume

Scenario 2 (Midrise) compared to Baseline

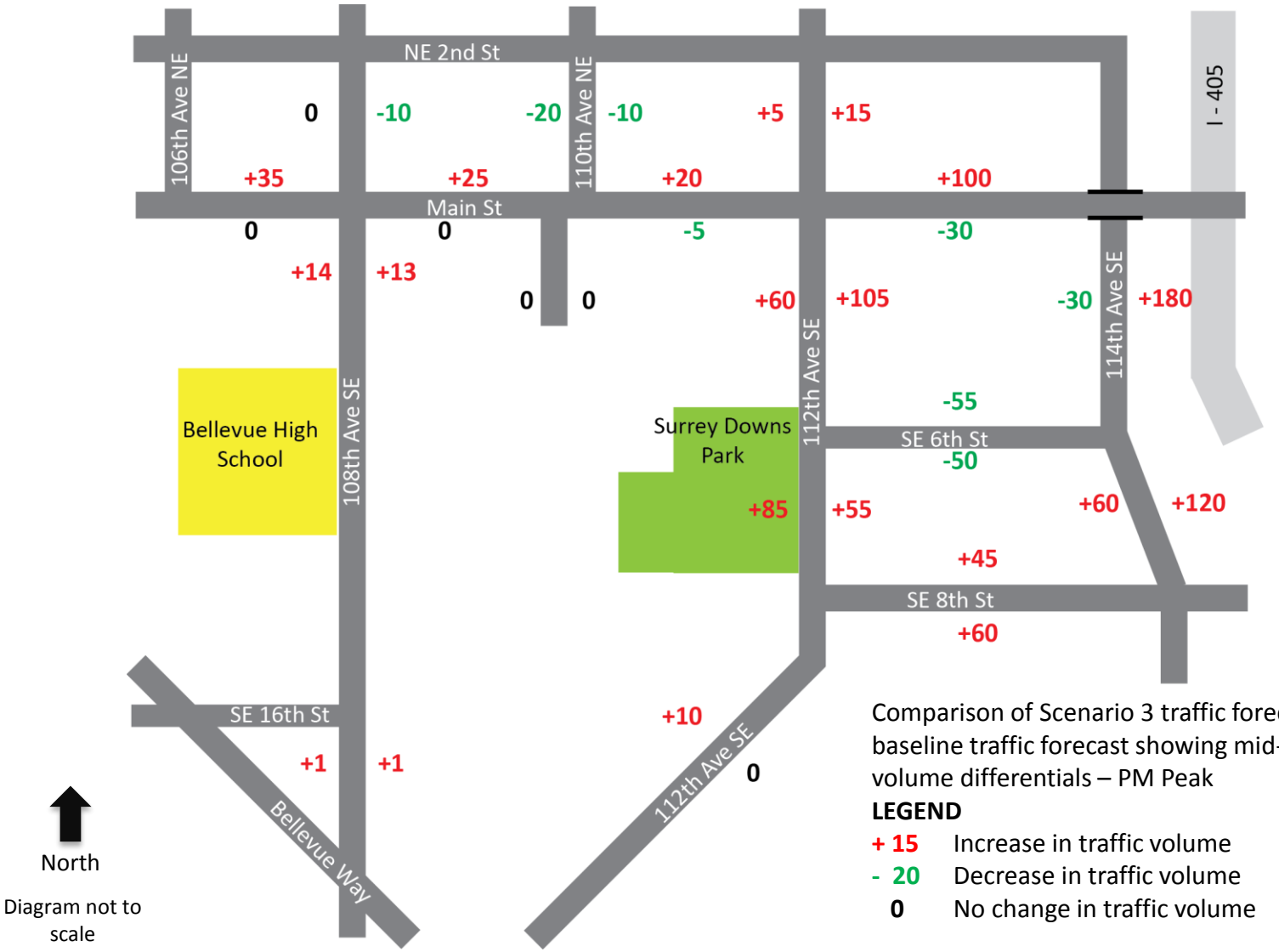


Comparison of Scenario 2 traffic forecast with baseline traffic forecast showing mid-block volume differentials – PM Peak

LEGEND

- **+ 15** Increase in traffic volume
- **- 20** Decrease in traffic volume
- **0** No change in traffic volume

Scenario 3 (Hybrid) compared to Baseline

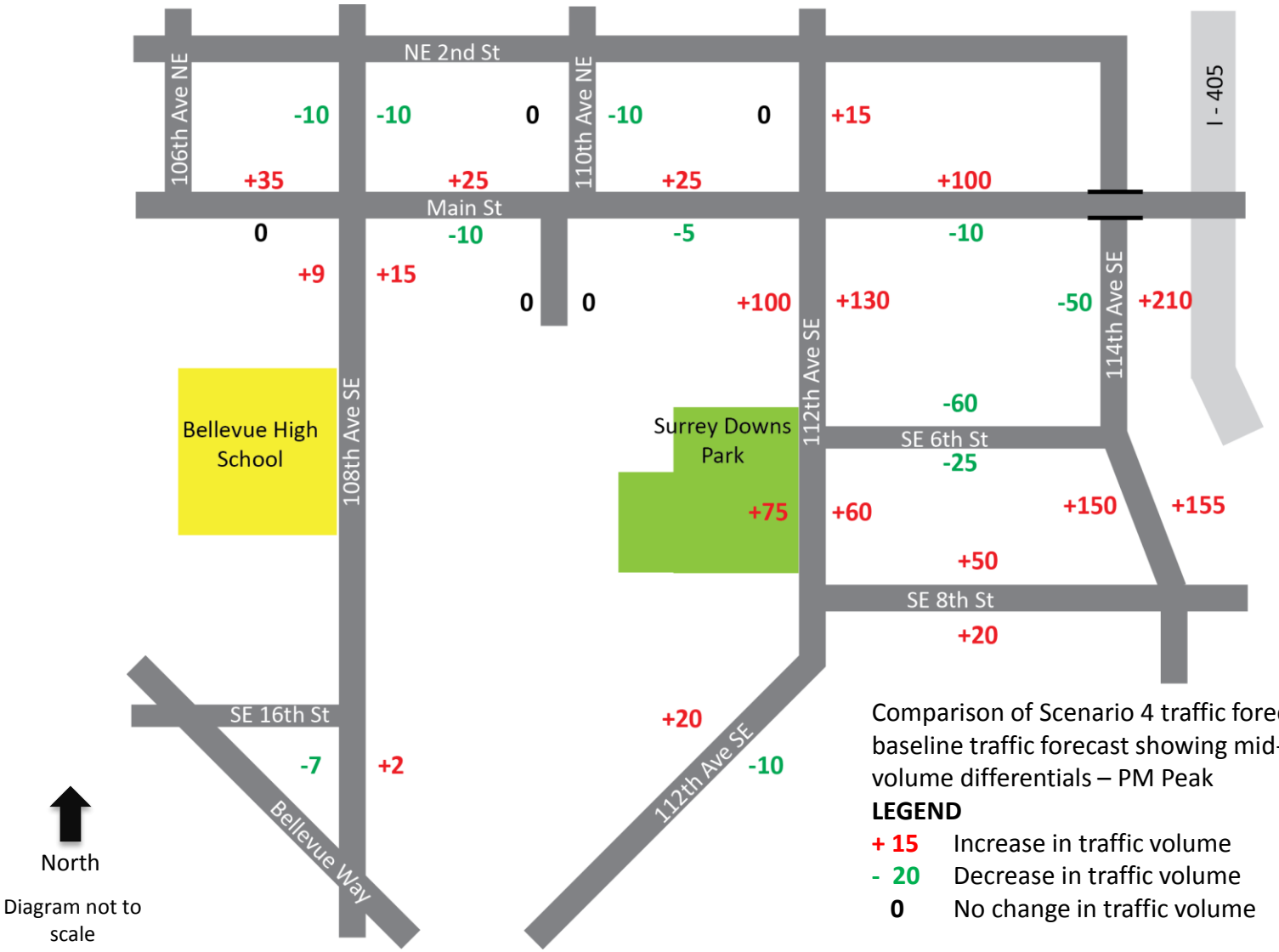


Comparison of Scenario 3 traffic forecast with baseline traffic forecast showing mid-block volume differentials – PM Peak

LEGEND

+ 15	Increase in traffic volume
- 20	Decrease in traffic volume
0	No change in traffic volume

Scenario 4 (High Bookend) compared to Baseline

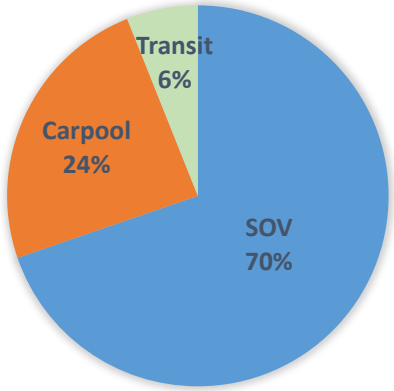


Comparison of Scenario 4 traffic forecast with baseline traffic forecast showing mid-block volume differentials – PM Peak

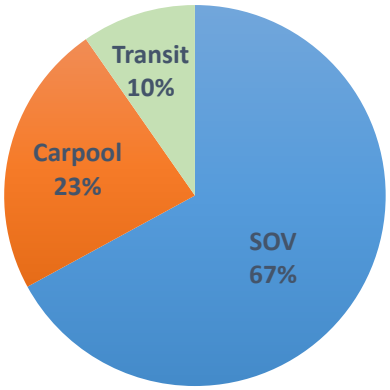
LEGEND

+ 15	Increase in traffic volume
- 20	Decrease in traffic volume
0	No change in traffic volume

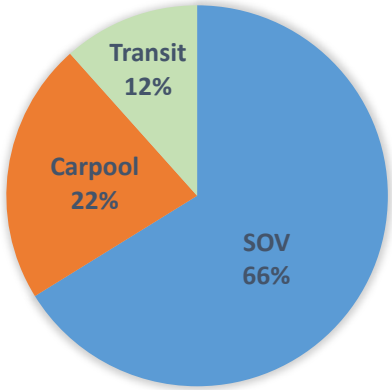
Mode Share Estimates



Existing

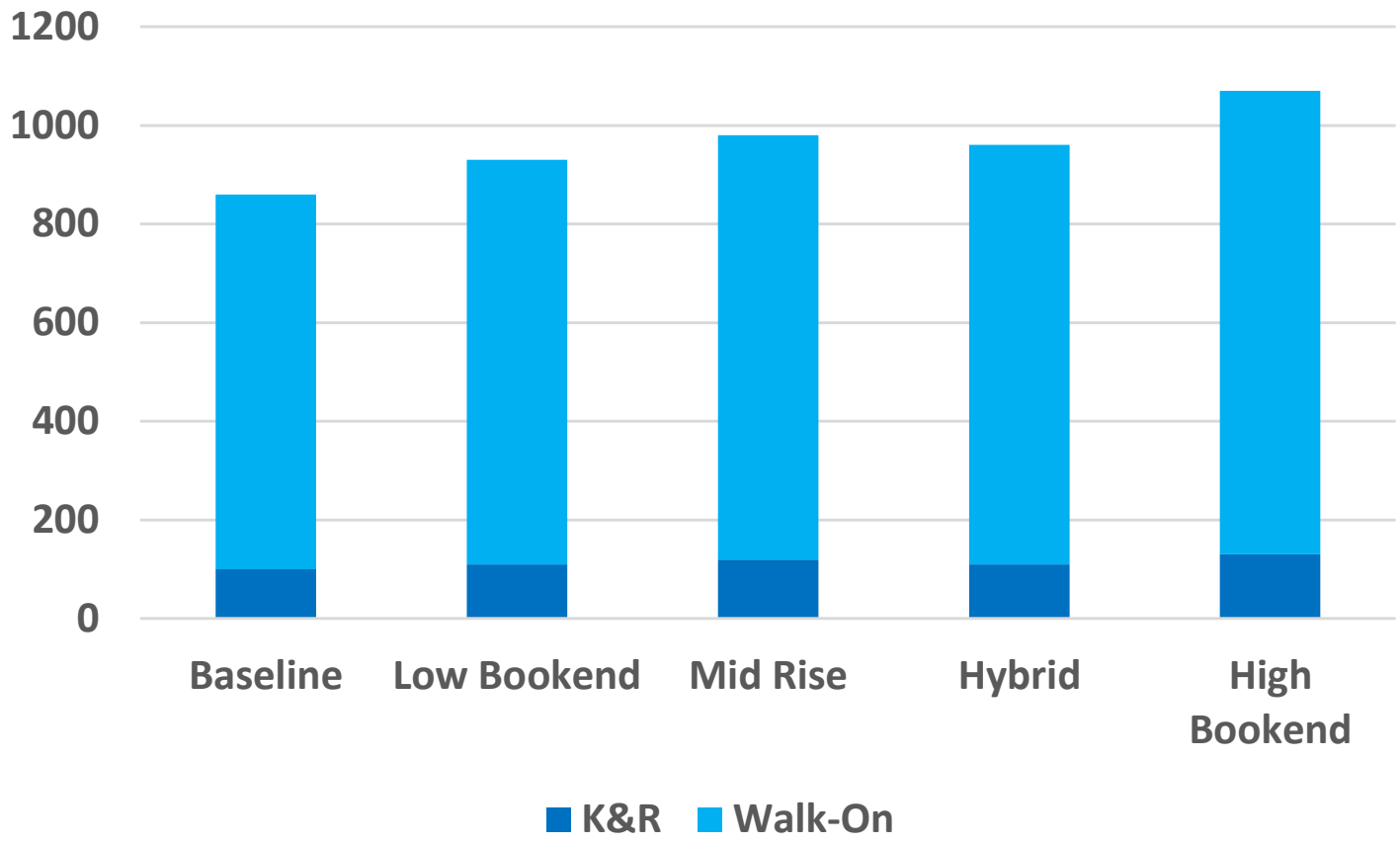


Scenario 1 – Low Bookend



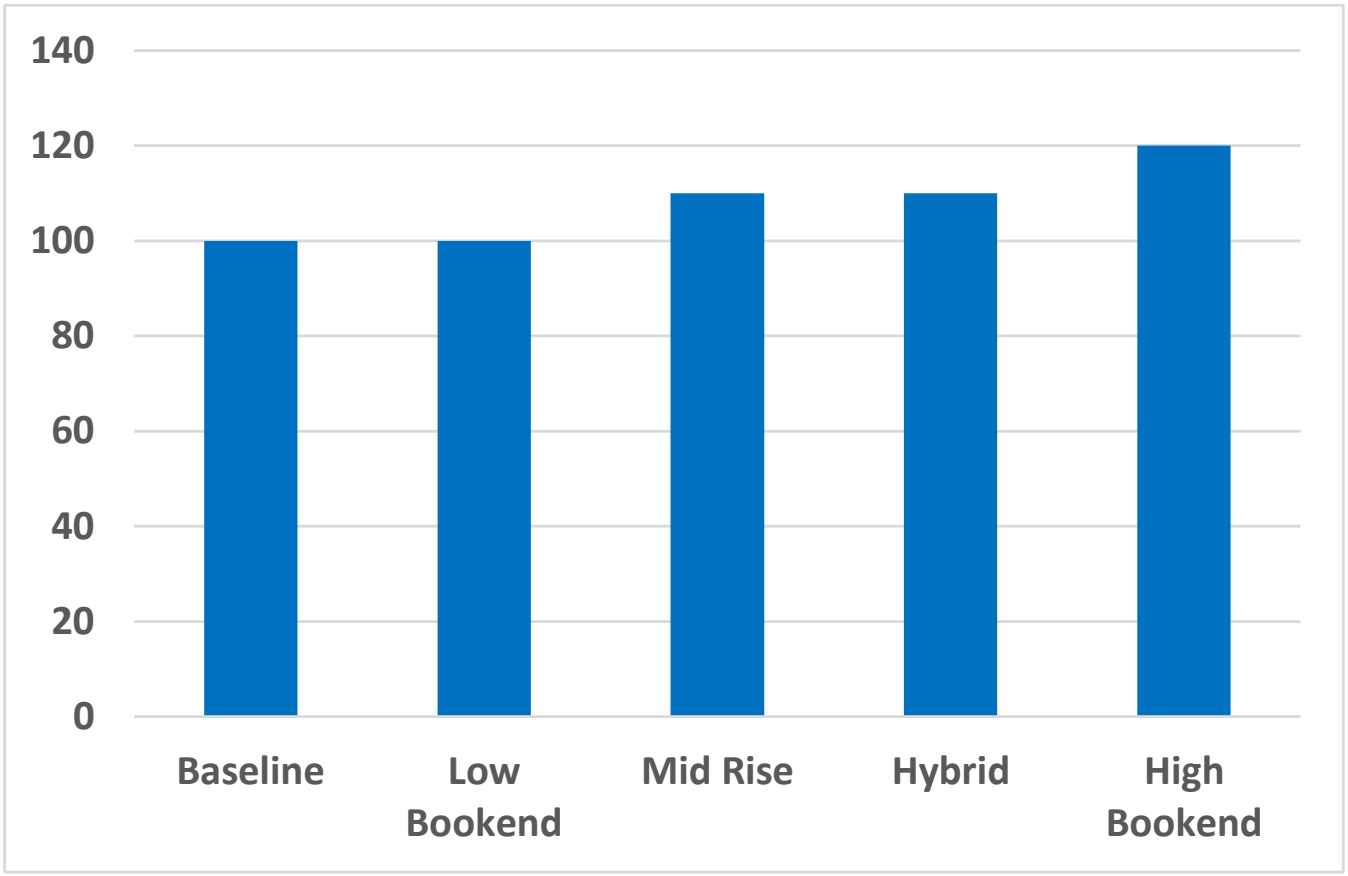
Scenario 4 – High Bookend

East Main Station Ridership Forecast



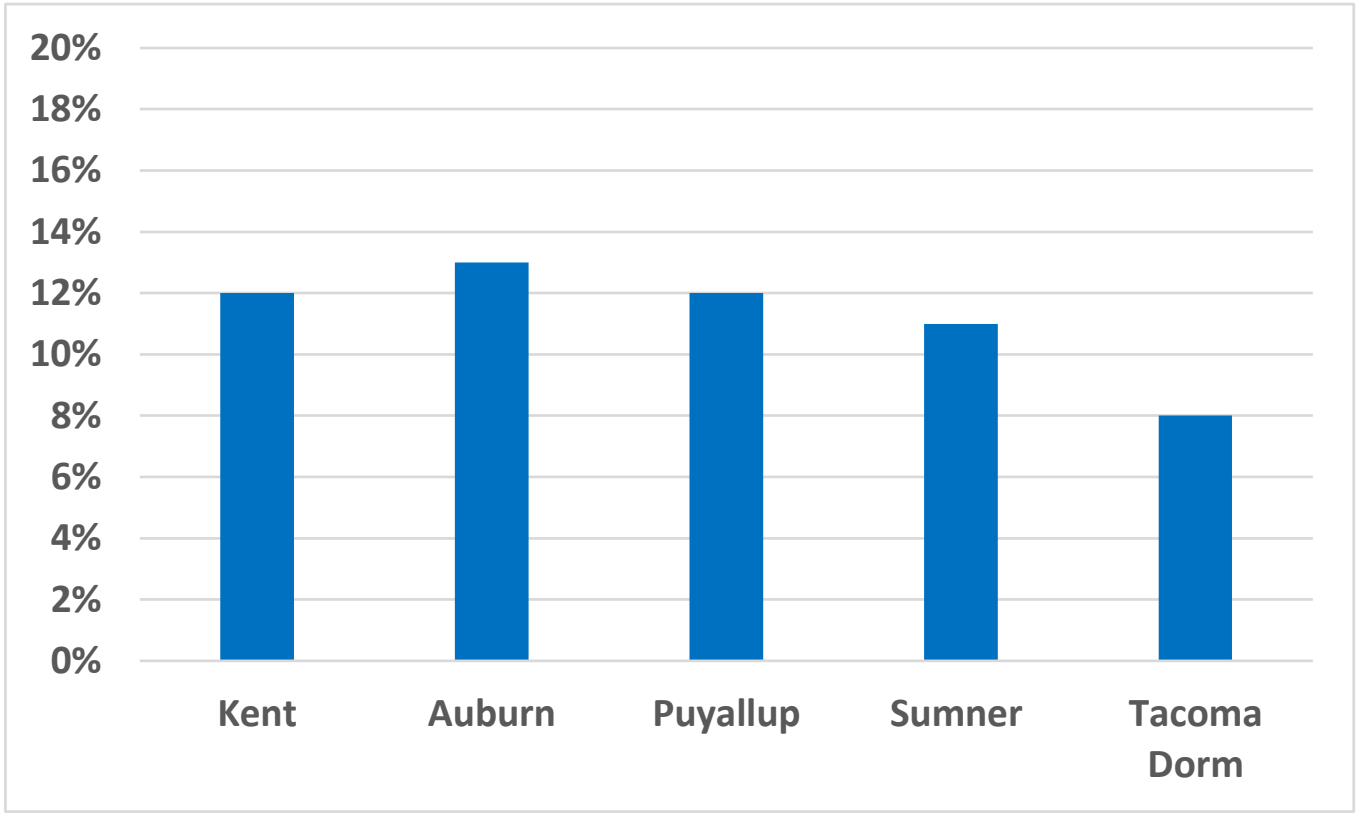
Estimated Number of Pickup & Drop-offs

2035 PM Peak Hour *



* Note: Estimated off of Sound Transit 2030 ridership forecast.

% of Drop-off Riders at Sounder Train Stations

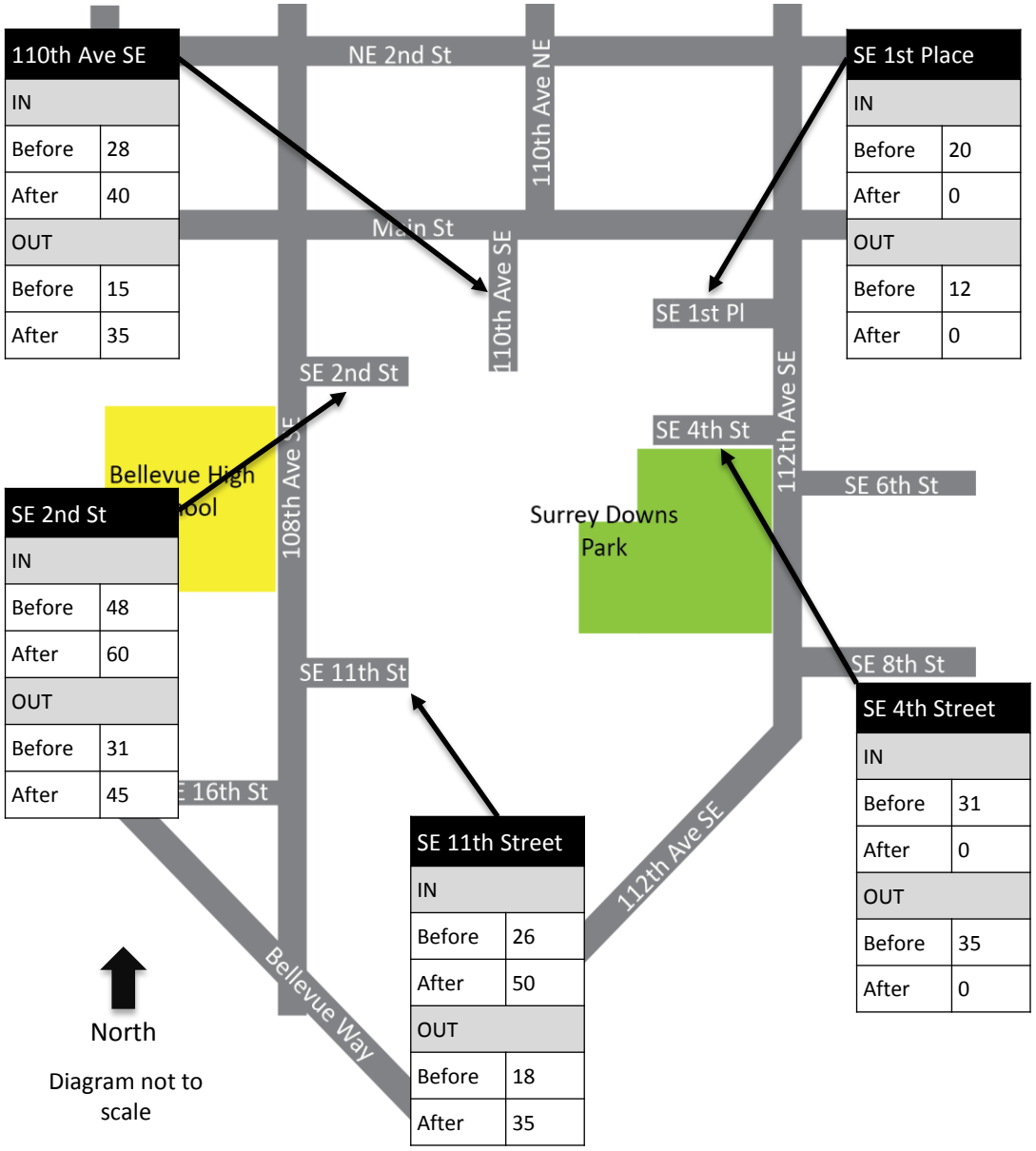


Data Source: Sound Transit On Board Survey, 2010

Traffic Volumes at Entrances to Surrey Downs –

Before and After Closure of SE 1st Place & SE 4th Street at 112th Ave SE

PM Peak



110th Ave SE	
IN	
Before	28
After	40
OUT	
Before	15
After	35

SE 1st Place	
IN	
Before	20
After	0
OUT	
Before	12
After	0

SE 2nd St	
IN	
Before	48
After	60
OUT	
Before	31
After	45

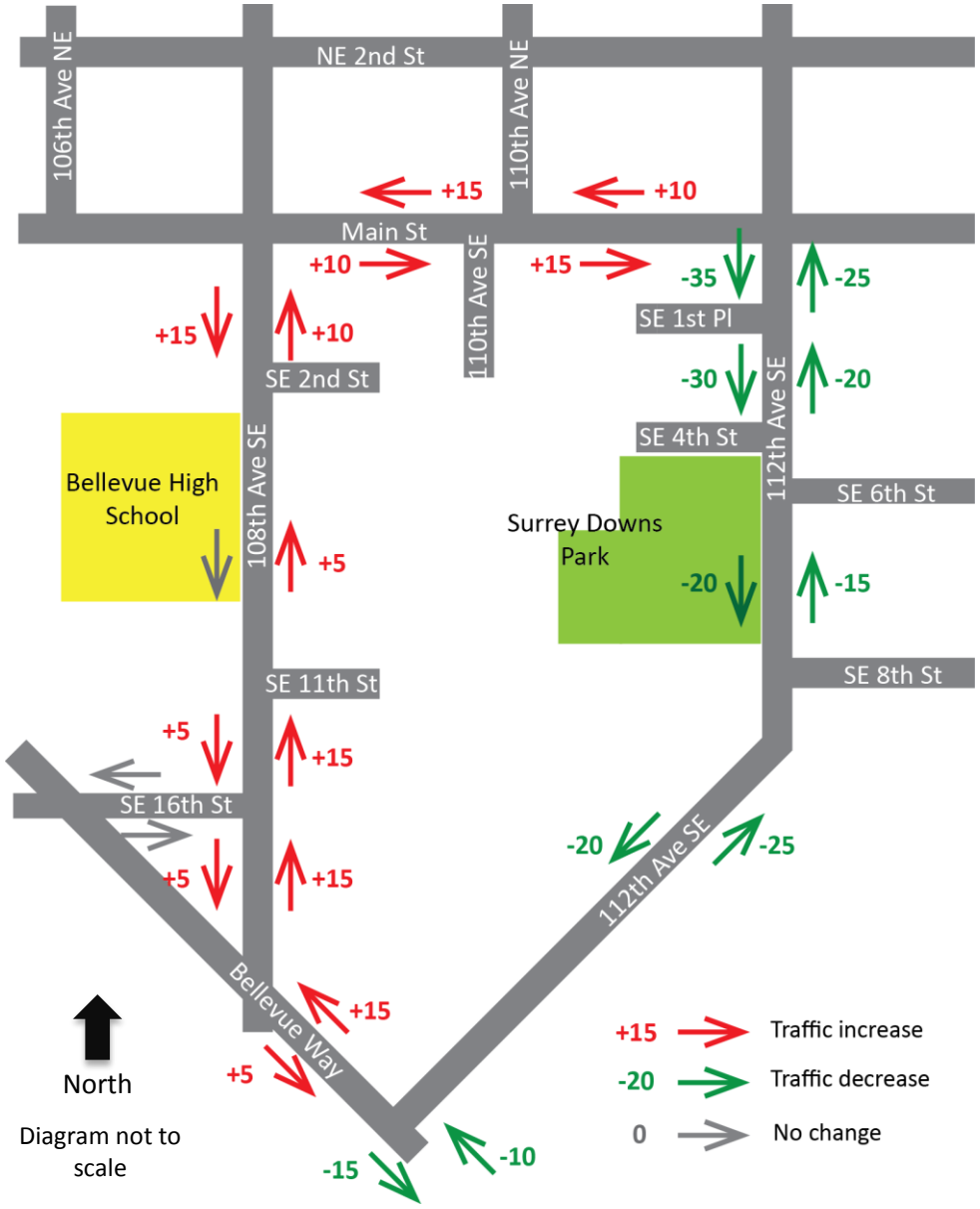
SE 11th Street	
IN	
Before	26
After	50
OUT	
Before	18
After	35

SE 4th Street	
IN	
Before	31
After	0
OUT	
Before	35
After	0

Residential Area Traffic Circulation

Changes in traffic volume after street closures

PM Peak



Next Step: Analysis of Critical Intersections