

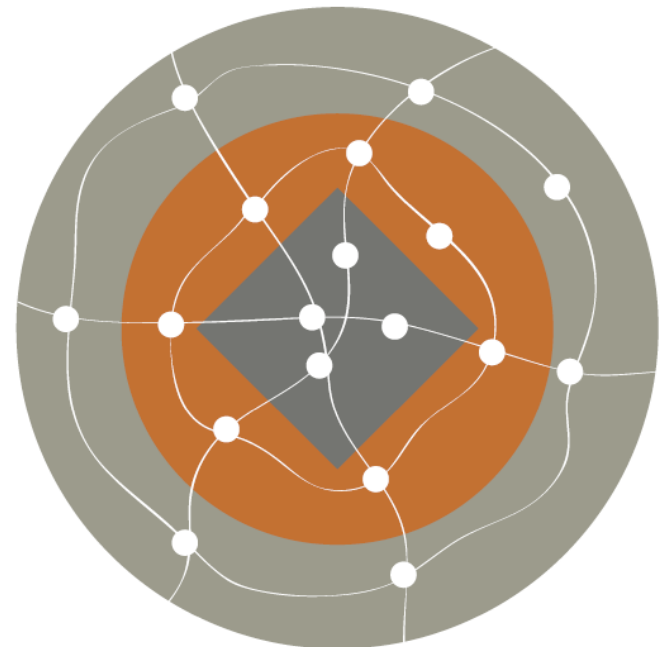
TPB CLRP Aspirations Scenario

Streamlined Variably Priced Lane Network Sensitivity Test

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Presentation to the Transportation Planning Board
October 19, 2011



CLRP Aspirations Scenario



Background

CLRP Aspirations Scenario

Sensitivity Tests

Results

- Developed under the TPB Scenario Study Task Force based on financially constrained long range plan (CLRP) adopted by the TPB in 2008
- Included strategies explored in previous scenario studies such as the Regional Mobility and Accessibility Study and the Value Pricing Study
- Scenario should be “within reach” both fiscally and administratively, while pushing the envelope in terms of improving conditions in relation to a 2030 baseline

CLRP Aspirations Scenario



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CLRP Aspirations Scenario

Sensitivity Tests

Results

- Results presented to the TPB in September 2010
- Performance compared to a 2030 Baseline (2008 CLRP + Round 7.2 Land Use) for TPB modeled area
- Land Use Only Sensitivity Test
 - Tested CLRP Aspirations land use shifts with adopted CLRP highway and transit projects

CLRP Aspirations Scenario



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CLRP Aspirations Scenario

Sensitivity Tests

Results

Land Use Shifts

- Concentrating projected growth in activity centers and existing/planned transit stations
- Consistent review and refinement by planning directors

Regional VPL Network

- Address congestion through pricing of 959 new lane miles and 781 existing lane miles
- Provide alternatives through enhanced transit

Supportive Transit

- Use menu of transit options from past scenarios
- Connect activity centers
- Bus Rapid Transit (BRT) service with 382 new buses and approximately a 20% increase in service hours

Land Use Shifts – Targeted Growth Areas











Background

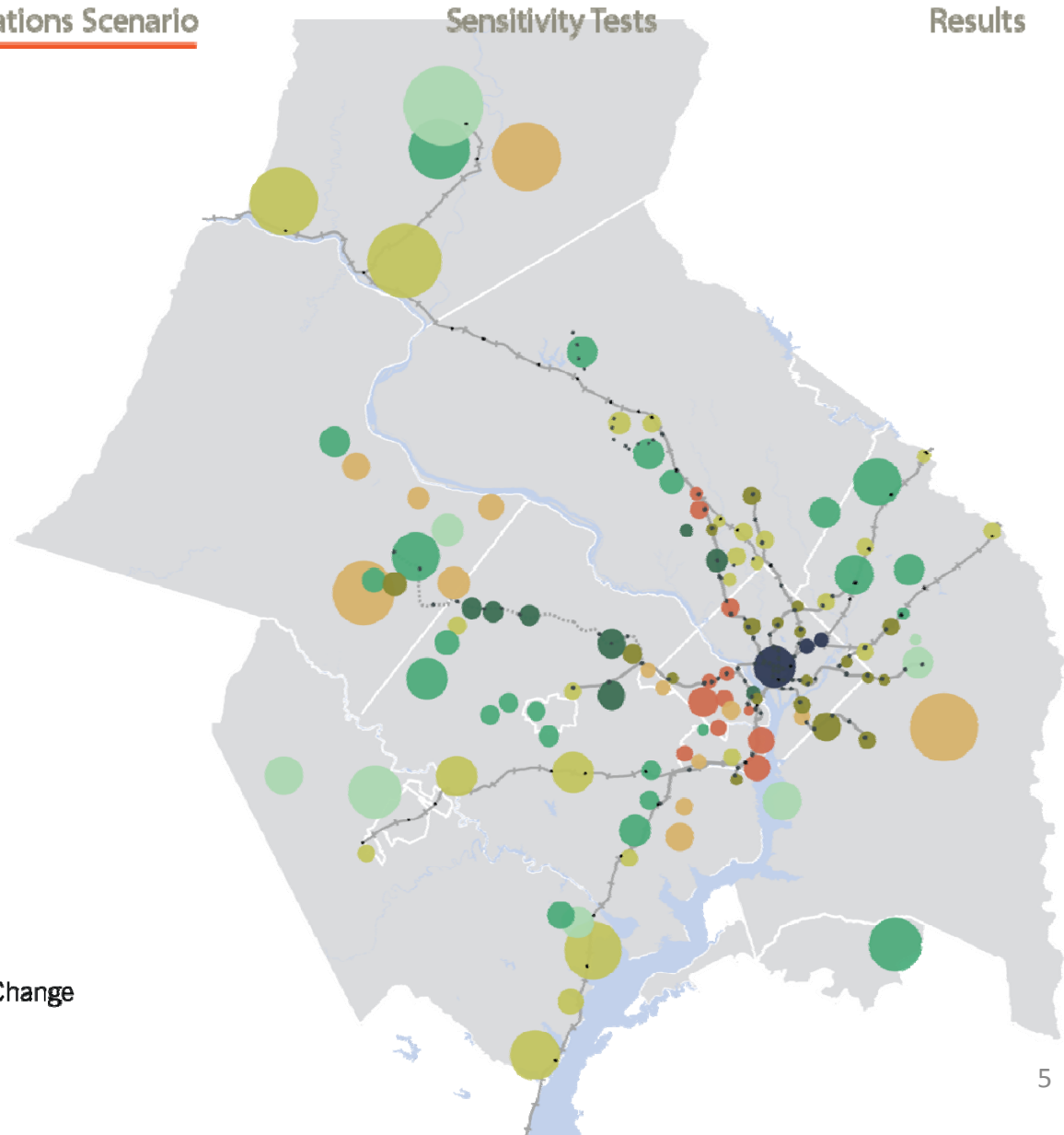
CLRP Aspirations Scenario

Sensitivity Tests

Results

Types of Growth Areas, Density Goals, and Jobs/Housing Balance Goals

-  **DC Core**
32 jobs and 20 du/acre
3 jobs/household
-  **Mixed Use Center**
20-32 jobs and 10-20 du/acre
2 jobs/household
-  **Employment Center**
14 jobs and 7 du/acre
2 jobs/household
-  **Suburban Employment Center**
10 jobs and 5 du/acre
2 jobs/household
-  **Emerging Employment Center**
5 jobs and 3 du/acre
1.6 jobs/household
-  **MetroRail or Transitway Station Area**
10 jobs and 5 du/acre
2 jobs/household
-  **Commuter Rail Station Area**
3 jobs and 2 du/acre
1.5 jobs/household
-  **Locally Requested Center or Area of No Change**
Goals vary according to specific local staff input.



Land Use Shifts – Summary



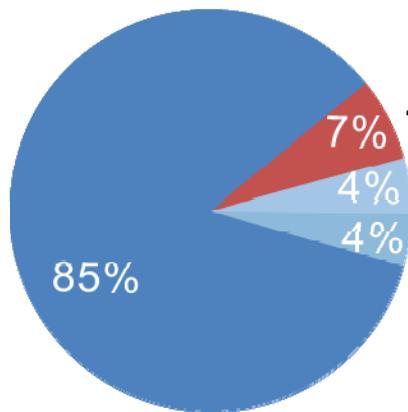
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How much did we shift?



7%
of the 2030 jobs
and households
was shifted

15% of 2030 jobs & households is 2015-2030 growth
4% of forecast growth already in “Targeted Growth Areas”
4% of “movable” growth not shifted

Also added growth from outside the region

3.5%
increase in
households

and

1%
increase in
jobs

Network of Variably Priced Lanes

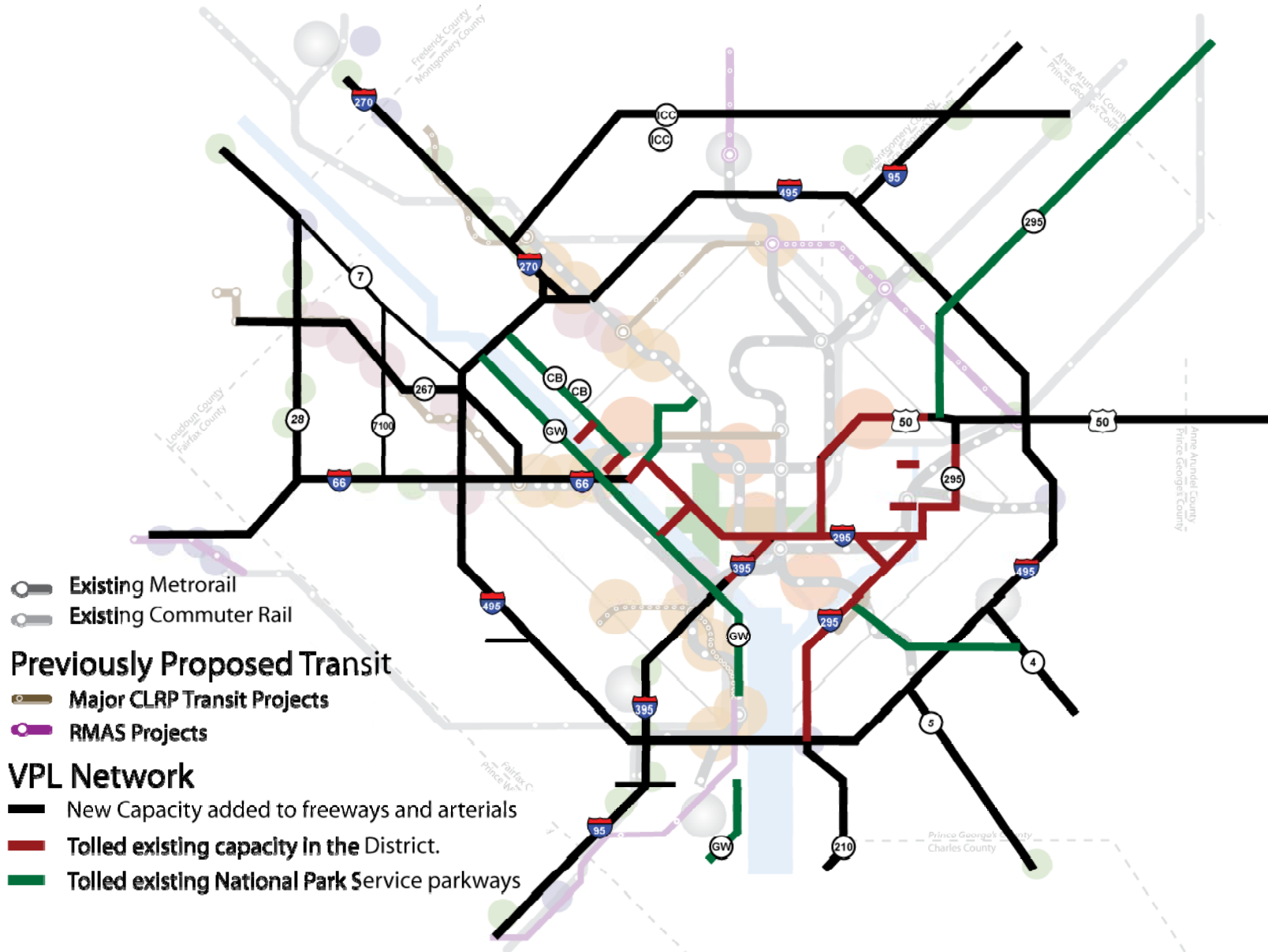


Background

CLRP Aspirations Scenario

Sensitivity Tests

Results



Regional Bus Rapid Transit Network

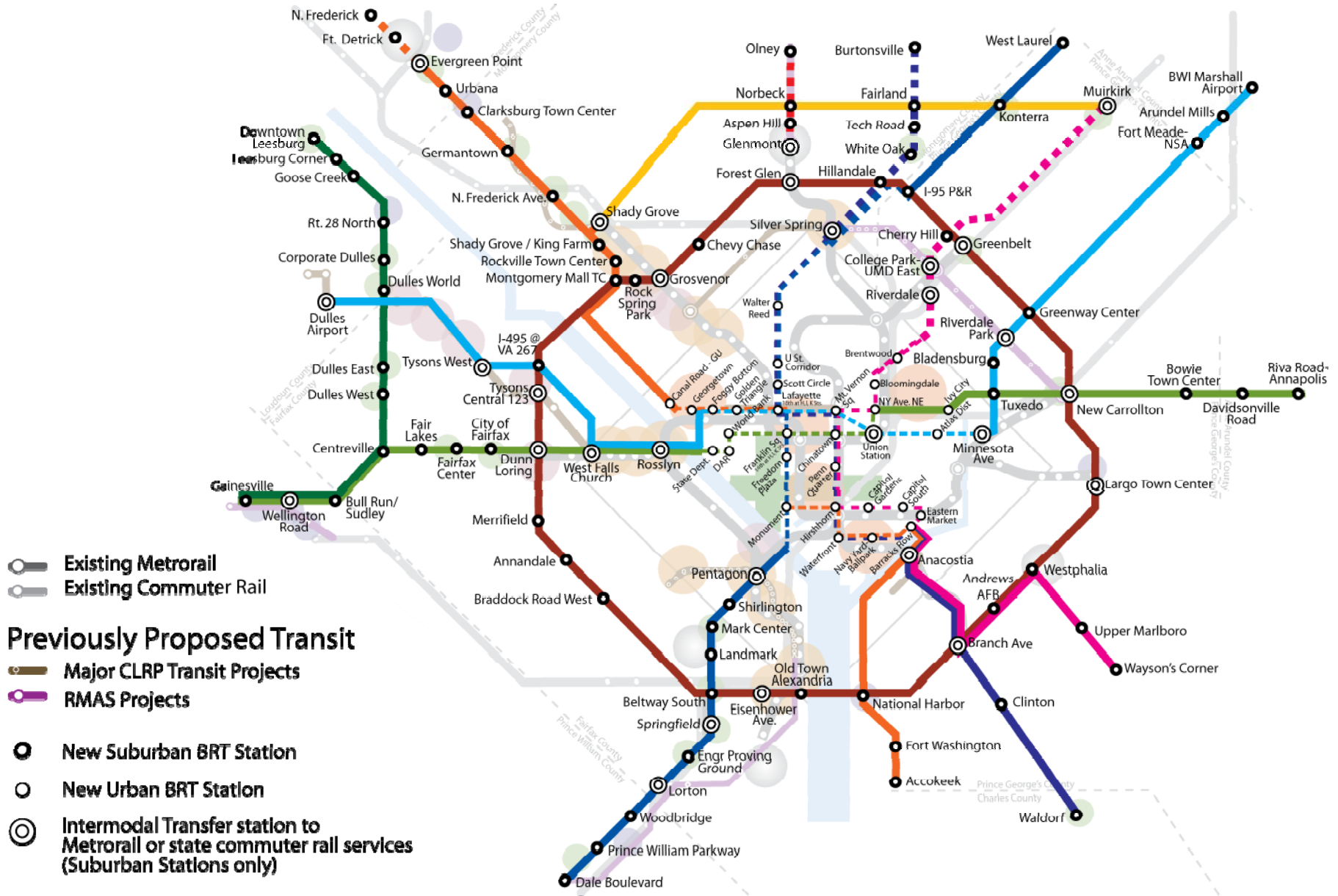


Background

CLRP Aspirations Scenario

Sensitivity Tests

Results



Full CLRP Aspirations Scenario



Background

CLRP Aspirations Scenario

Sensitivity Tests

Results

Relative to the 2008 CLRP Baseline for 2030:

- Regional vehicle hours of delay (VHD) decrease by 11.9 percent while vehicle miles of travel (VMT) increase by 3.1 percent
- Non-motorized trips increase by 16.3 percent, transit trips increase by 13.9 percent, and HOV trips more than double
- Revenues cover about 80 percent of the costs

Land Use Only Sensitivity Test



Background

CLRP Aspirations Scenario

Sensitivity Tests

Results

Relative to the 2008 CLRP Baseline for 2030:

- Regional vehicle hours of delay (VHD) increase by one percent, while regional vehicle miles traveled (VMT) decrease by 0.5 percent
 - VHD and VMT increase in the inner jurisdictions by 6.2 percent and 1.4 percent, respectively
- Non-motorized trips increase by 16.5 percent, transit trips increase by 10.5 percent, and HOV trips decrease by 2.4 percent
 - Over 60 percent of new transit trips are intra-jurisdictional

Why a New Sensitivity Test?



Background

CLRP Aspirations Scenario

Sensitivity Tests

Results

Respond to TPB concerns about the cost and extent of the variably priced lane network by “streamlining” the network to:

- (1) reduce the number of new lane miles and interchanges, and
- (2) make the scenario financially “within reach.”

Streamlined VPL Network Sensitivity Test



Background

CLRP Aspirations Scenario

Sensitivity Tests

Results

- Used CLRP Aspirations land use and transit
- Reduced new lane construction by 30% using volume-to-capacity ratios from full scenario model results, and studies such as the I-270 Multi-modal Corridor Study, the West Side Mobility Study, and the Capital Beltway Study
- Reduced interchange construction by 33% by focusing on connections to Activity Centers

Comparison to 2030 Baseline

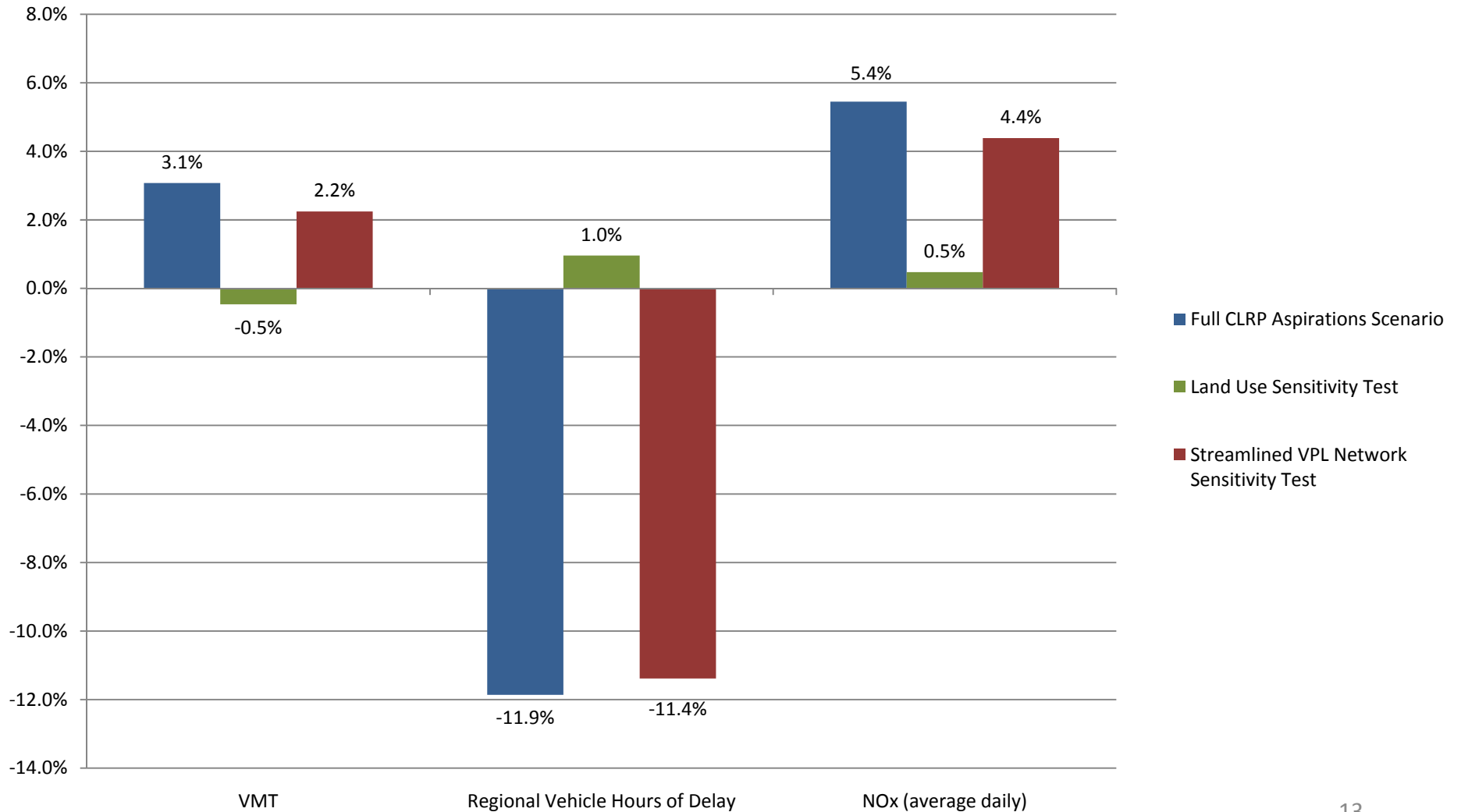


Background

CLRP Aspirations Scenario

Sensitivity Tests

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Comparison to 2030 Baseline

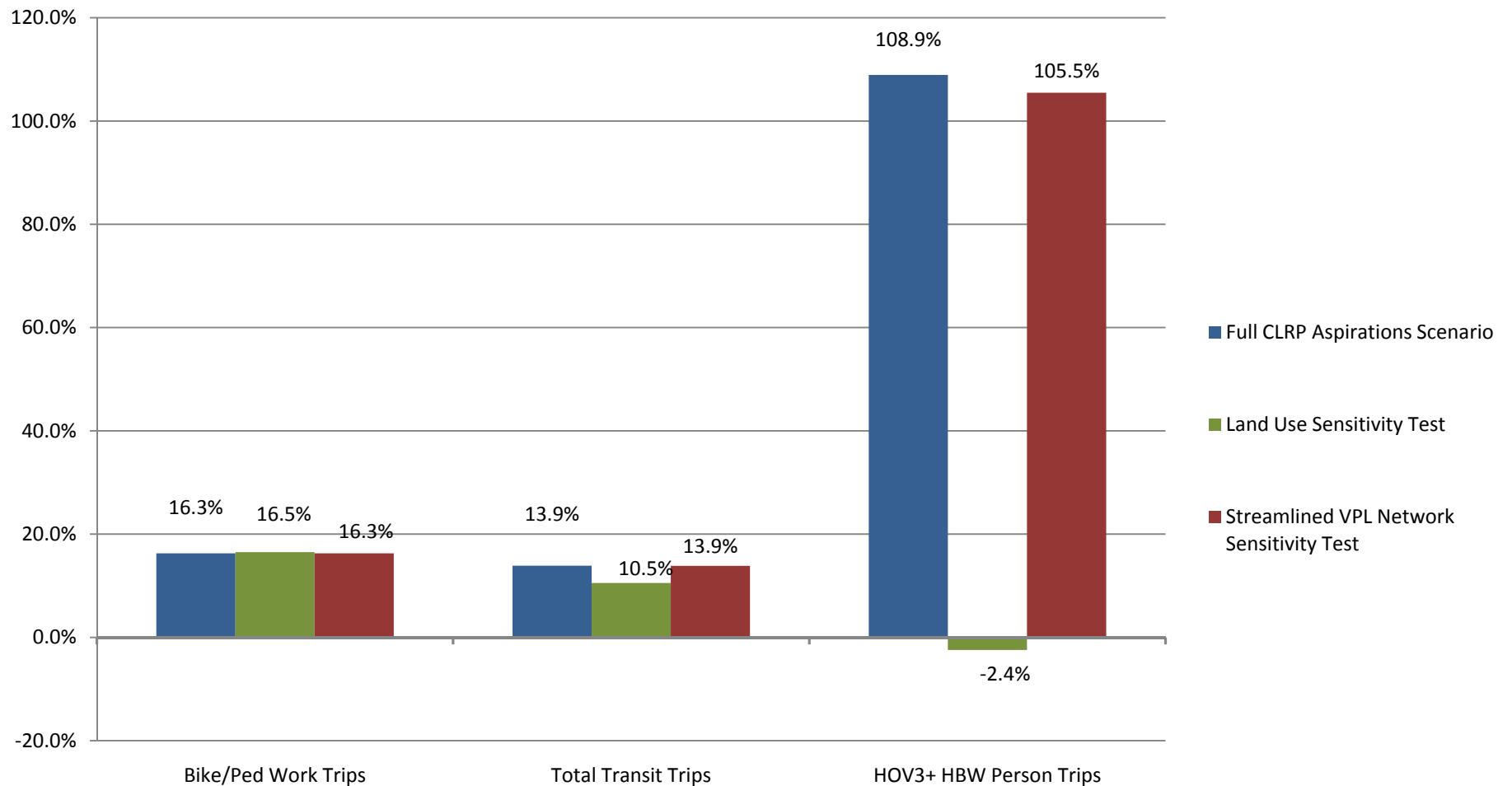


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CLRP Aspirations Scenario

Sensitivity Tests

Results



Projected Changes 2009 - 2030

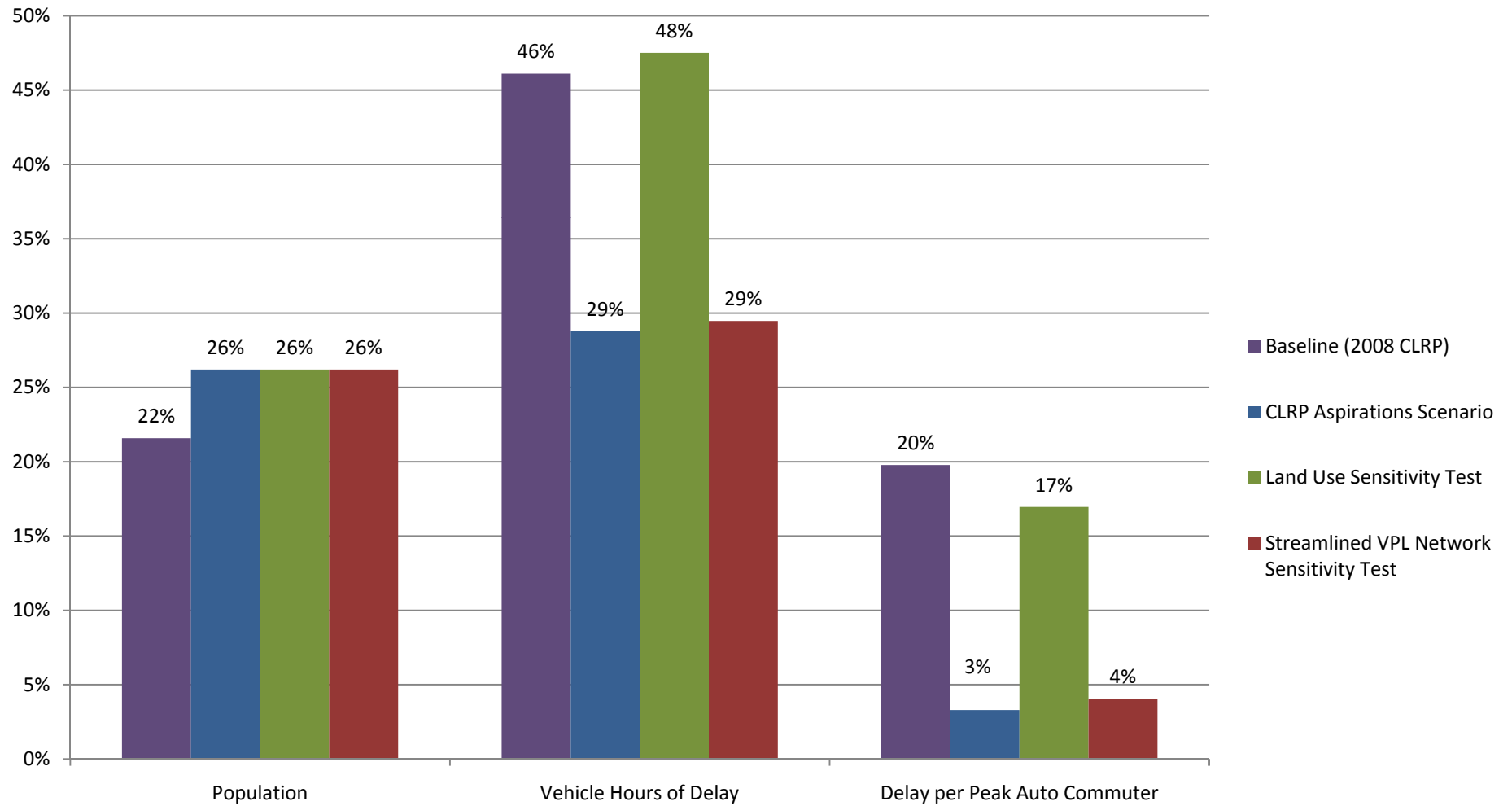


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CLRP Aspirations Scenario

Sensitivity Tests

Results



Projected Changes 2009 - 2030

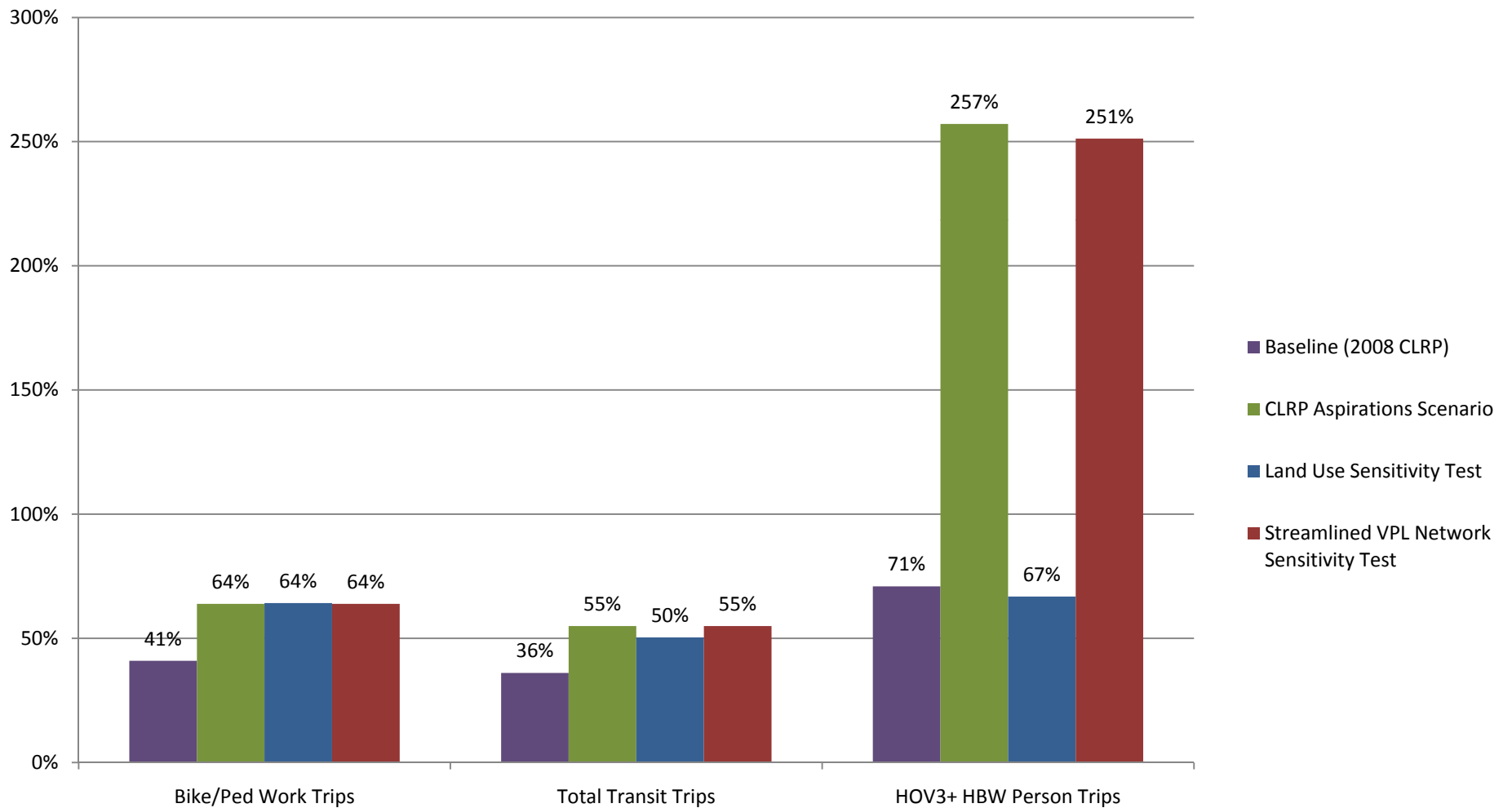


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CLRP Aspirations Scenario

Sensitivity Tests

Results



Home Based Work Mode Share

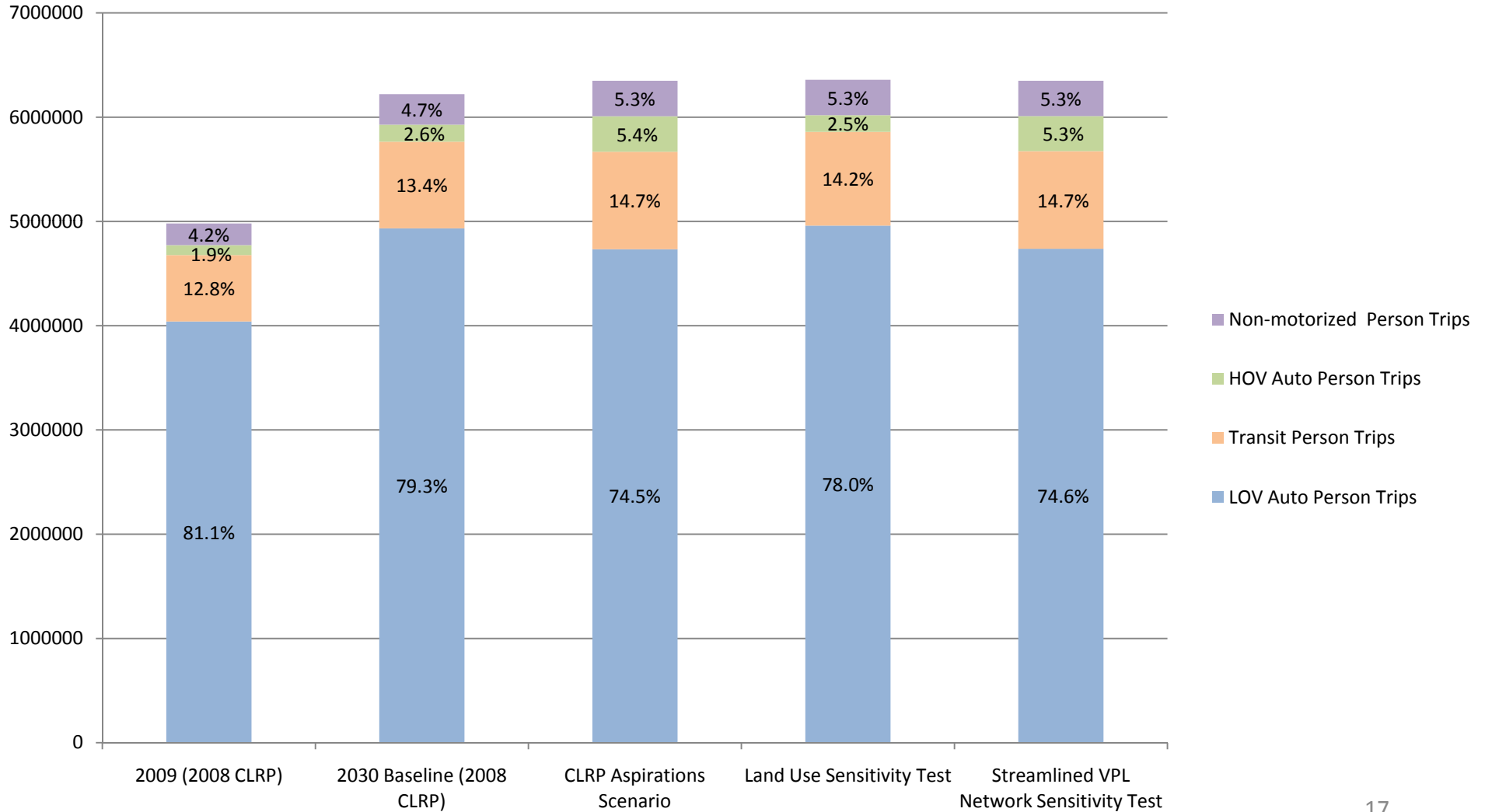


Background

CLRP Aspirations Scenario

Sensitivity Tests

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Streamlined VPL Network Sensitivity Test



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Relative to Full CLRP Aspirations Scenario:

- Slightly lower reductions in vehicle hours of delay (VHD). Slightly lower increase in vehicle miles traveled (VMT).
- Same increases in non-motorized and transit trips. Slightly lower increase in HOV trips.
- Financially feasible in that toll revenues cover highway and transit costs, both capital and operating.

Next Steps

Background

CLRP Aspirations Scenario

Sensitivity Tests



- Version 2.3 Travel Forecasting Model
- 2040 Horizon Year
- Benefit Cost Analysis