

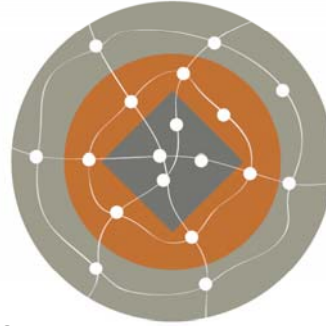
Item 7

## TPB CLRP Aspirations Scenario

### Streamlined Variably Priced Lane Network Sensitivity Test

Erin Morrow  
Department of Transportation Planning

Presentation to the TPB Technical Committee  
October 7, 2011



1

## Why a New Sensitivity Test?

CLRP Aspirations Scenario

Sensitivity Tests

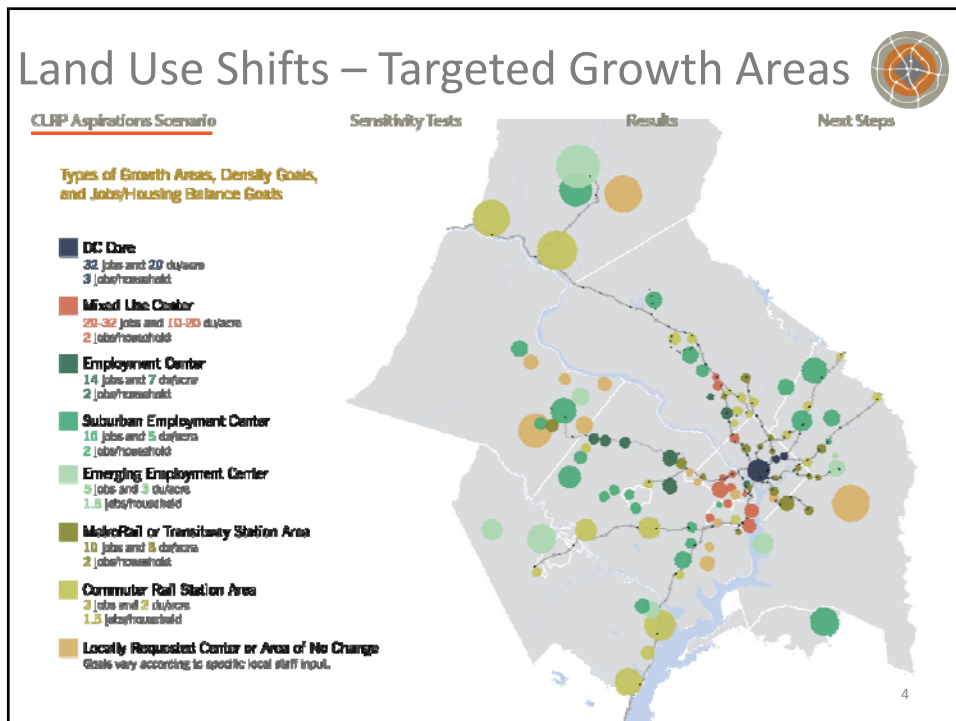
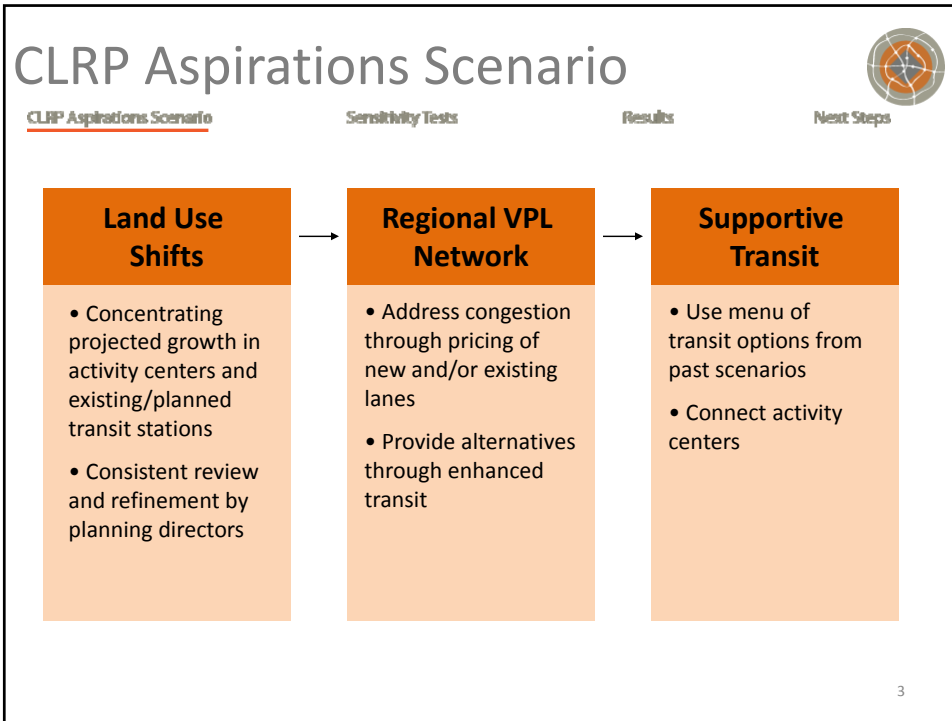
Results

Next Steps



- Responding to comments about the cost and extent of the variably priced lane network
- Designed to make the scenario “within reach”

2



# Land Use Shifts – Summary



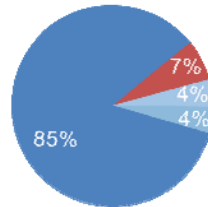
CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps

## 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

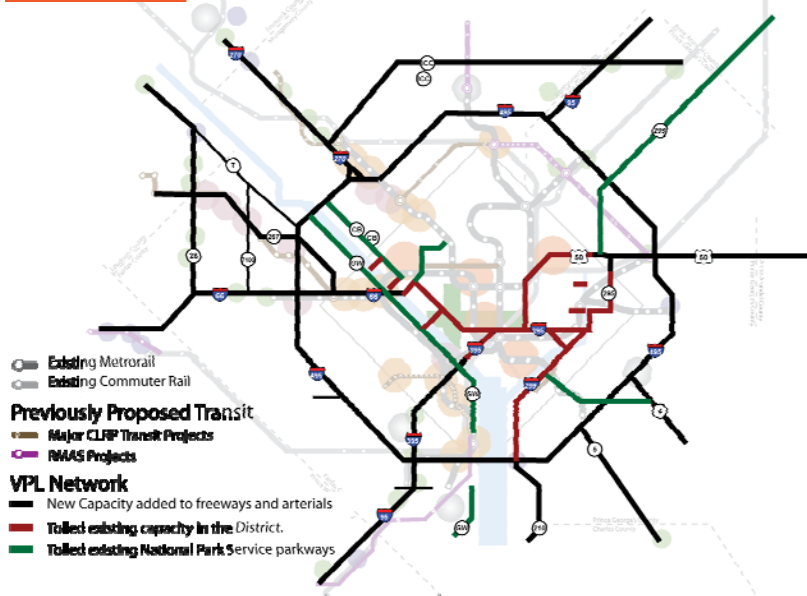


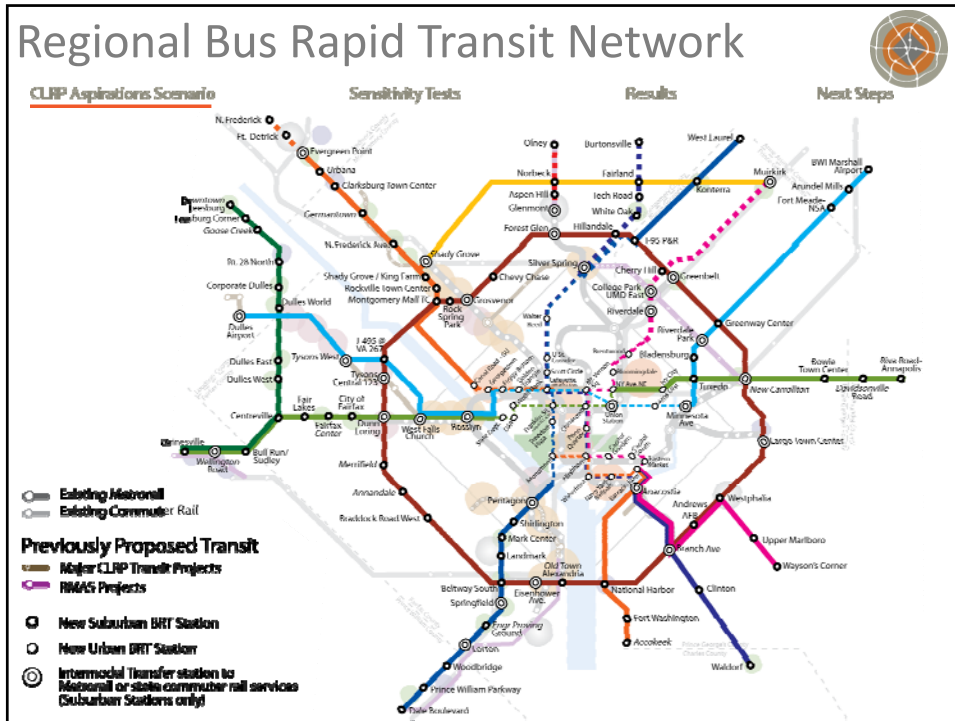
CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps





## Full CLRP Aspirations Scenario

CLRP Aspirations Scenario
Sensitivity Tests
Results
Next Steps

- Presented to the TPB in September 2010
- Significantly reduced regional congestion, and increased transit, non-motorized, and HOV trips over baseline (2008 CLRP + Round 7.2 Land Use)
- Increased regional VMT and average trip lengths
- Revenues cover about 80% of the costs

8

## Land Use Only Sensitivity Test



CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps

- Presented to the TPB in September 2010
- Tested CLRP Aspirations land use shifts with adopted CLRP highway and transit projects
- Decreases in VMT, VMT per capita, and average trip length relative to baseline
- Small increases in modeled region vehicle hours of delay (VHD) and vehicle hours of travel (VHT)
- Increases in VMT and VHD on facilities in most inner jurisdictions

9

## New: Streamlined VPL Network Sensitivity Test



CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps

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

10

# Regional Travel Indicators

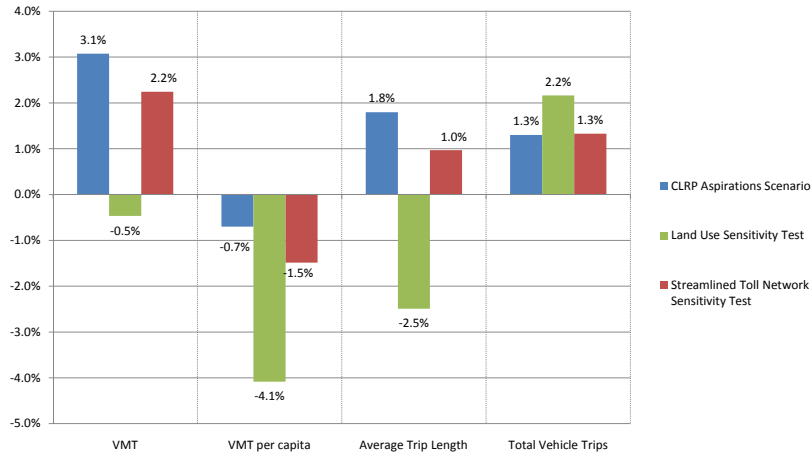


CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps



11

# Congestion Indicators

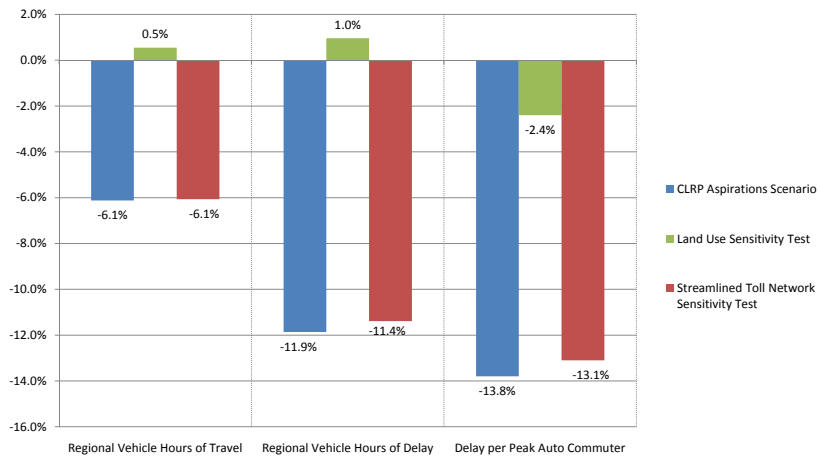


CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps



12

# Regional Mode Share

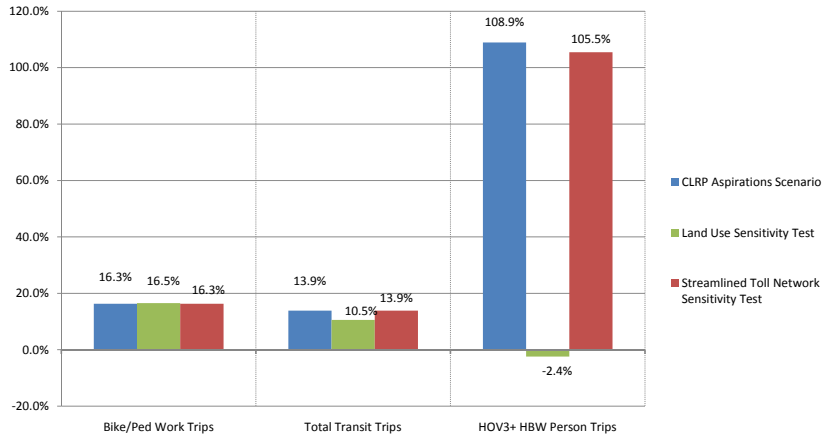


CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps



13

# Air Quality

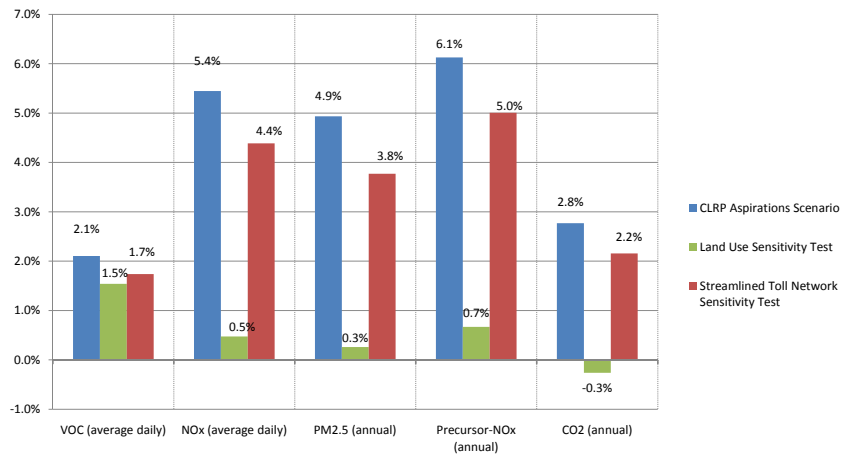


CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps



14

# Financial Analysis



CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps

## Year 2030 Revenue to Cost Analysis of Full and Streamlined Scenarios (2010\$)

Scenario	Annualized Cost (millions)	Annual Revenue (millions)	Revenue/Cost
Full Scenario	\$ 3,799	\$ 3,082	0.81
Streamlined Scenario	\$ 2,688	\$ 2,997	1.11

15

# Comparison to Current (2009) Conditions

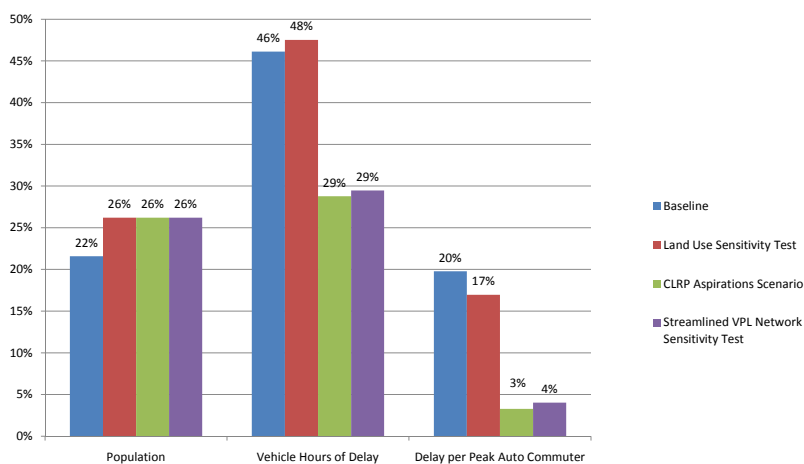


CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps



16



## Streamlined VPL Network Sensitivity Test



CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps

- Significant reductions in regional vehicle hours of delay and vehicle hours of travel similar to the full CLRP Aspirations Scenario
- Financially feasible in that toll revenues cover highway and transit costs, both capital and operating, which was not the case with the full CLRP Aspirations Scenario

17

## Future Work



CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps

- Version 2.3 travel forecasting model
- Analysis of parallel facilities
- Study of traffic impact on activity centers
- Benefit-cost analysis

18

## Next Steps



CLRP Aspirations Scenario

Sensitivity Tests

Results

Next Steps

- Requesting feedback on the presentation and technical memorandum from the TPB Technical Committee
- Present results of Streamlined VPL Sensitivity Test to the TPB in October