

TPB SCENARIO STUDY

CLRP Aspirations Scenario Preliminary Results

Michael Eichler
Department of Transportation Planning

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The Two Scenarios

What Would it Take?

Starts with COG regional CO₂ goals and assesses what scales and combinations of interventions will be necessary to achieve the goal for the transportation sector.

CLRP Aspirations

Draws on past studies and public outreach to provide an ambitious yet attainable vision of land use and transportation for the 2010 CLRP update and to eventually serve as an unconstrained long range plan.

Developing the Aspirations Scenario

Goal: To move jobs and housing closer together to create highly accessible and developed areas, and achieve more efficient transportation systems

Land Use Decisions

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



Pricing Options

- Address congestion through pricing of new and/or existing lanes
- Provide alternatives through enhanced transit



Supportive Transit

- Use menu of transit options from past scenarios
- Connect activity centers
- Review by Regional Bus Subcommittee

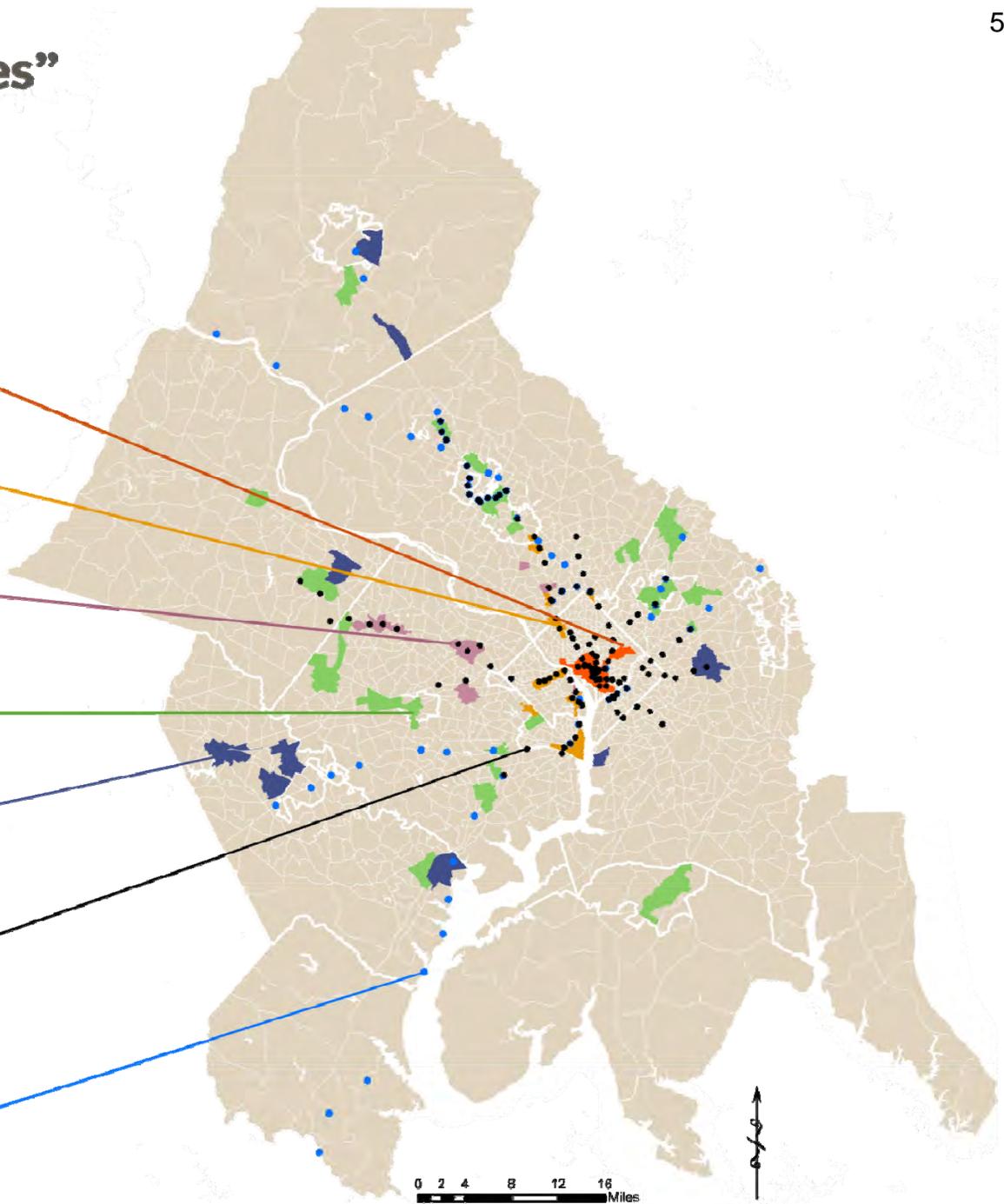
Scenario Criteria

“Within Reach”

1. Land use shifts should be for inclusion in the COG Cooperative Forecast
2. Transportation projects should be financially through developer contributions and pricing.

7 Types of “Receiving Zones” (Goals for 2030)

- 1. DC Core**
20 du/acre
3 jobs/household
- 2. Mixed Use Center**
10 du/acre
2 jobs/household
- 3. Employment Center**
8 du/acre
2 jobs/household
- 4. Suburban Employment Center**
6 du/acre
2 jobs/household
- 5. Emerging Employment Center**
3 du/acre
1.6 jobs/household
- 6. Metrorail or Transitway Station**
(not in Activity Center)
7 du/acre
1.6 jobs/household
- 7. Commuter Rail Station**
(not in Activity Center)
3 du/acre 1/2 mile around station
1.6 jobs/household

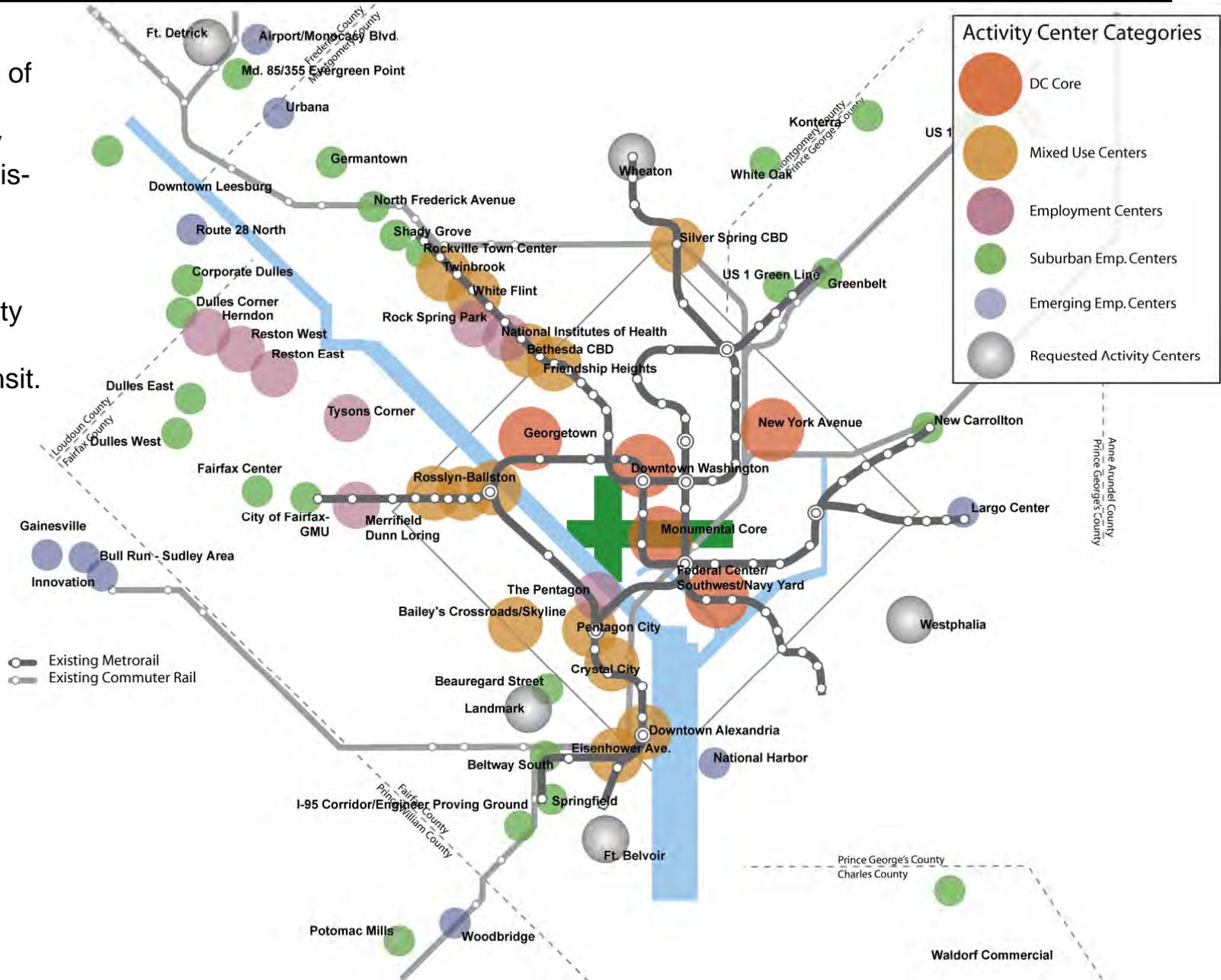


Land Use Component – By The Numbers

- Households
 - Moves 69,000 additional households into the region
 - Relocates 205,000 households to activity centers and transit station areas
 - 57% of those “at play” between 2015 and 2030
 - 8.2% of the region’s 2030 total
- Jobs
 - Moves 22,000 additional jobs into the region
 - Shifts 240,000 jobs to activity centers and transit station areas
 - 35% of those “at play” between 2015 and 2030
 - 5.6% of the region’s 2030 total

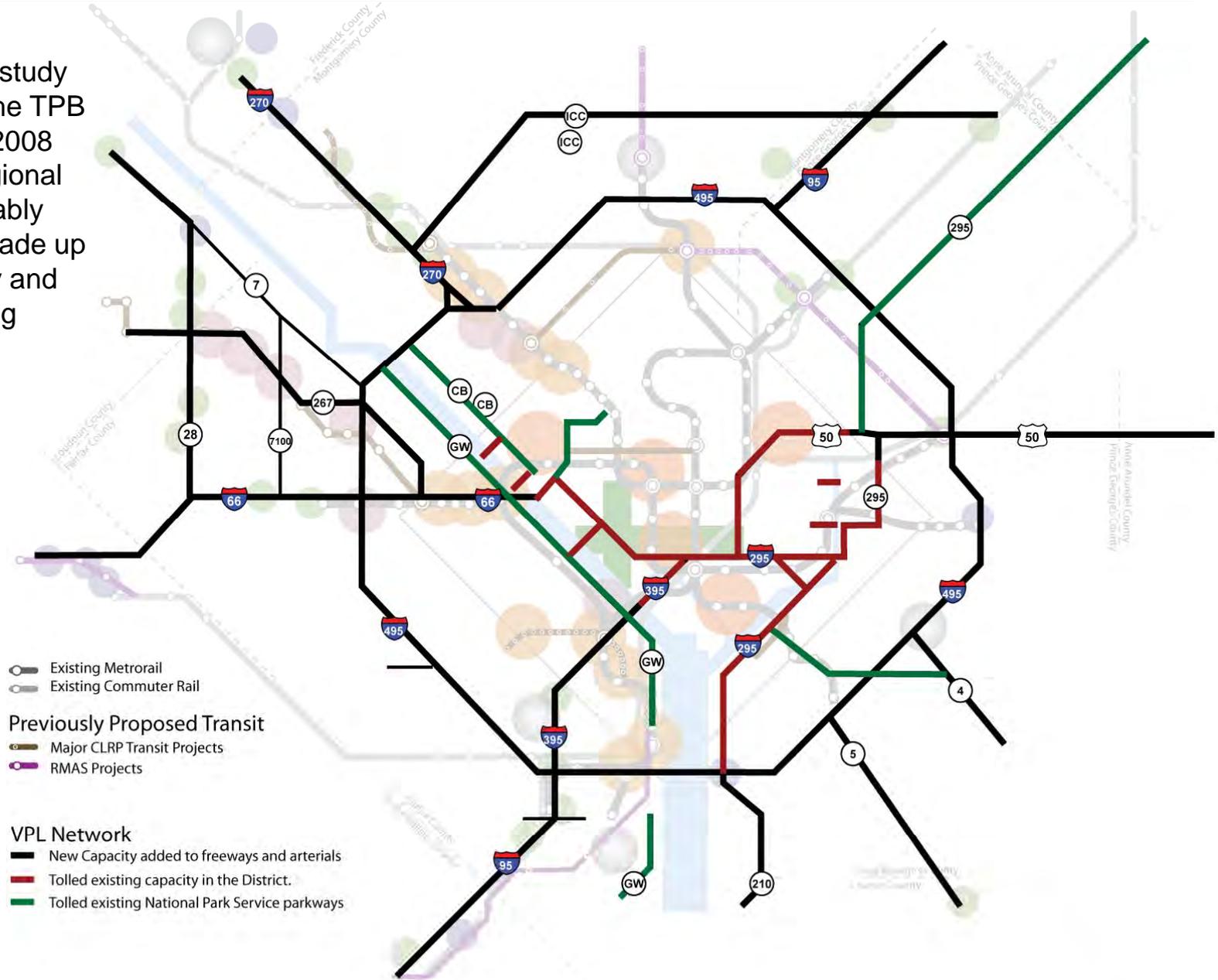
Transportation Component: Existing Conditions

Existing system of activity centers and high quality transit shows mismatch. Many transit stations without activity and many activity centers without high-quality transit.



Network of Variably Priced Lanes

A value pricing study completed by the TPB in February of 2008 evaluated a regional network of variably priced lanes, made up of new capacity and selected existing facilities.



TIGER Grant Application First Step to Regional Network

TPB TIGER Grant application, submitted Sept 15, 2009, to act as first step towards this regional network.



BRT to Provide Rail-Like Level of Service

- Transit Speeds
 - 45 MPH on toll lanes
 - 15 MPH on priority corridors
- Headways
 - 10 minutes, peak
 - 30 minutes, offpeak
- Fare Structure
 - Same as current services
- Will complement existing services
 - No replacement of current commuter bus services with BRT routes.
- BRT complemented by 15 activity center circulator systems with 10-minute headways
 - Added to activity centers without high quality local bus transit.

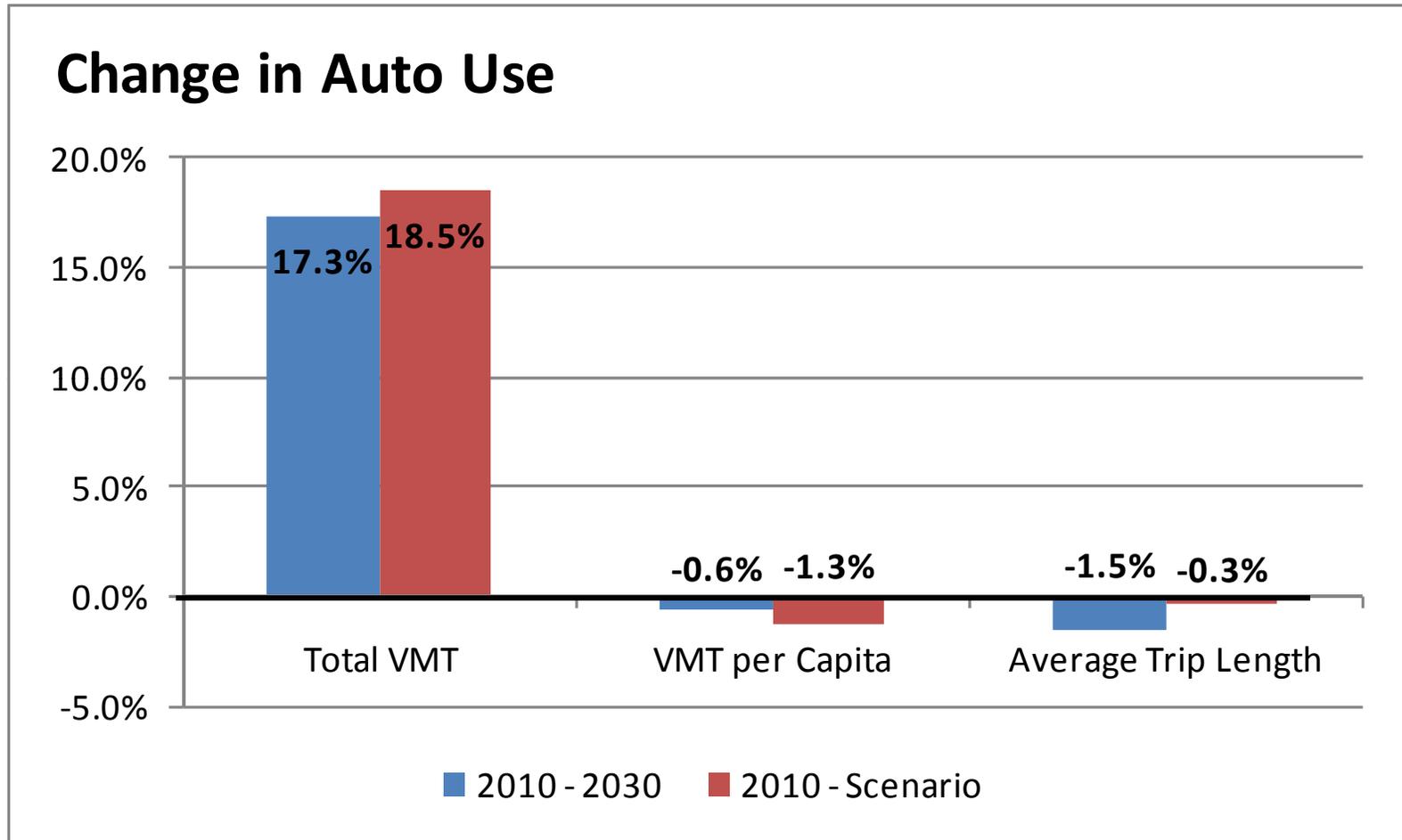


*The Shirlington Transit Station in
Arlington, VA.*

Transportation Component – By The Numbers

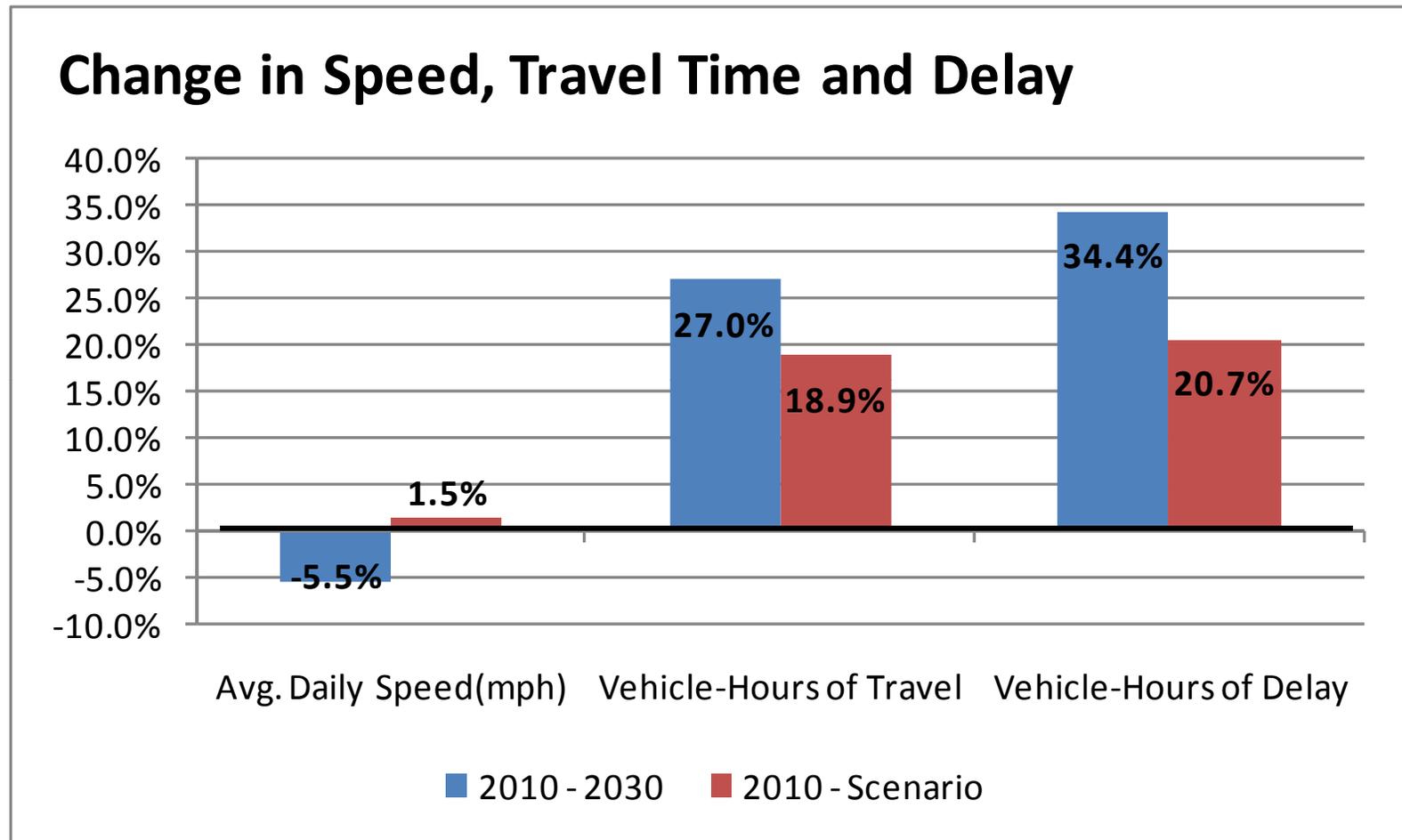
- Highways
 - Scenario creates a 1,650-mile regional priced lane network
 - 150 priced lane miles in the CLRP
 - 350 lane miles converted from HOV lanes
 - 650 new lane miles
 - 500 lane miles converted from GPLs (DC, Parkways)
 - Priced lanes target speed: 35 to 45 MPH.
- Transit
 - Scenario creates regional BRT system of nearly 500 miles
 - 138 BRT stations located in the core, activity centers and existing parking facilities
 - Plus an additional 140 miles of circulator service
 - Adds 5640 daily hours of transit service

Preliminary Results: Driving Increases



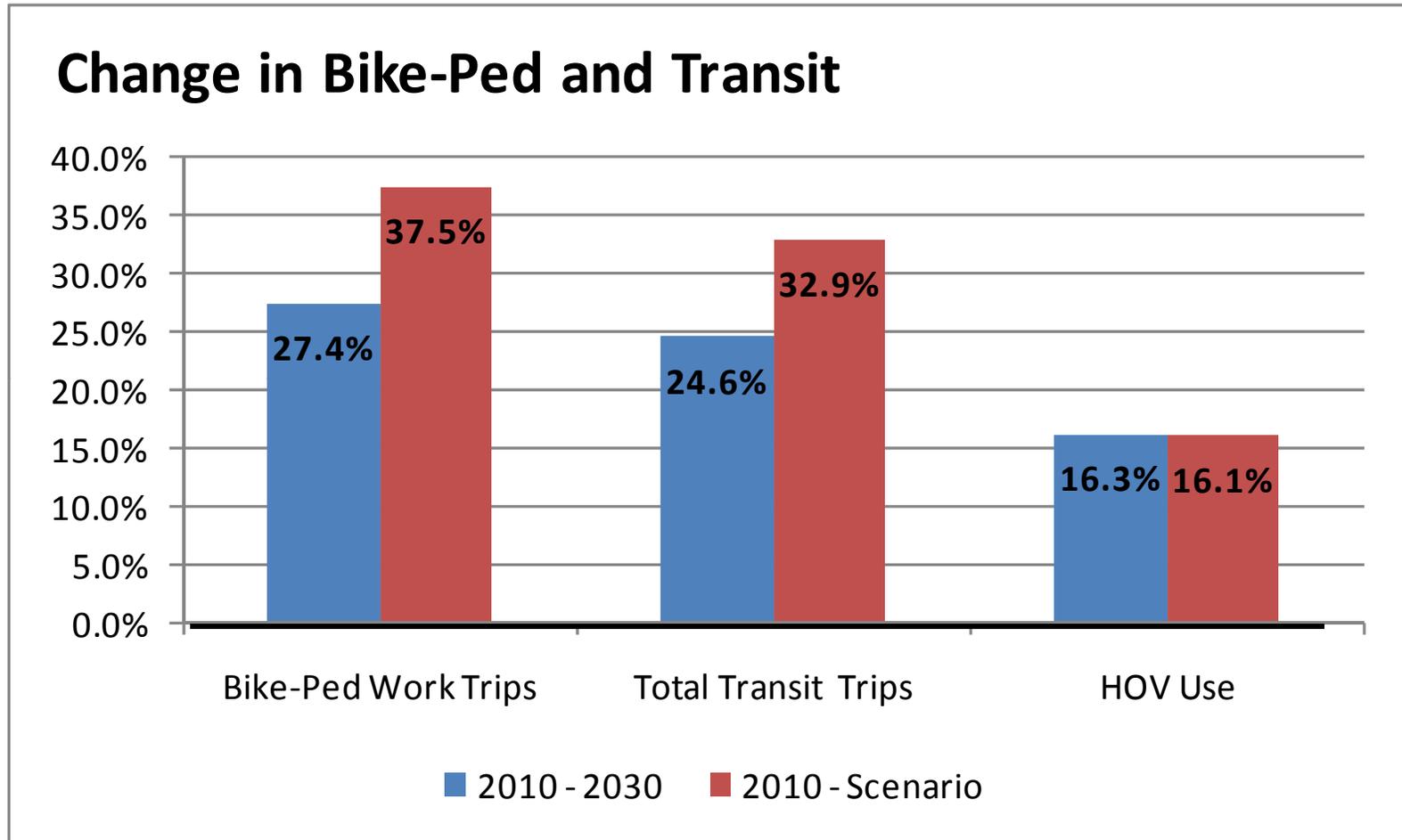
- Toll network adds to regional freeway capacity, increasing auto-mobility.

Preliminary Results: Congestion Decreases



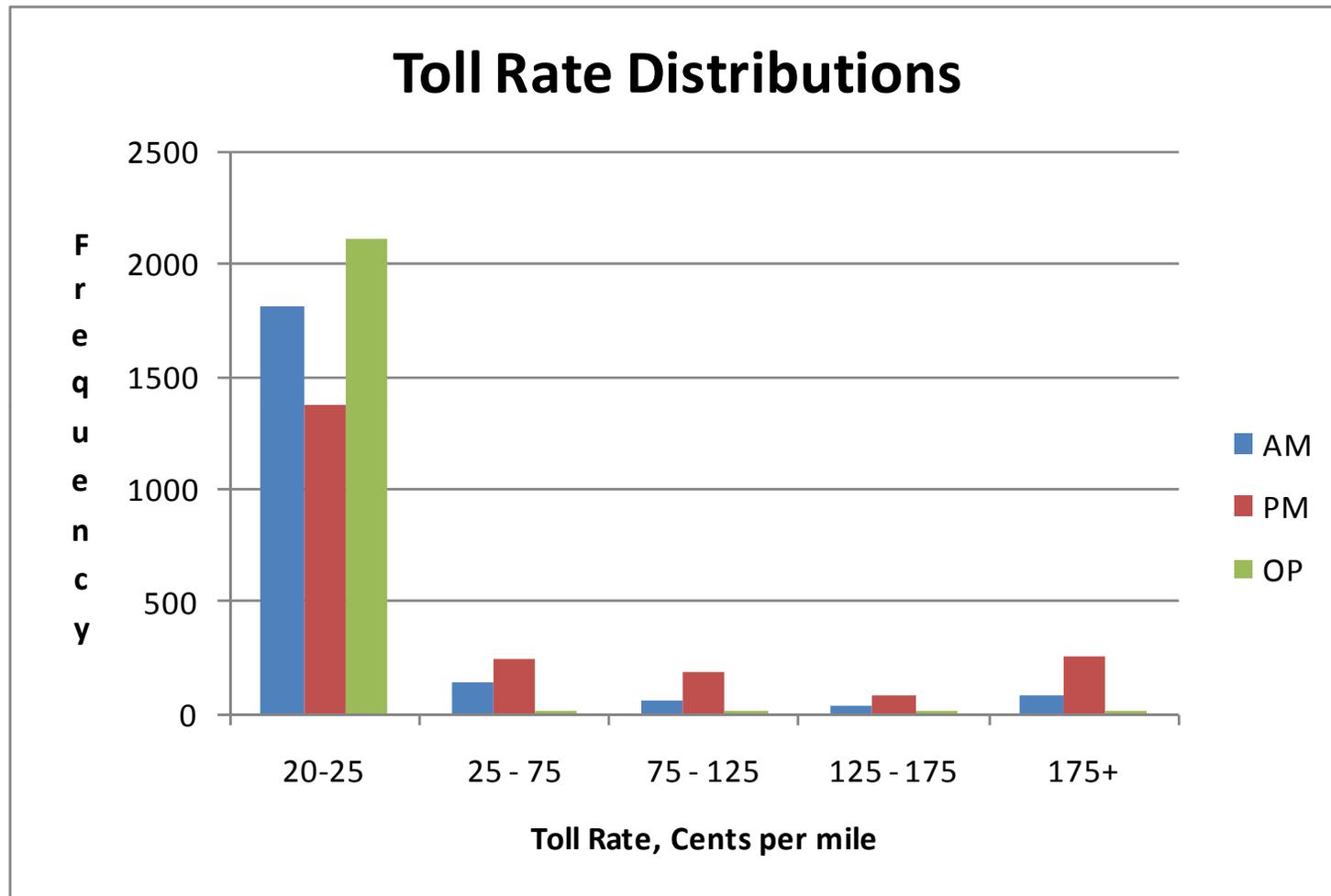
- Average speeds increases, reducing total travel times and delay.

Preliminary Results: Transit, Bike-Walk Increase



- Moving jobs and households closer together increases bike and walk trips.
- New regional BRT system makes transit a more viable option.

Preliminary Results: Toll Rate Distributions



- Highest toll rates in PM peak.

Notable Results

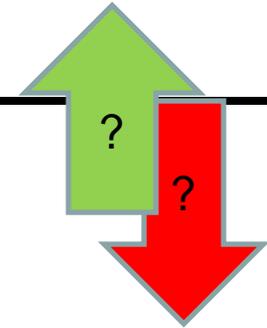


1. 2.2% increase in Households, yet only a 1% increase in motorized trips.
 - Concentrating households in activity centers provides more bike and walk options.
2. HOV use virtually unchanged.
 - Could be result of large increase in transit service.
3. Total VMT increase of 1.5%, but VMT per Capita decreased by nearly 1%.
 - VMT increase due mostly to increase in households.

Preliminary Costs and Revenue Estimates

- Sketch assessment results in approximate break-even of costs and revenues.
- Estimate excludes several key cost factors:
 - Increases in capacity needed to ensure quality BRT service on mixed-use arterial roadways
 - Increases in park-and-ride facilities at BRT stations outside of activity centers
- Estimate excludes tax-increment financing revenue to capture real estate value changes.

Topics for Further Investigation



1. How does toll lane speed impact network?

- Increase target speed for toll lanes.
- Should increase tolls, increase general purpose lanes congestion, reduce regional VMT. Impact on total revenue unknown.

2. What would be the effect of reducing the number of new lane miles?

- For example, convert toll network from “add-two” to “add-one-take-one” or price more existing lanes.
- Will reduce construction costs while increasing toll rates, revenues and congestion, and reducing VMT.

3. What is the effect of changing transit service levels?

- Explore viability of transit use for both peak and off-peak travel (all trip purposes) by reducing headways.

Next Steps

1. Further analysis, refinements, sensitivity testing and benefit-cost analysis, with regular briefings, February to May.
2. Final report, June.