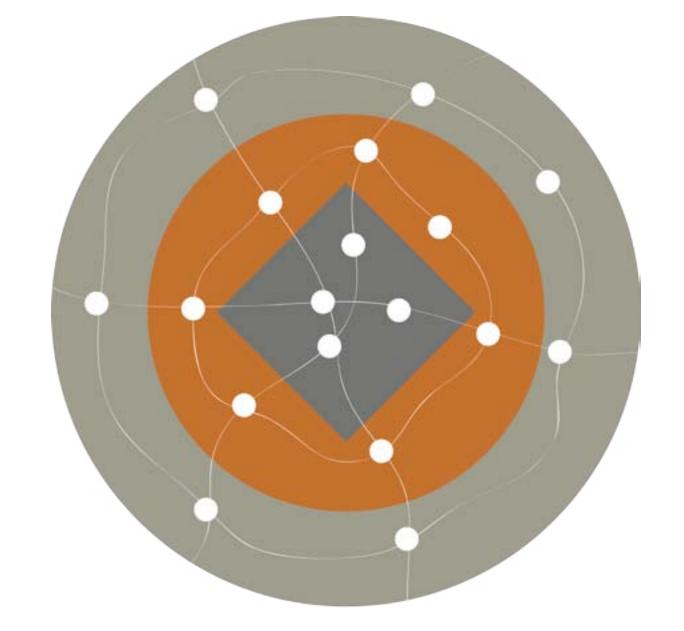
Linking Transportation and Land Use Goals through Scenario Planning: A Case Study of the Metropolitan Washington Region



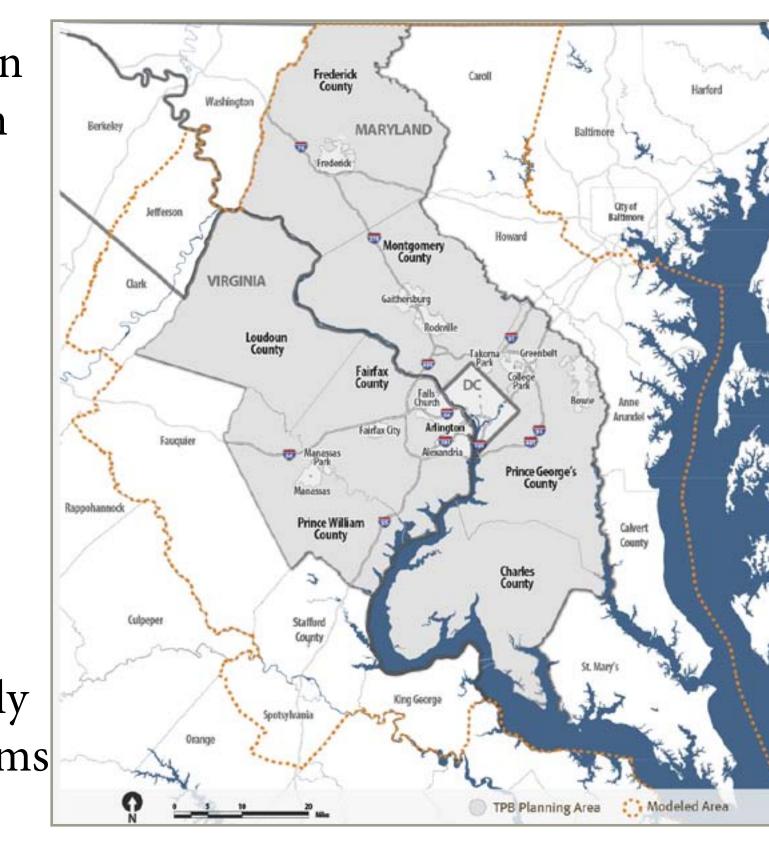
Erin M. Morrow, Jinchul Park, Eric Randall, Daivamani Sivasailam, and Daniel Hojun Son; Metropolitan Washington Council of Governments; Presentation Number 13-4116

Purpose

- 1. Describe the development and analysis of the TPB's CLRP Aspirations Scenario Study, which was completed in October 2011
- 2. Compare the CLRP Aspirations Study to the recommendations outlined in recent federal surface transportation reauthorization (MAP-21) for scenario development and evaluate how well TPB's process aligns with the new legislation

Background

The National Capital Region Transportation
Planning Board (TPB) is the Metropolitan
Planning Organization (MPO) for the
Metropolitan Washington area which covers
approximately 3 thousand square miles has
5 million people. The TPB is housed within
the Metropolitan Washington Council
of Governments (MWCOG). The TPB is
responsible for maintaining the Financially
Constrained Long-Range Transportation
Plan (CLRP), which is required by federal
planning regulations and includes all regionally
significant transportation projects and programs
that are planned in the region over at least the
next 20 years.



The CLRP only includes projects for which funding is "reasonably expected to be available," which limits the ability of the CLRP to address all of the region's transportation challenges.

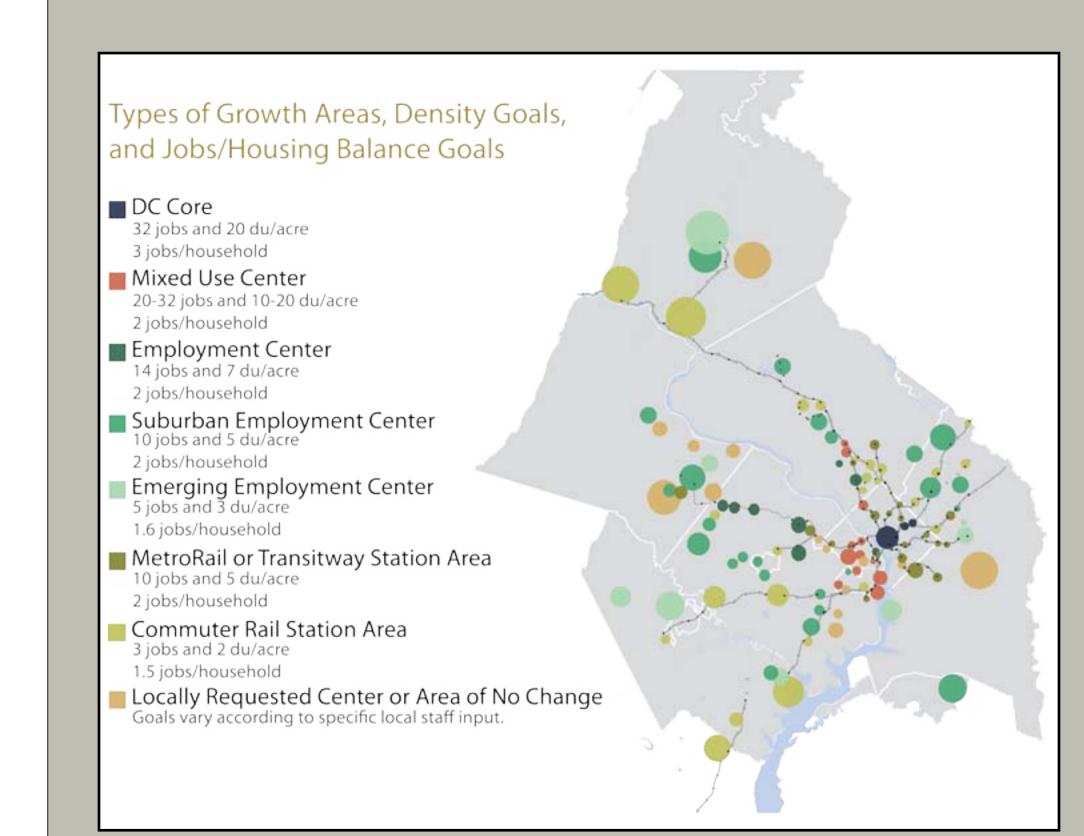
Due to funding limitations, the region is focusing a majority of future funding on operations and maintenance of the existing transportation system rather than on expansion, despite forecasts of significant increases in congestion through 2030. Planning for new capacity that consists of variably priced lanes (VPLs) can provide revenue for construction and maintenance as well as managing the volume of new traffic by adjusting tolls to maintain free-flow speed. The region saw its first VPL facility, the Intercounty Connector, open in November 2011 and variably priced Express Lanes on the Beltway (I-495) in Virginia opened in November 2012.

Scenario Planning

Like many MPOs, the TPB uses scenario planning to study the potential impact of future development and transportation plans. Previous TPB studies focused either on issues of land use or transportation, but not both. The full CLRP Aspirations Scenario combines a land use component of denser and more transit-oriented development as compared to current projections of the future; a regional network of variably priced lanes (VPLs); and high quality bus rapid transit (BRT) and circulator bus service focused on supporting the alternative land use plan. Two variations of this scenario were developed as sensitivity tests: (1) to analyze the impact of land use changes without the VPL and BRT components; and (2) to analyze a variation of the scenario that included a lower-cost "streamlined" VPL network that would require 30% less new construction and more conversion of general purpose lanes to VPLs. All scenarios were compared to an adopted year 2030 baseline.

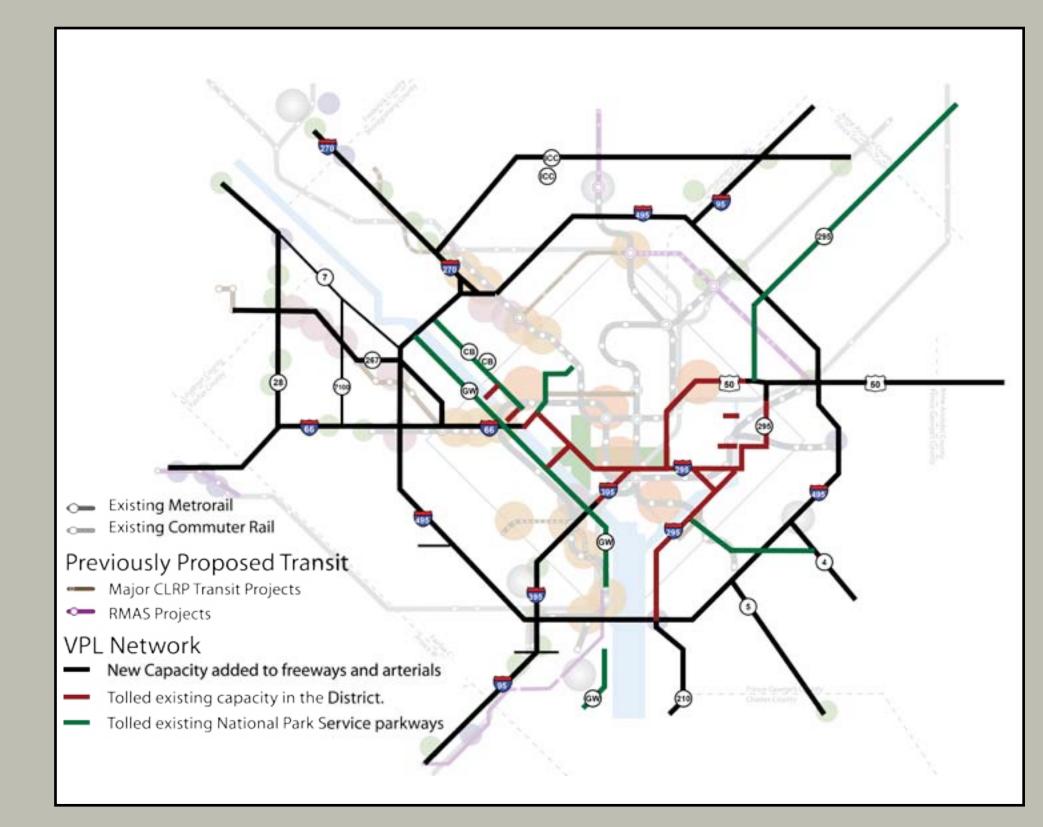
The CLRP Aspirations Scenario Study

Targeted Growth Areas



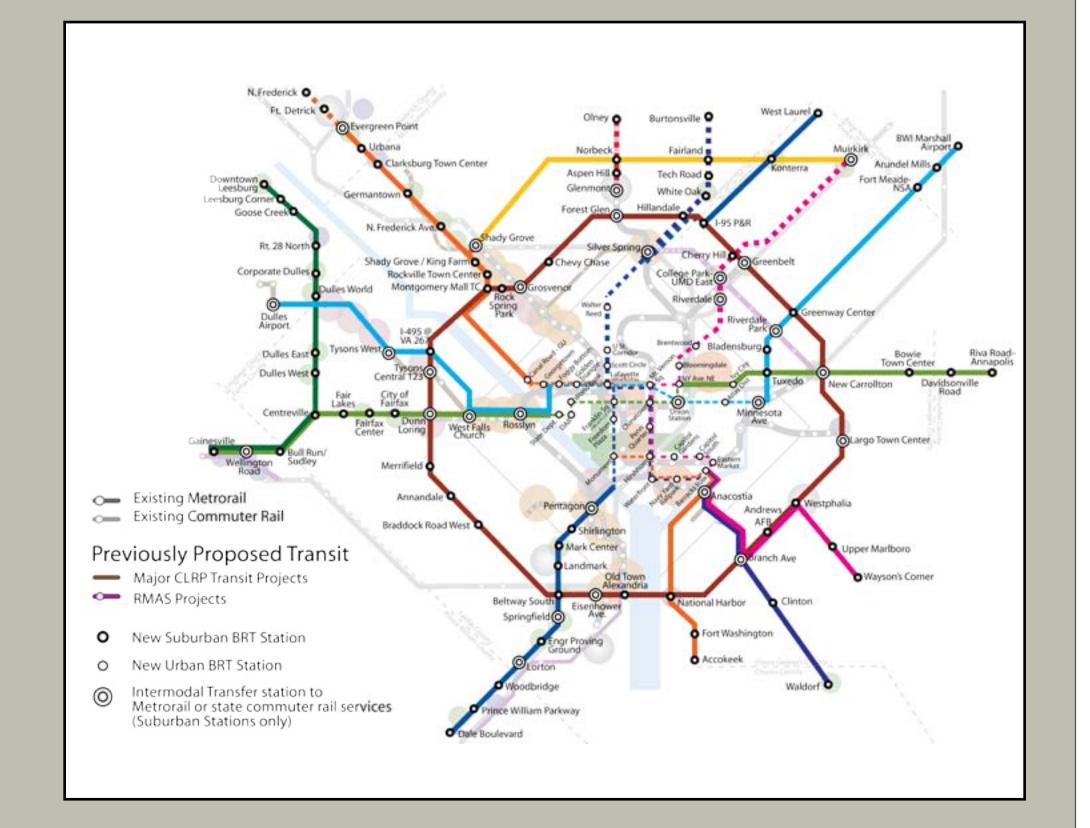
- •Shifted projected household and employment growth into "targeted growth areas" such as MWCOG's Regional Activity Centers to make them supportive of transit and mixed-use development while still reflecting local-level planning realities
- •Developed in a collaborative process between MPO staff and local jurisdictions
- •Recognized that redistribution of jobs and households would benefit individual jurisdictions as well as the region

Regional Network of Variably Priced Lanes



- •VPLs tolled to maintain free-flow conditions
- •Network developed based on outcomes from TPB's 2006 federally-funded Variably Priced Lane Study
 - •All freeways in the region have two VPLs in each direction
- •All major arterials have one VPL added outside of the Beltway
- •All Potomac and Anacostia River Crossings are tolled
- •Existing National Park Service parkways are tolled
- Access to targeted growth areas
- •Created a total of 1,740 miles of VPLs with 959 of those being new lane-miles of construction

Regional Bus Rapid Transit Network



- •A high-quality, 500-mile BRT network was designed to operate on the free-flowing VPL network, providing service to new BRT stations in targeted growth areas, and making connections to Metrorail and existing park-and-ride lots
- •Frequent service (10 minute peak/20 minute off-peak headways)
- •More reliable travel times as the buses utilize the VPL network
- •The BRT network is complemented by 140 miles of circulator bus service

Major Findings

The CLRP Aspirations Scenario Study demonstrated a process for regional land use planning that balances regional goals with the planning responsibilities and priorities of local jurisdictions.

All six recommendations for scenario development included in MAP-21 were considered in the CLRP Aspirations Scenario Study. The TPB considered potential regional investment strategies in the VPL network and BRT system, compared assumed (Baseline) and alternative (Aspirations) population and employment distributions, developed scenarios that met or improved upon baseline conditions in terms of transportation network performance, and demonstrated that the revenues estimated can support one of the scenarioss. However, new MAP-21 requirements on maintaining the number of toll-free non-HOV lanes will require a reexamination of the VPL networks as designed

In evaluating the scenarios, the CLRP Aspirations Study addressed three of the six outcome-oriented national goals specified by MAP-21: congestion reduction, environmental sustainability, and system reliability. In terms of congestion reduction, the analysis showed that both of the scenarios with VPL networks reduced congestion in the modeled area. In terms of environmental sustainability, emissions modeling was completed and the scenarios demonstrated adherence to submitted criteria pollutant budgets. For system reliability, the VPL network provides travel time reliability for vehicles, including BRT vehicles, traveling in the VPLs.

Next Steps

The CLRP Aspirations Scenario Study used sketch level planning, and did not address all of the realities of planning a regional VPL network including the new MAP-21 requirements on maintaining the number of toll-free non-HOV lanes, the challenge of planning a network that spans a tri-state area, operational issues, and the public perception of variably priced lanes. The CLRP Aspirations Scenario Study provides three examples of alternative planning futures for the region and offers a useful starting point for defining regional transportation and land use priorities.

Using work completed to date, the TPB is developing a Regional Transportation Priorities Plan (RTPP). As part of the public outreach effort, a series of long-term scenarios, including components of the CLRP Aspirations Scenario Study, will be presented to illustrate long-term transportation and land use strategies. Participants will be asked to consider those scenarios to address the region's transportation and land use challenges and suggest additional scenarios for consideration.

The MAP-21 legislation provides guidance for developing scenarios and taking a performance-based approach to evaluating scenarios. The TPB plans to consider all of the national goals for the federal transportation program as outlined in MAP-21 in its future scenario work, and to use the development of the RTPP as an opportunity to establish locally-derived performance measures.

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