ITEM 11- Information
November 15, 2006

Status Report on the Regional Value Pricing Study

Staff Recommendation: Receive briefing on the enclosed work plan for the study and on study activities to date.

Issues: None

Background: In October 2006, work began on the Regional Value Pricing Study. This study, which is funded by a grant from FHWA, allows the region to evaluate the potential performance of a regional network of variably-priced lanes in greater detail than the TPB Regional Mobility and Accessibility Scenario study.

NATIONAL CAPITAL REGION TRANSPORTATION PLANNING BOARD

REGIONAL VALUE PRICING STUDY WORK PLAN

NOVEMBER 8, 2006

FUNDED UNDER A GRANT FROM
THE FEDERAL HIGHWAY ADMINISTRATION'S
VALUE PRICING PILOT PROGRAM

TABLE OF CONTENTS

SUMMARY

As the Metropolitan Planning Organization (MPO) for the Washington metropolitan region, the National Capital Region Transportation Planning Board (TPB) is responsible for coordinating transportation plans for Northern Virginia, Suburban Maryland and the District of Columbia. Under a grant from the Federal Highway Administration's Value Pricing Program, he TPB is undertaking a study to evaluate a regional network of variably priced lanes. The TPB has made substantive progress over the past three years in laying the groundwork for such a network through a variety of efforts including: hosting a value pricing conference; the establishment of a TPB value pricing task force; the adoption of goals for a regional system of variably priced lanes; and the inclusion of two major value-priced projects in the regional transportation plan. Currently, the plan includes four new high-occupancy toll (HOT) lanes along 15 miles of the Capital Beltway in Virginia, and six new variably priced lanes along 18 miles for the Intercounty Connector in Maryland. It also includes a study of implementation of HOT lanes along 56 miles of the I-95/395 corridor in Virginia.

This study will evaluate the potential benefits and performance of a regional network of variably priced lanes. Tasks to be performed include:

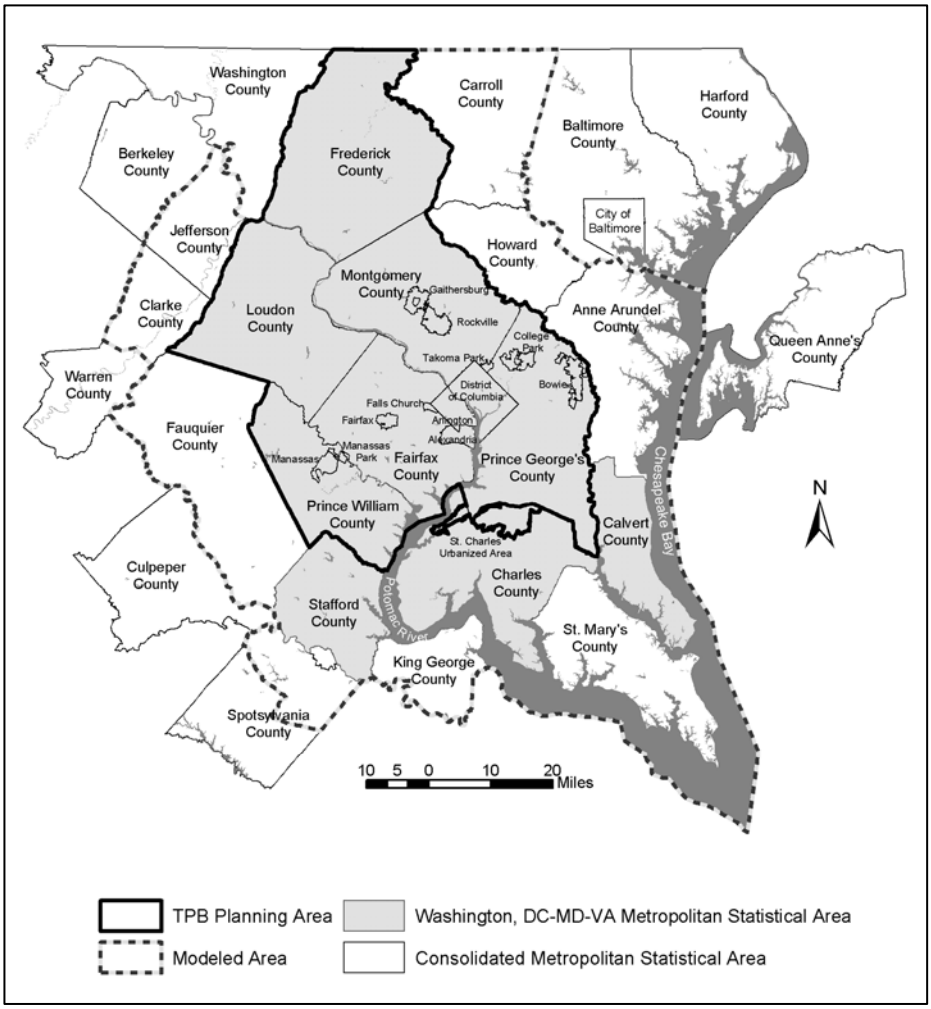
- Examine corridors in the regional network to identify how specific segments of the regional system are performing, such as the Capital Beltway, existing Potomac River crossings, and major radial corridors;
- Apply the regional model and conduct sensitivity analysis to investigate the potential demand, revenue and costs, transit viability (including transit operating assumptions and direct access ramps) and likely changes in land use activity for *specific corridors* identified in Task 1;
- Analyze the corridors examined in Task 2 as a regional network, focusing particularly on financial feasibility and system performance;
- Examine ways of identifying regional impacts of pricing projects on low-income and minority populations.

BACKGROUND

The National Capital Region Transportation Planning Board (TPB) is the Metropolitan Planning Organization (MPO) for the Washington metropolitan region. As an MPO, the TPB is responsible for coordinating transportation planning at the regional level and developing the 30-year transportation plan for Northern Virginia, Suburban Maryland and the District of Columbia. The TPB brings together key decision makers to coordinate planning and funding for the region's transportation system.

Members of the TPB include representatives of local governments, the Maryland, Virginia, and District of Columbia departments of transportation, the Washington Metropolitan Area Transit Authority (WMATA), the Maryland and Virginia General Assemblies, and non-voting members from the Metropolitan Washington Airports Authority and federal agencies. A map of the TPB planning area is shown in Figure 1.

Figure 1: The TPB Planning Area



Value Pricing in the Washington Region

The Value Pricing Conference

In June 2003, the TPB in conjunction with the Federal Highway Administration, and the Maryland, Virginia, and District of Columbia departments of transportation jointly sponsored a successful one-day conference on value pricing for transportation in the Washington region. 200 people attended the conference, including numerous local elected officials who spoke in support of value pricing. The conference was one of the region's first major public discussions regarding the need and opportunities for innovative transportation pricing strategies. News coverage of the event headlined on the front page of the Washington Post's Metro section: "Toll Lanes' Concept Catching On: Conference Looks at Pricing."

The TPB Task Force

After the value pricing conference, the TPB created a "Task Force on Value Pricing" to examine how value pricing could benefit the Washington region. The goals of the Task Force include the development of recommendations for the TPB regarding parameters, principles, guidelines and lessons learned with regard to the regional implications of value pricing.

The task force currently includes the following members:

Chair: Carol Petzold- Maryland House of Delegates
JoAnne Sorenson – Virginia Department of Transportation (VDOT)
Catherine Hudgins - Fairfax County Board of Supervisors
Sam Minnitte – Maryland Department of Transportation (MDOT)
Michael Knapp –Montgomery County Council
Phil Mendelson - District of Columbia Council
Michelle Pourciau –District Department of Transportation (DDOT)
Edward Thomas – Washington Metropolitan Area Transit Authority (WMATA)
Christopher Zimmerman- Arlington County

The task force adopted regional goals for variably-priced projects in the region in April of 2005. These goals, shown below in Figure 2, will guide the development and evaluation of a regional variably priced lane scenario.

New Pricing Projects

The region's financially Constrained Long-Range Transportation Plan (CLRP) currently includes two variably-priced toll facilities: the Intercounty Connector and the Northern Virginia Capital Beltway HOT Lanes project.

The Intercounty Connector is an 18-mile east-west highway in Montgomery and Prince George's counties in Maryland that will run between I-270 and I-95/US 1. The project will include six variably-priced lanes with express bus service connecting to Metrorail stations. This project was included in the CLRP in 2004.

The Northern Virginia Capital Beltway HOT lane project will add four new HOT lanes to a 15-mile segment of the Capital Beltway (I-495). Vehicles with three or more occupants, as well as transit buses and emergency response vehicles will be able to use the lanes for free; all other vehicles will pay a toll that varies according to the time of day. This project was added to the CLRP in 2005.

A I-95/395 HOT lane study in Virginia was included in the CLRP in 2006. This study provides for the development of environmental documents, consistent with federal (NEPA) and state requirements, for a proposal to build high occupancy/toll (HOT) lanes along 56 miles of the I-95/395 corridor between the Virginia state line and the I-95 Massaponax exit in Spotsylvania County. The HOT lanes have been proposed by the private sector under Virginia's Public/Private Transportation Act (PPTA). The PPTA proposal consists of two actions: 1) Re-stripe two existing HOV lanes to three HOT lanes from the Virginia state line to VA 234 in Dumfries; and 2) Construct two new HOT lanes on I-95 between VA 234 and the Massaponax exit. The study will be coordinated with the TPB and with the Fredericksburg MPO.

Figure 2: Goals for a Regional System of Variably Priced Lanes

Adopted by the TPB Task Force on Value Pricing for Transportation
January 19 2005

As the Washington region moves forward with plans to develop variably-priced lanes, it is anticipated that a system of variably-priced lanes will be implemented in phases, likely with one corridor or segment at a time. The following goals can help guide the regional development of variably-priced lanes that work together as a multi-modal system, while addressing the special policy and operational issues raised by the multi-jurisdictional nature of this area.

1. Operations, enforcement, reciprocity, technology, and toll-setting policies should be coordinated to ensure seamless connections between jurisdictional boundaries. The region should explore options for accommodating different eligibility requirements in different parts of the system of variably-priced lanes without inconvenience to the users.

2. The variably-priced lanes should be managed so that reasonably free-flowing conditions are maintained.

3. Electronic toll collection devices should be integrated and interoperable among the District of Columbia, Maryland and Virginia, and should work with other multi-state electronic toll collection systems, such as E-Z Pass[SM].

4. To ensure safety and to maintain speeds of variably-priced lanes on high-speed facilities, one lane with a wide shoulder consistent with applicable Federal Highway Administration (FHWA) guidelines should be provided at a minimum. Optimally, two lanes should be provided in each direction (or two lanes in the peak direction by means of reversible lanes) where possible.

5. Given the significant peak-hour congestion in the Washington area, transit bus service should be an integral part of a system of variably-priced lanes, beginning with project planning and design, in order to move the maximum number of people, not just the maximum number of vehicles.

6. Transit buses should have reasonably free-flowing and direct access to variably-priced lanes from major activity centers, key rail stations, and park-and-ride lots, so that transit buses do not have to cross several congested general purpose lanes.

7. Transit buses using the variably-priced lanes should have clearly designated and accessible stops at activity centers or park-and-ride lots, and signal priority or dedicated bus lanes to ensure efficient access to and from activity centers.

8. The region urges that the Congress and the Federal Transit Administration (FTA) recognize variably-priced lanes as fixed guideway miles so that federal transit funding does not decrease as a result of implementing variably-priced lanes.

9. The Washington region currently has approximately 200 miles of HOV lanes and a significant number of carpoolers, vanpoolers and other HOV-eligible vehicles. If the introduction of variably-priced lanes changes the eligibility policies for use of existing HOV facilities, transitional policies and sunset provisions should be set and clearly stated for all the users.

10. As individual phases of a system of variably-priced lanes are implemented, users of the lanes should be able to make connections throughout the region with minimal inconvenience or disruption.

11. Toll revenues from variably-priced lane projects may finance construction, service debt, and pay for operation and maintenance of the priced lanes. Should toll lanes operate at a revenue surplus, consideration should be given to enhancing transit services.

The TPB Regional Mobility and Accessibility Study (RMAS)

The TPB initiated the Regional Mobility and Accessibility Study (RMAS) in 2001 to evaluate additional highway and transit options beyond those that are currently funded and to examine the interaction of these transportation options with various land use alternatives. Federal law requires that the CLRP include only transportation projects that can be funded with revenues currently projected to be available over the next 25 years. RMAS provides the TPB with the opportunity to examine additional facilities that could improve the future performance of the region's transportation system and that have a realistic possibility of being funded with the identification of additional transportation revenues.

To date, the development and analysis of five alternative land use and transportation scenarios have been completed under RMAS. A variably-priced lanes scenario described below has been developed for inclusion in the RMAS, based on facilities identified by the TPB Value Pricing Task Force and an initial analysis has been completed for a "starting point" scenario.

This new value pricing study funded by the Federal Highway Administration allows the scenario developed under RMAS to be evaluated in greater detail than envisaged in the RMAS, and also includes the analysis of additional corridors not included in the RMAS, such as parkways in the region.

Variably-Priced Lanes Scenario

The variably-priced lanes scenario for the Washington region consists of a regional system of variably-priced lanes connecting the major regional activity centers and clusters in 2030. As stated earlier, the goals for variably-priced lanes shown in Figure 2 guided the development of the scenario. This scenario builds off of the region's existing and planned High-Occupancy Vehicle (HOV) and toll facilities to create a system of variably-priced lanes around the Capital Beltway and in each major transportation corridor.

Study Assumptions

- Variable tolls will be used on the lanes to prevent congestion. Occupancy requirements for all HOV lanes will be increased to at least three people or more, based on planning assumptions in the region's long-range plan.
- The variably priced facilities will be physically separated from the other lanes, where possible.

- Access and egress points will be primarily focused around the regional activity clusters[1].
- At least one variably priced lane will be provided in the peak direction.

Potential Facilities

The existing HOV system in the region, which is quite extensive, includes 190 HOV lane miles. The long-range transportation plan includes 195 additional miles of HOV facilities planned for 2030, for a total of 385 lane miles. Figure 3 shows the proposed regional variably-priced lanes scenario to be analyzed, and the index describes the limits of the facilities included. At least 250 additional variably priced lane miles, over and above the 385 HOV lane miles already planned, are included in this scenario to provide a total of at least 650 variably priced lane miles. Additional facilities could be included in this scenario, such as the George Washington Parkway, the Baltimore Washington Parkway and Rock Creek Parkway.

The scenario is being evaluated as a network of variably priced lanes, using regional measures of effectiveness, including:

- Land Use (includes measures of regional growth distribution and the percentage of regional households and jobs in the activity clusters)
- Vehicle Miles of Travel
- Travel Modal Shares
- Highway and Transit Congestion
- Highway and Transit Accessibility
- Air Quality

[1] COG and TPB adopted regional activity centers and clusters to help guide regional transportation planning decision-making, The 58 Centers are based on local government growth forecasts and categorized according to similar employment, residential, and growth pattern characteristics. The 24 Clusters tend to be groupings of Centers and are a more conceptual, stylized depiction of development than the Centers.

Figure 3: Proposed Regional Variably Priced Lane Scenario, 2030

Index to Figure 3: Proposed Variably Priced Lane Scenario, 2030

1. The entire Capital Beltway (I-495/I-95)
2. I-270 from I-70 to the Capital Beltway (I-495)
3. I-95 from the Capital Beltway (I-495) to the Baltimore Beltway
4. US Route 50 from the Chesapeake Bay Bridge to I-395
5. MD Route 5 from US 301 at MD Route 5 to I-495
6. The Intercounty Connector, Entire Length
7. I-295 from Capital Beltway to Anacostia Freeway
8. Anacostia Freeway/Kenilworth Avenue from I-295 to US Route 50
9. I-95 from Caroline / Spotsylvania County Line to Capital Beltway (I-495/I-95)
10. I-395 from the Capital Beltway (I-495/I-95) to I-295 and US Route 50
11. MD Route 4 from US 301 to I-495
12. MD Route 210 from MD 228 to I-495
13. US 301 from the Nice Bridge to US 50 (includes the proposed Waldorf Bypass)
14. I-66 from Warren / Fauquier County Line, over the Theodore Roosevelt Bridge, to Rock Creek Parkway to Independence Avenue, to Maine Avenue, SW to SE/SW Freeway
15. Dulles Toll Road (VA 267) from VA 28 to I-66
16. VA 28 from I-66 to VA 7
17. VA 7 from US Route 15 to the Dulles Toll Road
18. Fairfax County Parkway from I-66 to VA 7
19. Franconia-Springfield Parkway from Sydenstricker Road to Frontier Drive
20. Braddock Road from Burke Lake Road to I-95

Note: DDOT has requested that all D.C. river crossings be included in the scenario. In addition to the bridges part of the segments listed above, the following bridges are included:

- Chain Bridge
- Key Bridge
- Memorial Bridge
- South Capitol Street Bridge (Frederick Douglass Bridge)
- Pennsylvania Avenue Bridge (John Phillip Sousa Bridge)
- East Capitol Street Bridge (Whitney Young Memorial Bridge)
- Benning Road Bridge

MAJOR TASKS

The study includes five major tasks, listed below. Each task will be guided by the goals set by the TPB Value Pricing Task force, shown in Figure 2.

Task 1

- Examine corridors in the regional network to identify how specific segments of the regional system are performing, such as the Capital Beltway, existing Potomac River crossings, and major radial corridors.
- Examine traffic volumes, congestion levels, transit use, forecast revenues and air quality emissions to identify the highest potential corridors based on the regional goals for a system of variably priced lanes.
- Examine potential corridors not tested as part of the RMAS, such as the George Washington, Baltimore Washington and Rock Creek Parkways.

Task 2

- Apply the regional model and conduct sensitivity analysis to investigate the potential demand, revenue and costs, the viability of transit (including possible transit operating assumptions and direct access ramps) and changes in land use activity for *specific corridors* identified in Task 1.
- Examine connectivity to the regional core and activity centers. Suggest a phasing of corridors for variably priced facilities, possibly a network for 2010, 2020 and 2030, and policy options for vehicle eligibility.

Task 3

- Analyze the corridors examined in Task 2 as a regional network. This Phase 1 regional network will be analyzed for financially feasibility and with the RMAS measures of effectiveness (MOEs).

Task 4

- Examine ways of identifying regional impacts of pricing projects on low-income and minority populations. Forecast changes in travel times, accessibility, transit use and travel characteristics from the Census data could be used to look at potential regional impacts.

Task 5

- Document the results from each task in a final report.

On-Going Tasks

- The TPB Value Pricing Task Force will be updated and asked for input at each major stage in the study and/or at each task force meeting. The task force has meetings scheduled bi-monthly throughout the study period, November 2006 – September 2007.

- The Joint Technical Working Group (JTWG) for the Regional Mobility and Accessibility Study will be briefed on the study progress and results at each of its monthly meetings.

STUDY STRUCTURE AND TIMELINE

Oversight

The study is being guided by the TPB Value Pricing Task Force and the regional goals for a system of variably priced lanes adopted by the task force. The Federal Highway Administration at the U.S. DOT is participating in the oversight provided by the task force. The Joint Technical Working Group (JTWG) which oversees the RMAS will provide input and comment on the value pricing study as it proceeds. This means that elected officials and policy and technical level staff from the departments of transportation in Northern Virginia, Suburban Maryland, and the District of Columbia as well as the Washington Metropolitan Area Transit Authority (WMATA) will play an active role in guiding the study and interpreting the results.

Study Staffing and Cost

It is anticipated that TPB staff will conduct the majority of the work. Consultant support and expertise will be utilized as necessary. The budget established for this value pricing study is $300,000 ($240,000 Federal, $60,000 state/local).

Timeline: October 2006 to September 2007

The estimated time to complete the study is 1 year. Figure 5 below provides a timeline and estimated costs for completing the tasks in the study.

Figure 4: Study Timeline and Budget

Task	2006			2007								
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Task 1: Examine high potential corridors for variably priced lanes.												
Estimated Cost: $100,000												
Task 2: Identify potential toll revenues, costs, transit viablity and land use activity changes for specific high potential corridors.												
Estimated Cost: $100,000												
Task 3: Analyze high potential corridors as a Phase 1 regional network.												
Estimated Cost: $50,000												
Task 4: Identify how potential impacts on low-income and minority populations could be identified.												
Estimated Cost: $40,000												
Task 5: Develop a study report with major findings.												
Estimated Cost: $10,000												
Update and Gather Input from the Value Pricing Task Force												
Brief the Joint Techncial Working Group												
Estimated Total Cost: $300,000												
Federal: $240,000 State/Local: $60,000												

ADDITIONAL INFORMATION

Preliminary Estimates of Social and Economic Effects

This pre-project planning study will examine ways of identifying regional impacts of pricing projects on low-income and minority populations as described in Task 4. Forecast changes in travel times, accessibility, transit use and travel characteristics from the Census data will be used to look at potential regional impacts.

In order to identify potential social and economic effects, this study will employ the method used to examine the potential impact of the Financially Constrained Long-Range Transportation Plan (CLRP) on low-income, minority and disabled population groups. Benefits and burdens of the plan are measured in terms of accessibility to jobs by transit and by automobile.

Role of Alternative Modes

Transit and carpooling are an integral part of this study because they are an integral part of the adopted goals for a regional system of variably-priced lanes, listed in Figure 3 on page 7. The goals were developed so that the system can *"work together as a multi-modal system, while addressing the special policy and operational issues raised by the multi-jurisdictional nature of this area."*

Several tasks in the study described earlier include analysis of vehicle eligibility policies (such as carpools), transit usage and viability. The study is examining potential corridors for value pricing, including estimation of the demand, possible revenues and costs, analysis of corridor level land use changes and the viability of transit. The study will review possible transit operating assumptions and direct access ramps for the potential corridors. Policy options for vehicle eligibility, such as hybrids and commercial vehicles, will be also examined.

Plans for Monitoring and Evaluation

This is a study of a regional network of variably-priced lanes, not a plan for implementation. As a regular part of the TPB planning process, congestion is monitored via freeway and arterial surveys. As pricing projects become closer to implementation, the TPB evaluates the projects as part of a system for air quality impacts and financial constraint through the long-range planning process.

Detailed Finance and Revenue Plan

Since this is a study, it does not include a detailed finance and revenue plan. The study will examine the forecast demand, revenue, costs and transit viability for variably-priced facilities in high potential corridors and how these compare across the regional network, as stated in Task 1.

Plans for Involving Key Affected Parties

Elected officials and policy and technical level staff from the departments of transportation in Northern Virginia, Suburban Maryland, and the District of Columbia as well as the Washington Metropolitan Area Transit Authority (WMATA) play an active role in guiding the study and interpreting the results. The study is guided by the TPB Value Pricing Task Force and the regional goals for a system of variably priced lanes adopted by the task force. The Federal Highway Administration at the U.S. DOT participates in the oversight provided by the task force. The Joint Technical Working Group (JTWG) which oversees the RMAS will provide input and comment on the value pricing study as it proceeds.

Plans for Meeting Legal and Administrative Requirements

As stated earlier, this value pricing study will allow the Washington region to evaluate the potential performance of a regional network of variably-priced lanes. Legal and administrative requirements will be addressed as value pricing projects considered in the study move towards implementation.