

# AN ASSESSMENT OF REGIONAL INITIATIVES FOR THE NATIONAL CAPITAL REGION

## Executive Summary

Technical Report on Phase II of the TPB Long-Range Plan Task Force

December 2017



National Capital Region  
**Transportation Planning Board**

**EXECUTIVE SUMMARY: AN ASSESSMENT OF REGIONAL INITIATIVES FOR THE NATIONAL CAPITAL REGION:  
TECHNICAL REPORT ON PHASE II OF THE TPB LONG-RANGE PLAN TASK FORCE**

Prepared on behalf of the Long-Range Plan Task Force for the Transportation Planning Board  
December 2017

**ABOUT THE TPB**

The National Capital Region Transportation Planning Board (TPB) is the federally designated metropolitan planning organization (MPO) for metropolitan Washington. It is responsible for developing and carrying out a continuing, cooperative, and comprehensive transportation planning process in the metropolitan area. Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia and the District of Columbia, 23 local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and nonvoting members from the Metropolitan Washington Airports Authority and federal agencies. The TPB is staffed by the Department of Transportation Planning at the Metropolitan Washington Council of Governments (COG).

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# EXECUTIVE SUMMARY

## Background

The National Capital Region Transportation Planning Board (TPB) oversees the development of a fiscally constrained Long-Range Transportation Plan (CLRP) for the Washington, D.C. region. The CLRP identifies the regionally-significant capital improvements to the region's highway and transit systems that are funded and will be implemented by area transportation agencies over the next 20 years. The TPB is also responsible for evaluating the plan to ensure its compliance with national air quality standards and to evaluate how well it performs with respect to pre-defined policy goals and objectives.

The most recent evaluations of the CLRP have shown that the region's current highway congestion and transit crowding will continue to intensify into the future. The region will experience a 23% increase in population (1.2 million added people) and a 29% increase in employment (940 thousand added jobs) over the next 25 years. In contrast, the existing CLRP provides only for a 7% increase in roadway capacity for the same period. Consequently, regional roadway congestion, as expressed in vehicle hours of delay (VHD), is forecasted to increase by 74% between 2016 and 2040. There are other predicted measures that suggest progress is being made towards TPB policy goals: the plan provides for a 26% increase in miles of high-capacity transit service, the market share of non-motorized and transit modes is expected to increase, and vehicle-miles traveled per capita is expected to edge downwards. The magnitude and extent of these desired changes, however, will not be enough to offset degrading highway service.

The modest increase in planned highway capacity expansion is due largely to limitations in funding for transportation improvements. The 2016 CLRP assumes that approximately \$250 billion in funding will be available to support the CLRP, but most (83%) of that funding will be dedicated to system maintenance and operating costs, leaving only 17% (\$42 billion) for highway and transit system expansions. The TPB has recognized that this level of capital funding over the planning horizon is insufficient for adequately addressing current and future mobility needs.

The TPB's Vision document outlines a set of policy goals, objectives and strategies aimed to guide the region's transportation system investments and development. Based on these goals, the TPB approved a policy guide known as the Regional Transportation Priorities Plan in January 2014 to identify current priorities and call upon the region to implement common-sense strategies to improve mobility and accessibility in our region. That call for action prompted many board members to begin thinking beyond the financial restrictions of the existing CLRP and to explore new and creative options to effectively improve the performance of our region's future transportation system. Discussions on how to develop a consensus-based approach for developing new strategies led to the formation of a special working group and a three-phase work plan to be implemented over the 2016-2017 period:

- **Phase I: Develop a Baseline Report**  
This phase occurred during 2015 and 2016 and focused on an analysis of three future (2040) alternative scenarios:

- No-Build – Included only those projects that were on the ground in 2015. It included none of the capital improvements in the current CLRP (as of 2015).
- Planned-Build – Included planned projects to be built and implemented between 2015 and 2040 that are included in the current CLRP (as of 2015).
- All-Build – Included all of the unfunded capital improvements (above and beyond what was already included in the CLRP) inventoried by the TPB, in addition to projects included in the Planned-Build Scenario.

The Phase I study was useful for providing a “book-end” analysis of the future system’s performance under varying system improvement assumptions. The study was especially valuable for demonstrating that the attempt to simply “build our way out” of our congestion problem, in the face of prevailing levels of congestion together with the expected growth, will not be viable. The cost of doing so would be too high. The All-Build scenario included about 500 additional highway and transit projects beyond the CLRP at a preliminary estimated cost of \$100B. Additionally, the All-Build analysis showed that future highway congestion would be considerably less than that in the Planned-Build scenario yet still be worse than current conditions. The scenario analysis also underscored the importance of supplementing any proposed system expansions with supporting policies, pricing mechanisms and land development patterns.

- **Phase II: Identify a Set of Unfunded Regional Priority Initiatives**

This phase was undertaken during the 2016-2017 period by a TPB-appointed task force. The task force was charged with building on Phase I work and all previous TPB scenario analysis to identify approximately 6-10 projects, policies, or programs (initiatives) to determine if they make significantly better progress towards achieving the goals laid out in TPB and COG’s governing documents.

- **Phase III: Incorporate Unfunded Regional Priority Initiatives into the Region’s Long-Range Plan and Promote Implementation**

This phase would involve the initiatives from Phase II included as unfunded initiatives in the next quadrennial update of the region’s long-range transportation plan, now known as Visualize 2045. Additionally, the five TPB-endorsed initiatives would be identified as the aspirational element of the region’s long-range transportation plan with the goal of ultimately including these into future updates of the fiscally constrained element of the plan.

The Phase II activities were overseen by the Long-Range Plan Task Force, an 18-member group made up of TPB members plus representative from two other TPB committees. The task force was supported by TPB staff and a consultant team headed by ICF International.

## Study Objective

TPB Resolution R16-2017, adopted March 15, 2017, directed the Long-Range Plan Task Force to identify a limited set (6-10) of projects, policies, or programs that would have the potential to improve the performance of the region’s transportation system and to make substantive progress towards achieving the goals laid out in TPB’s and the Metropolitan Washington Council of Government’s (COG’s) governing documents.

The task force’s charge was to formulate a set of projects, policies and/or programs that could improve the future performance of the region’s transportation system. The task force decided to

explore ideas in theory, without regard to immediate implementation hurdles such as funding or public support. This approach provided the task force with an opportunity to think creatively about novel ideas that have potential and could benefit from further analysis. Because of the short timeline of this work effort, initiatives were studied at a broad sketch-planning level of analysis to obtain an “order of magnitude” estimate of the potential difference in performance relative to the CLRP. Additionally, the sketch-planning nature of the analysis meant that the initiatives studied were intended to point to conceptual ideas for the region to explore as opposed to providing analysis on highly detailed projects, policies or programs. The task force would ultimately present the results to the TPB in December 2017, with a recommendation to endorse some of the initiatives for “future concerted action.”

## Study Process

The process for identifying a limited set of transportation solutions involved a series of task force meetings and the use of “sketch-planning” analysis methods available to meet an extremely aggressive project schedule. The task force undertook the following procedural steps:

- 1. Review of Regional Planning Information:** The task force first reviewed planning and policy goals from TPB and COG governing documents which guide long-range planning activities in the region. From those existing goals, the task force agreed upon their own set of goals to guide their activity. The task force was briefed on the latest land-use and transportation forecasts, as well as a summary of the highlights and lessons learned from prior scenario analyses conducted by TPB and other regional bodies.
- 2. Establishment of Regional Challenges and Performance Measures:** The task force reviewed a list of challenges that the region faces in achieving its adopted policy goals, drawn from the Regional Transportation Priorities Plan. The task force adjusted the challenges to fit the purpose of their work and agreed that the 14 challenges would frame the conversation on proposed projects, programs and policies. The task force also agreed on a set of performance measures (measures of effectiveness or MOEs) that could be used to gauge how well each initiative performed against the regional challenges.
- 3. Development and Consolidation of Transportation Improvements:** The task force dedicated several meetings for discussing and compiling transportation improvement ideas in the form of projects, programs and policies. Through structured facilitation and discussion, over 80 improvement ideas were ultimately narrowed down to ten “initiatives” or synergistic combinations of projects, policies and/or programs targeting a unifying theme and that go above and beyond what is contained in the current 2040 CLRP. The ten initiatives identified for evaluation by the task force fall into three major categories: 1) multimodal, 2) transit-focused and 3) policy focused initiatives. Table E1 provides detailed descriptions of each initiative. The assumptions associated with these ten initiatives are generally aggressive and broad in scope, reflecting the desire to explore concepts that could have a demonstrated regional impact on system performance. The initiatives build upon previously-identified concepts and are not constrained by local plans and projects.
- 4. Technical Analysis of the Initiatives:** Sketch-planning techniques were employed by TPB staff and the ICF consultant team. Results were shared with the task force, showing each initiative’s performance on the performance measures at a regional scale compared to the performance of the 2040 CLRP. To determine how well each initiative addressed the list of

14 challenges, each initiative was assessed on a qualitative scale of High, Medium, Low, Neutral or Negative, compared to the 2040 CLRP.

5. **Final Selection of Initiatives to Recommend for TPB Endorsement:** The task force discussed the results of the technical analysis and conducted a voting process to identify which of the ten initiatives would be advanced to the TPB for its endorsement. The five initiatives recommended to the TPB were those securing support from at least two-thirds of the task force members.

## UNDERLYING ASSUMPTIONS FOR THE TEN INITIATIVES

While the ten initiatives could provide for substantial improvements to the region's transportation system, the task force stressed that the success of any or all initiatives would be dependent upon pre-requisite conditions or assumptions. These assumptions include:

- **State of Good Repair.** The initiatives assume that Metrorail, other transit services, and all highway and bridge infrastructure are in a state of good repair. The task force recognized that a state of good repair for transportation infrastructure is critical to the performance of the transportation system and an underlying foundation that must be supported prior to implementing any new infrastructure-based initiatives.
- **Supportive Land-Use Policies.** The initiatives assume that land-use policies will support the significant new infrastructure investments. Specific land-use changes in the region, i.e. changes in where land activity growth will occur beyond the year 2025, were assumed for some alternatives.
- **Improvements in Bicycle and Pedestrian Infrastructure.** Some of the initiatives assume that transit investments will be supported by improvements in bike/walk accessibility to access those transit services.
- **Bold Assumptions to Achieve Regional Improvements on the Challenges.** These initiatives are intended to go above and beyond the CLRP to show whether it is worthwhile for the region to invest in projects, programs, and policies such as those contained in these initiatives. To demonstrate the full potential of each initiative, bold assumptions were used to ensure improvements would be detected at the regional level of analysis.

**Table E1: Initiative Components**

| Multimodal Initiatives                                 |  |
|--|--|
| <b>1. Regional Express Travel Network</b>              | <ul style="list-style-type: none"> <li>Express toll lanes network (free to HOV and transit vehicles) with added lanes where feasible on existing limited access highways (including remaining portion of the Capital Beltway, I-270, Dulles Toll Road, U.S. 50); includes expanded American Legion Bridge.</li> <li>New express bus services on network (paid in part through tolls) connecting major Activity Centers.</li> </ul>   |
| <b>2. Operational Improvements and Hotspot Relief</b>  | <ul style="list-style-type: none"> <li>Application of technology and enhanced system operations strategies, such as ramp metering, active traffic management, and integrated corridor management (including transit signal priority and enhanced multimodal travel information), plus targeted capacity enhancements where feasible to address top regional congestion hotspots and adjoining connections.</li> <li>Improved roadway design (such as treatments of turning movements) and reversible lanes on major roadways, as appropriate (to be identified based on strong directional flows).</li> <li>Expanded regional incident management where appropriate.</li> <li>Technological integration of demand-responsive services for persons with disabilities and others with limited mobility to create efficiencies of scale and improve mobility of traditionally underserved populations.</li> </ul> |
| <b>3. Additional Northern Bridge Crossing/Corridor</b> | <ul style="list-style-type: none"> <li>New northern bridge crossing of Potomac River, as a multimodal corridor between the Intercounty Connector and Northern Virginia.</li> <li>New express bus services connecting existing Activity Centers in this new multimodal corridor.</li> </ul>   |
| Transit-Focused Initiatives                            |  |
| <b>4. Regionwide Bus Rapid Transit and Transitways</b> | <ul style="list-style-type: none"> <li>Bus rapid transit (BRT)/transitway networks in Montgomery County, Prince George’s County, Northern Virginia (TransAction 2040), Washington D.C., and transitway from Branch Ave to Waldorf; specifications according to jurisdiction plans.</li> <li>Additional D.C. streetcar line (north-south) as complement to network.</li> <li>Improved bicycle and pedestrian connections and access improvements to transit stations.</li> </ul>  |
| <b>5. Regional Commuter Rail Enhancements</b>          | <ul style="list-style-type: none"> <li>VRE System Plan 2040, MARC Growth and Investment Plan (including run-thru and two-way service on selected lines, increased frequency and hours of service).<sup>1</sup></li> <li>Long Bridge corridor improvements including at least four tracks and bicycle-pedestrian facilities.</li> <li>Improved bicycle and pedestrian connections and access improvements to rail stations.</li> </ul>  |

<sup>1</sup> Both the Virginia Railway Express (VRE) and Maryland Area Regional Commuter Train Service (MARC) have planned system and service improvements that are scheduled to be implemented by the year 2040. More details on these plans and how they overlap with this initiative can be found in Appendix C.

| <b>Transit-Focused Initiatives (Continued)</b>               |  |
|--|--|
| <b>6. Metrorail Regional Core Capacity Improvements</b>      | <ul style="list-style-type: none"> <li>• 100% 8-car trains.</li> <li>• Metrorail station improvements at high-volume stations in system core.</li> <li>• Second Rosslyn station to reduce interlining and increase frequency.</li> <li>• New Metrorail core line to add capacity across Potomac River (new Rosslyn tunnel) between Virginia and D.C. through Georgetown to Union Station toward Waterfront.</li> <li>• Improved bicycle and pedestrian connections and access improvements to rail stations.</li> </ul>                  |
| <b>7. Transit Rail Extensions</b>                            | <ul style="list-style-type: none"> <li>• Metrorail extensions to Centreville/Gainesville, Hybla Valley /Potomac Mills.</li> <li>• Can consider an extension(s) in MD, such as to National Harbor or north of Shady Grove (to be defined later).</li> <li>• Purple line extension to Tysons (west) and Eisenhower Avenue (east).</li> <li>• Improved bicycle and pedestrian connections and access improvements to rail stations.</li> </ul>  |
| <b>Policy-Focused Initiatives</b>                            |  |
| <b>8. Optimize Regional Land-Use Balance</b>                 | <ul style="list-style-type: none"> <li>• Optimize jobs/housing balance regionwide.</li> <li>• Increase jobs and housing around underutilized rail stations and Activity Centers with high-capacity transit.</li> <li>• Build more housing in the region to match employment (about 130,000 more households) and reduce the number of long distance commuters outside of the region.</li> </ul>   |
| <b>9. Transit Fare Policy Changes</b>                        | <ul style="list-style-type: none"> <li>• Reduced price Metrorail fare for off-peak direction during peak period and on underutilized segments.</li> <li>• Free transit for low-income residents.</li> </ul>  |
| <b>10. Amplified Employer-Based Travel Demand Management</b> | <p>New policies (e.g., employer trip reduction requirements) and programs (e.g., financial incentives) implemented at the local and regional scale to significantly reduce single-occupancy vehicle commute trip making, including:</p> <ul style="list-style-type: none"> <li>• Employer-based parking cash-out</li> <li>• Expanded employer-based transit/vanpool benefits</li> <li>• Expanded telework and flexible schedule adoption</li> <li>• Substantial increase in priced commuter parking in major Activity Centers</li> </ul> |

## Study Results

A technical analysis was undertaken for each of the ten initiatives. The analysis was used to arrive at regional measures of effectiveness (MOEs) which compared the regional performance of each initiative to the performance of the 2016 CLRP for the year 2040. The consultant team devised a method by which the quantitative measures could be related to each of the 14 challenges identified by the task force. This method allowed for the creation of a more user-friendly summary of results, shown as Table E2.

Table E2 presents a qualitative assessment summary that shows how each initiative performs relative to the 2040 CLRP with respect to each of the 14 challenges. The table relates initiatives to the challenges in terms of either positively improving the CLRP's performance (High, Medium, Low), having no effect on the CLRP's performance (Neutral) or worsening the CLRP's performance (Negative). For example, at the top left of Table E2, it is indicated that the Express Travel Network initiative will result in a "Medium" (or moderate) improvement in regional roadway congestion, relative to the CLRP's performance. Given the wide range of challenges relating to transportation performance, land development, repair needs, safety and environmental concerns, it is not surprising to note that any single initiative does not respond positively to all challenges. The table does provide the reader with a general sense of how the initiatives respond to the policy concerns of the TPB through a qualitative assessment.

A more detailed quantitative assessment of initiatives, developed from the technical analysis, is shown in Table E3. Table E3 presents the baseline MOEs for the 2040 CLRP and shows the percentage change in each MOE for each initiative relative to the baseline. For example, at the top left of the table, it is indicated that the average Single Occupant Vehicle (SOV) travel time of the Express Travel Network initiative will decrease (or improve) by 2%. The color coding provides a visual aid for more easily interpreting the quantitative results: light green to dark green indicates moderate to substantial improvement while orange indicates degradation in performance, compared to the baseline.

The task force reviewed the technical analysis and discussed the results in detail. Not surprisingly, many task force members requested more detailed information from the analysis team. The analysis team compiled responses to the task force questions and shared them with the members for their consideration in preparing their recommendations. While the team addressed most of the questions asked, the regional focus and technical methods used in the study would not support expeditious answers to some of the important questions pertaining to sub-area analyses.

**Table E2: Summary of Performance Across Challenges Relative to 2040 CLRP**

|                                   | BASE      | I1                     | I2  | I3                    | I4                  | I5            | I6                      | I7                      | I8                                 | I9                          | I10                      |
|-----------------------------------|-----------|------------------------|---|-----------------------|---------------------|---------------|-------------------------|-------------------------|------------------------------------|-----------------------------|--------------------------|
| CHALLENGES                        | 2040 CLRP | Express Travel Network | Operational Improvements & Hotspot Relief | Add'l Northern Bridge | BRT and Transitways | Commuter Rail | Metrorail Core Capacity | Transit Rail Extensions | Optimize Regional Land-Use Balance | Transit Fare Policy Changes | Travel Demand Management |
| Road Congestion                   | ↑         | Medium                 | Medium                                    | Low                   | Low                 | Low           | Medium                  | Low                     | High                               | Low                         | High                     |
| Transit Crowding                  |           | Neutral                | Neutral                                   | Neutral               | Neutral             | Neutral       | High                    | Negative                | Negative                           | Negative                    | Medium                   |
| Inadequate Bus Service            |           | Medium                 | Neutral                                   | Neutral               | High                | Neutral       | Neutral                 | Low                     | Neutral                            | Neutral                     | Neutral                  |
| Access to Bike/Ped                |           | Neutral                | Neutral                                   | Neutral               | Medium              | Low           | Medium                  | Medium                  | High                               | Neutral                     | Neutral                  |
| Development around Metrorail      |           | Neutral                | Neutral                                   | Neutral               | Medium              | Neutral       | Low                     | High                    | High                               | Neutral                     | Neutral                  |
| Housing & Job Location            |           | Neutral                | Neutral                                   | Neutral               | Medium              | Neutral       | Neutral                 | Medium                  | High                               | Neutral                     | Neutral                  |
| Metrorail Repair Needs            | BASELINE  | Neutral                | Neutral                                   | Neutral               | Neutral             | Neutral       | Negative                | Negative                | Neutral                            | Neutral                     | Neutral                  |
| Roadway Repair Needs              | BASELINE  | Negative               | Negative                                  | Negative              | Neutral             | Neutral       | Neutral                 | Neutral                 | Neutral                            | Neutral                     | Neutral                  |
| Incidents and Safety              | ↓         | Low                    | Low                                       | Low                   | Low                 | Low           | Low                     | Low                     | Medium                             | Low                         | High                     |
| Pedestrian & Bicyclist Safety     |           | Neutral                | Negative                                  | Neutral               | Neutral             | Low           | Low                     | Low                     | Low                                | Neutral                     | Low                      |
| Environmental Quality             |           | Neutral                | Low                                       | Negative              | Neutral             | Neutral       | Low                     | Low                     | Medium                             | Low                         | High                     |
| Open Space Development            |           | Neutral                | Neutral                                   | Negative              | Neutral             | Neutral       | Neutral                 | Neutral                 | Medium                             | Neutral                     | Neutral                  |
| Bottlenecks                       |           | Medium                 | Medium                                    | Low                   | Neutral             | Neutral       | Medium                  | Neutral                 | Medium                             | Low                         | High                     |
| Reliable Access to Intercity Hubs | ↓         | High                   | Low                                       | Low                   | Low                 | Low           | Medium                  | Medium                  | Low                                | Neutral                     | Low                      |

**KEY:** High Medium Low Neutral Negative

Source: Analyses performed by COG, ICF, Sabra Wang (SWA), Fehr & Peers (F&P), and Shapiro Transportation Consulting (STC).

**Table E3: Summary of Performance Across Quantitative MOEs Relative to 2040 CLRP**

| QUANTITATIVE MEASURES OF EFFECTIVENESS                  | BASE           | I1                     | I2   | I3                 | I4                  | I5            | I6                      | I7                      | I8                        | I9                          | I10                      |
|---|----------------|------------------------|--|--------------------|---------------------|---------------|-------------------------|-------------------------|---------------------------|-----------------------------|--------------------------|
|   | 2040 CLRP      | Express Travel Network | Operational Improvements & Hot Spot Relief | Add'l North Bridge | BRT and Transitways | Commuter Rail | Metrorail Core Capacity | Transit Rail Extensions | Regional Land-Use Balance | Transit Fare Policy Changes | Travel Demand Management |
| Travel Time (SOV)                                       | 50.7           | -2%                    | -4%  | 0%                 | -1%                 | -1%           | -2%                     | -1%                     | -5%                       | 0%                          | -4%                      |
| Travel Time (HOV)                                       | 58.9           | -5%                    | -4%  | -1%                | -1%                 | -1%           | -1%                     | -1%                     | -6%                       | <1%                         | -6%                      |
| Travel Time (Transit)                                   | 53.9           | -1%                    | -2%  | -                  | -1%                 | <1%           | -6%                     | - <1%                   | -5%                       | 1%                          | <1%                      |
| Daily Vehicle Hours of Delay                            | 1.85 million   | -11%                   | -8%  | -3%                | -2%                 | -2%           | -9%                     | -3%                     | -18%                      | -2%                         | -24%                     |
| Jobs Accessible by Transit                              | 523,000        | 2%                     | 2%   | -                  | 4%                  | 1%            | 19%                     | 10%                     | 10%                       | 0%                          | 0%                       |
| Jobs Accessible by Auto                                 | 876,000        | 5%                     | 8%   | 1%                 | 1%                  | <1%           | 2%                      | 1%                      | 10%                       | <1%                         | 10%                      |
| Mode Share: SOV   | 58.1%          | <1%                    | 3%   | <1%                | -1%                 | -1%           | -4%                     | -1%                     | -2%                       | <1%                         | -8%*                     |
| Mode Share: HOV   | 11.6%          | -1%                    | -7%  | 0%                 | -1%                 | -1%           | -5%                     | -3%                     | -4%                       | -2%                         | 24%*                     |
| Mode Share: Transit                                     | 24.6%          | 1%                     | -4%  | -                  | 4%                  | 2%            | 11%                     | 5%                      | <1%                       | 2%                          | 6%*                      |
| Mode Share: Non-Motorized                               | 5.6%           | 0%                     | 0%   | 0%                 | <1%                 | <1%           | <1%                     | <1%                     | 29%                       | 0%                          | 16%*                     |
| Travel on Reliable Modes**                              | 11.5%          | 42%                    | -5%  | -2%                | 6%                  | 2%            | 9%                      | 6%                      | 0%                        | 3%                          | -3%                      |
| VMT daily   | 141.91 million | <1%                    | 2%   | 1%                 | - <1%               | - <1%         | -1%                     | -1%                     | -3%                       | -1%                         | -6%                      |
| VMT daily per capita                                    | 21.17          | <1%                    | 2%   | 1%                 | - <1%               | - <1%         | -1%                     | -1%                     | -6%                       | -1%                         | -6%                      |
| Share of Households in Zones with High-Capacity Transit | 39.9%          | 0%                     | 0%   | -                  | 25%                 | <1%           | <1%                     | 17%                     | 9%                        | 0%                          | 0%                       |
| Share of Jobs in Zones with High-Capacity Transit       | 57.7%          | 0%                     | 0%   | -                  | 15%                 | <1%           | 0%                      | 13%                     | 2%                        | 0%                          | 0%                       |
| VOC Emissions   | 18.9           | 0%                     | -3%  | 1%                 | -1%                 | 0%            | -2%                     | -1%                     | -4%                       | -1%                         | -8%                      |
| NOx Emissions   | 18.8           | 0%                     | 0%   | 1%                 | 0%                  | 0%            | -2%                     | -1%                     | -4%                       | -1%                         | -7%                      |
| CO <sub>2</sub> Emissions                               | 47,082         | 0%                     | -1%  | 1%                 | -1%                 | 0%            | -2%                     | -1%                     | -4%                       | -1%                         | -7%                      |

\* Mode shares reflect trips taken. Due to telework, actual number of transit trips declines; bicycle/pedestrian stays flat; HOV increases slightly.

\*\*Travel on reliable modes reflects the percentage of passenger miles on express lanes, Metrorail, bus rapid transit, commuter rail, walking, and biking; it does not reflect improvements in reliability due to reduced traffic congestion or programs that affect non-recurring delay, such as improved incident management.

Source: Analyses performed by COG, ICF, Sabra Wang (SWA), Fehr & Peers (F&P), and Shapiro Transportation Consulting (STC).

## Findings and Observations

The objective of the Long-Range Plan Task Force and the Phase II analysis was to identify 6-10 projects, programs and/or policies that would improve the performance of the existing CLRP and increase the region's overall mobility and accessibility. The task force approached this objective building off a central theme that was established from the Phase I work: There is no single project, program or policy solution to the transportation challenges faced in our region. Each of the ten initiatives advanced by the task force for technical analysis represented a careful combination of projects, programs or policies that will work most effectively only if implemented together.

The analysis enabled the task force to gauge the strengths and weaknesses of each initiative with respect to challenges. In this regard, the analysis underscored that while some alternatives offer greater opportunities for reducing congestion over others, there are no clear "winners" or "losers" with respect to all challenges identified. The initiatives can be further understood and explored by viewing them in the context of larger societal goals, such as economic prosperity, environmental sustainability, community development, social equity and quality of life.

### LONG-RANGE PLAN TASK FORCE RECOMMENDATION TO TPB

On December 6, 2017, the task force agreed to advance five of the ten initiatives to the TPB for its endorsement for future concerted TPB action:

- Initiative 1: Express Travel Network
- Initiative 4: Regionwide Bus Rapid Transit and Transitways
- Initiative 6: Metrorail Regional Core Capacity Improvements
- Initiative 8: Optimize Land-Use Balance
- Initiative 10: Amplified Employer-Based Travel Demand Management

More details about these five initiatives are provided below.

#### Initiative 1: Express Travel Network

This initiative involves expanding the existing tolled express lane system on the Capital Beltway and I-95 in Virginia to most limited-access highways in the region. The expanded system would also support new express bus service connecting Activity Centers, increasing the region's share of people who use transit. This initiative would reduce average highway times and vehicle hours of delay measurably without a large increase in vehicle miles traveled. The expanded express lane system would provide more reliable travel options to more of the region's residents.

#### Initiative 4: Regionwide Bus Rapid Transit and Transitways

This initiative represents an expansion of bus rapid transit (BRT) and streetcar systems mainly located in the regional core and inner suburbs, along with bicycle and pedestrian access improvements to these transit stations. This initiative would increase the availability of reliable transit options and promote increased job accessibility via transit. The region's challenge of inadequate bus service is addressed by this initiative, as it would provide increased and more reliable service on many of the region's heavily travelled arterial corridors. The BRT expansion continues the investments and plans that are already in motion in Montgomery County and Fairfax

County. BRT encompasses many of the reliability benefits offered by heavy rail, but without the capital cost requirements of heavy rail.

### **Initiative 6: Metrorail Regional Core Capacity Improvements**

This initiative would ensure 100% 8-car trains, while substantially improving the Metrorail system's infrastructure (expanding high-volume stations, and adding a second Rosslyn station and a new tunnel to increase service frequency). It would substantially reduce vehicle hours of delay and would substantially increase accessibility to jobs via transit given that the improvement serves travel to the job-rich downtown core of the region. The analysis indicated that the share of people regionwide who take transit would be notably increased. This initiative enhances the investment already committed towards one of the nation's premiere heavy rail systems.

### **Initiative 8: Optimize Land-Use Balance**

This initiative explored increasing the overall number of households in our region and reallocating future job and household growth occurring between 2025 and 2040 from areas outside the region's Activity Centers to underutilized Metrorail station areas and Activity Centers served by high-capacity transit. This reallocation of future growth improves jobs-to-households ratios regionally, reducing imbalanced commuter flows in the region, which underlie many congestion problems during the peak period. The addition of households to our region, in turn, would reduce the level of long-distance in-commuting to the Washington region from outside. This initiative yielded the second largest reduction in vehicle hours of delay while substantially increasing both highway and transit accessibility to jobs, and also provided the largest increase in non-motorized travel.

### **Initiative 10: Amplified Employer-Based Travel Demand Management**

This initiative would encourage region-wide workplace programs and policies to reduce single-occupant vehicle commuting. These programs would include employer-based parking cash-out, expanded transit and carpooling benefits, a large increase in telecommuting, and allowing for increased flexible schedule options. This initiative also increases parking costs in Activity Centers throughout the region for work trips. Because of the reduction in commuter demand due to the increase of telecommuting, this initiative yielded the largest reduction in VMT and in vehicle hours of delay of all the initiatives analyzed. It also produced substantial increases in the number of jobs accessible by auto. The reduction in mobile-source emissions offered by this initiative was also the largest of all the initiatives.

**For the full report or more information about the Long-Range Plan Task Force visit [mwcog.org/LRPTF](http://mwcog.org/LRPTF).**



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