Regional Transportation Priorities Plan

For the National Capital Region

DRAFT – For Review

July 24, 2013

The National Capital Region Transportation Planning Board **(TPB)**
The Metropolitan Washington Council of Governments **(MWCOG)**

TPB National Capital Region Transportation Planning Board

Table of Contents

EXECUTIVE SUMMARY

The Regional Transportation Priorities Plan is designed to advance regional goals for economic opportunity, environmental stewardship, and quality of life. Building upon the region's successes and learning from its shortcomings, the Plan is intended to generate consensus around key actions that people from all corners of the region can get behind.

The Plan identifies key transportation strategies that are recognized throughout the region as offering the greatest potential contributions to addressing continuing regional challenges. Ultimately, the Plan will support efforts to incorporate those strategies into future updates of the region's Constrained Long-Range Transportation Plan (CLRP).

Background: The Metropolitan Washington Region and the TPB

The metropolitan Washington region is the area where most of us live, work, shop, and play. The region includes the District of Columbia plus parts of Maryland and Virginia. The entire area is approximately 3,000 square miles in size.

Within this region, there are more than 5.1 million people and 3.2 million jobs in hundreds of communities linked together by a system of roads, transit lines, and bicycle and pedestrian paths. Both population and employment in the region are expected to continue growing over the coming decades. Between 2010 and 2040, the population is expected to increase by 24 percent to 6.4 million people, while employment is expected to increase by 36 percent to 4.4 million jobs.

The Transportation Planning Board (TPB)

The National Capital Region Transportation Planning Board (TPB) is the federally designated Metropolitan Planning Organization (MPO) for the region, and plays an important role as the regional forum for transportation planning. The TPB is responsible for carrying out a continuing, cooperative, and comprehensive planning process for regional transportation planning in the District of Columbia, Northern Virginia, and Suburban Maryland. The TPB prepares plans and programs that must receive federal approval in order for federal-aid transportation funds to flow to the Washington region.

Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia, the District of Columbia, local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and non-voting members from the Metropolitan Washington Airports Authority and federal agencies.

The TPB Vision

Adopted by the TPB in 1998, the *Vision* provides a set of goals, objectives, and strategies to help the region develop the transportation system it needs to promote economic development, environmental protection, and a high quality of life. The following six goals derived from the *TPB Vision* provide a foundation for the Regional Transportation Priorities Plan process:

- Provide a Comprehensive Range of Transportation Options for Everyone
- Promote a Strong Regional Economy, Including a Healthy Regional Core and Dynamic Regional Activity Centers
- Ensure Adequate Maintenance, Preservation, and Safety of the Existing System
- Maximize Operational Effectiveness and Safety of the Transportation System
- Enhance Environmental Quality, and Protect Natural and Cultural Resources
- Support International and Inter-regional Travel and Commerce

The Financially Constrained Long-Range Transportation Plan (CLRP)

The CLRP identifies regionally significant transportation projects and programs that are planned in the Washington metropolitan area through 2040. A key feature of the CLRP is that it must be financially constrained: the plan includes only those projects that the region can afford to build, maintain, and operate with revenues that are reasonably expected to be available in the future. By definition, the CLRP may not include projects that are not anticipated to be funded – even if those projects are considered priorities by the region's jurisdictions.

More than 750 projects are included in the CLRP, ranging from simple highway landscaping to billion-dollar highway and transit projects. The projects and programs that go into the plan are developed cooperatively by governmental bodies and agencies represented on the TPB. Some of the projects will be completed in the near future, while others are in the initial planning stages and are scheduled for completion over the longer term.

Developing the Regional Transportation Priorities Plan

The concept of a priorities plan has its roots in more than a decade of TPB planning, including the establishment of regional goals through the *TPB Vision,* analysis of transportation and land-use scenarios using the adopted CLRP as a baseline, and various studies of the region's transportation funding challenges. In recent years, the TPB has extensively discussed how these activities might be applied to defining priorities for improving the regional transportation system.

The ultimate purpose of the Regional Transportation Priorities Plan (RTPP) is to highlight priorities that should be funded and included in the region's Constrained Long-Range Transportation Plan (CLRP). Because projects cannot be part of the CLRP if funding is not anticipated and because the TPB has little direct control over funding, the actual implementation of priorities, in most cases, will occur at the state and local levels.

The term "regional" is used throughout this document to refer to the National Capital Region. While many worthwhile transportation strategies are developed in response to state, sub-regional or local

challenges, not all of these strategies will contribute significantly to addressing regional challenges. Similarly, some strategies for providing facilities and services across regional or jurisdictional boundaries, such as adding "missing links" in the bicycle trail network, for example, may contribute significantly to addressing regional challenges while not being the highest priority for addressing individual state, sub-regional, or local challenges.

The timing of the RTPP report for the beginning of FY 2014 is designed to ensure that the results of the regional transportation priorities plan are available for consideration in the development of the next four year update of the TPB's Constrained Long Range Plan (CLRP), due at the end of the calendar year 2014. As with the CLRP, the priorities plan should be revisited and updated on a periodic basis to reflect changes in the CLRP baseline, new land use developments and forecasts, and new challenges which will occur as new policy issues arise over time.

Challenges and Strategies

The region's Financially-Constrained Long-Range Transportation Plan (CLRP) identifies regionally significant transportation projects and programs planned in the Washington metropolitan area through 2040. When coupled with accompanying forecasts of land use patterns through 2040, the CLRP provides a baseline of information that can be used to assess the challenges our region continues to face in achieving our adopted regional goals. This document reviews each of the six TPB Vision goals in turn, summarizing "where we are now and where we are headed" under the assumptions and forecasts contained in the CLRP, and characterizing the most significant challenges the region faces in achieving each of the six goals.

This document also outlines a set of regional strategies, each designed to address one or more of the challenges. The strategies are presented in three distinct categories corresponding to the time frame over which they would be implemented: near term (could be completed in one to five years), ongoing (should be conducted on a continuing basis), and long-term (would take several years to accomplish). We briefly describe each strategy ("what we should do"), and we present the case for pursuing the strategy ("why we should do it") in terms of the potential benefits relative to the costs.

A major focus of the RTPP work effort has been on communicating the goals, challenges and strategies to representative groups of the public in the region, and seeking their comments and responses. A citizens forum was held on June 2, 2012, in which the non-profit public outreach organization America Speaks facilitated an in-person discussion of the goals, challenges, and strategies. The discussion was conducted with 41 people selected to constitute a fairly representative sample of the region in terms of home jurisdiction, race and ethnicity, gender, and other important characteristics. Based on the information obtained at this citizens forum, a web-based survey was designed to solicit input on the goals, challenges, and strategies from a representative sample of 660 people from throughout the region using Metro Quest public engagement software. The survey was designed to be visually engaging and educational, and was conducted between April and July of 2013.

Setting Regional Priorities

The results of the web-based survey provide a valuable starting point for assessing the challenges facing the region and prioritizing the strategies that offer the greatest potential for addressing them. Public response to pilot testing of the web-based survey and to the full regional survey of 660 residents suggested that members of the public understood the descriptions of goals, challenges, and strategies

presented to them, and provided meaningful responses to the questions asked. The survey results describe how a representative sample of how the region's residents rank the relative importance of the challenges and strategies presented.

The four challenges that were identified by survey respondents as the most significant region-wide were, in order: transit crowding, Metro repair needs, roadway congestion, and roadway repair needs. Perhaps the most striking finding was that transit crowding was identified as the most significant regional challenge overall among respondents in all three sub-regional areas (regional core, inner suburbs, and outer suburbs) and across users of all modes of transportation (except that transit users identified roadway congestion as slightly more significant). Further, Metro repair needs was identified as a top challenge by residents throughout the region and by users of all modes.

A review of the goals and challenges, the strategies and the results of the web-based public opinion survey suggests that the strategies can be grouped into three priority categories, as follows:

Priority One: Strategies that Address Metro and Highway Repair Needs

Priority Two: Strategies that Address Transit Crowding and Roadway Congestion

Priority Three: Strategies that Address Other Significant Challenges

Priority One: Strategies that Address Metro and Highway Repair Needs

Metro and highway repair needs are addressed by just two specific strategies: Metro maintenance and highway maintenance. Implementation of these strategies is the responsibility of the transportation agencies that own and operate the region's transit and highway facilities, and are accomplished through adequate funding of and management by those agencies.

A new focus on "state of good repair" of transit and highway facilities was signed into law on July 6 of 2012 in the form of a two-year reauthorization of the federal surface transportation program entitled "Moving Ahead for Progress in the 21st Century (MAP-21)." State transportation agencies, federally assisted transit agencies, and metropolitan planning organizations (MPOs) like the TPB will be required under this new law to adopt a performance-based planning and programming approach to addressing state of good repair of transit and highway facilities. These new MAP-21 requirements provide an excellent opportunity for the TPB, the state transportation agencies, and the region's transit agencies to significantly increase the region's focus and attention on this first category of strategies dealing with Metro and highway repair needs. As work begins throughout the region to develop a major four-year update to the CLRP in 2014, Metro and highway maintenance should be given the highest priority in program development and allocation of funding.

Priority Two: Strategies that Address Transit Crowding and Roadway Congestion

Transit crowding and roadway congestion are addressed by a number of different strategies that can and should be applied in combination. Some of these strategies are concerned with the supply side of the transit and roadway systems: Metro and highway maintenance as discussed under Priority One; near-term roadway improvements to alleviate bottlenecks; ongoing roadway management and efficiency programs to smooth traffic flow and minimize delays; and long-term investments in increased

capacity of the rail and bus network, including eight-car Metro trains, station enhancements, and bus rapid transit on express toll lanes. Other strategies are concerned with the demand side: near-term commute alternative programs and long-term concentration of more growth in mixed-use activity centers that can be served efficiently by high capacity rail and bus transit and that will promote more bicycling and walking in place of vehicle trips.

An integrated approach incorporating both supply and demand side strategies needs to be taken to addressing the twin challenges of transit crowding and roadway congestion. Neither supply side nor demand side strategies should be adopted in isolation; only the effective integration of both supply and demand side strategies can produce significant long-term improvements in travel conditions throughout the region. And on the supply side, a multi-modal approach is essential. The top ranking ascribed to the transit crowding challenge by survey respondents across the region and by users of all transportation modes, many of whom are probably infrequent users of the transit system, demonstrates that the public recognizes and appreciates the inter-connected nature of the roadway, transit, pedestrian, and bikeway systems. For the system to function well overall, all of the component parts must function well.

Priority Three: Strategies that Address Other Significant Challenges

The web-based survey results rated all of the regional challenges identified in the survey as being significant issues standing in the way of achieving our regional goals. The top four challenges of transit crowding, Metro repair needs, roadway congestion, and roadway repair needs and the strategies that address them have been grouped and address above as Priority One and Priority Two recommendations for the Regional Transportation Priorities Plan. The other challenges and the strategies that address them are presented as Priority Three recommendations: significant issues and drawing strong support, but receiving lower levels of support than the Priority One and Priority Two categories.

The relatively lower levels of support for strategies in this category may reflect the fact that they tend to be focused on challenges that are less apparent to the regional community as a whole. Nevertheless, meeting the mobility needs of people with disabilities, providing bus priority, expanding bicycle infrastructure, encouraging alternative fuel vehicles, and updating and enforcing traffic laws to make roadways safer for all users all received significant support in the survey, and all deserve continuing attention in the regional transportation planning process.

Other Considerations Addressed in the Web-based Survey

The web-based survey included three additional polling questions designed to assess the public's views about the following topics: confidence in transportation agencies; the importance of public information campaigns; and potential opposition to higher density development near transit stations. The responses to these questions suggest that implementation of the priority strategies discussed above should: provide sufficient transparency to inspire confidence in the actions of the implementing agencies; make maximum use of public information campaigns; and provide opportunities for involvement of all affected parties when high density development is being considered.

Next Steps

The Regional Transportation Priorities Plan (RTPP) is designed to highlight challenges that the Washington region continues to face in achieving its regional transportation goals. The timing of this RTPP document provides an opportunity for the region's decision-makers to consider the three categories of priorities as part of the next four year update of the TPB's Constrained Long Range Plan (CLRP), due at the end of calendar year 2014.

Strategies that address Metro and highway repair needs deserve the highest priority in program development and allocation of funding. An integrated package of demand and supply side strategies that address transit crowding and highway congestion should also be considered a high priority, including alternative commute programs; more concentrated land use in mixed use activity centers that support bicycling and walking; increased capacity of the bus and rail network; roadway capacity and management improvements; and bus rapid transit on express toll lanes. Ongoing strategies to improve transportation for limited mobility groups, provide buses with priority treatments on roadways, and update traffic laws also need to be addressed, as well as near-term incentives for alternative fuel vehicles and improvements in bicycle infrastructure.

Finally, some key process strategies are recommended: provide sufficient transparency to inspire confidence that agencies are making good use of the resources available to them; make maximum use of public information campaigns to raise public awareness about key transportation issues; and provide opportunities for involvement of all affected parties when high density development is being considered near transit stations throughout the region.

CHAPTER 1
INTRODUCTION AND PURPOSE

The Regional Transportation Priorities Plan is designed to advance regional goals for economic opportunity, environmental stewardship, and quality of life. Building upon the region's successes and learning from its shortcomings, the Plan is intended to generate consensus around key actions that people from all corners of the region can get behind.

The Plan identifies key transportation strategies that are recognized throughout the region as offering the greatest potential contributions to addressing continuing regional challenges. Ultimately, the Plan will support efforts to incorporate those strategies into future updates of the region's Constrained Long-Range Transportation Plan (CLRP).

Background: The Metropolitan Washington Region and the TPB

The metropolitan Washington region is the area where most of us live, work, shop, and play. The region includes the District of Columbia plus parts of Maryland and Virginia. The entire area is approximately 3,000 square miles in size.

Within this region, there are more than 5.1 million people and 3.2 million jobs in hundreds of communities linked together by a system of roads, transit lines, and bicycle and pedestrian paths. Both population and employment in the region are expected to continue growing over the coming decades. Between 2010 and 2040, the population is expected to increase by 24 percent to 6.4 million people, while employment is expected to increase by 36 percent to 4.4 million jobs.

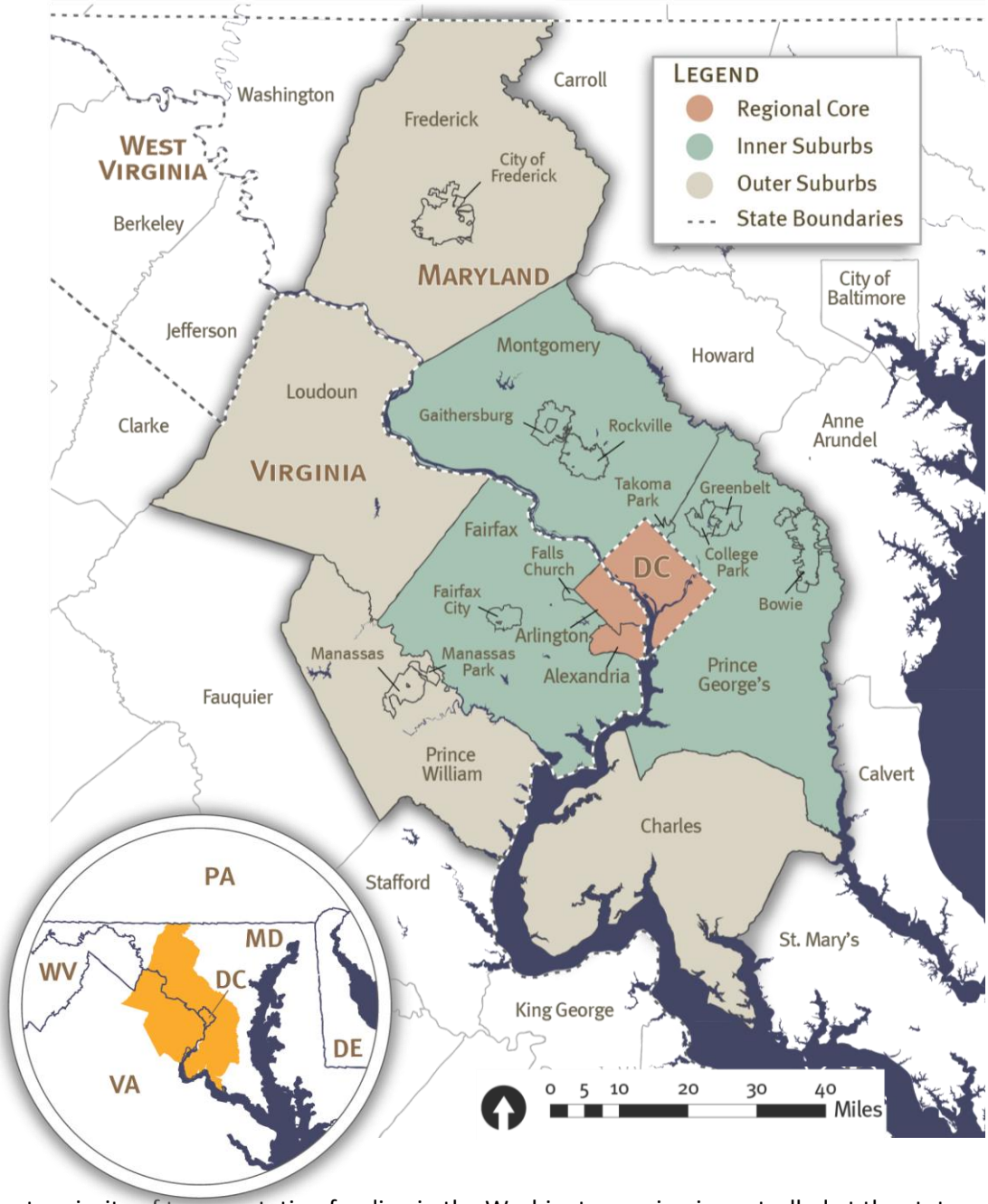
Population and jobs are not evenly distributed throughout the region; inner jurisdictions have the greatest numbers of jobs and housing, but outer jurisdictions are experiencing the most rapid growth. As the region grows to accommodate more people and jobs, greater demand will be placed on the transportation system. Competition for funds will continue to be difficult, including for rehabilitation and maintenance of existing roadway and transit systems.

The Transportation Planning Board (TPB)

The National Capital Region Transportation Planning Board (TPB) is the federally designated Metropolitan Planning Organization (MPO) for the region, and plays an important role as the regional forum for transportation planning. The TPB is responsible for carrying out a continuing, cooperative, and comprehensive planning process for regional transportation planning in the District of Columbia, Northern Virginia, and Suburban Maryland. The TPB prepares plans and programs that must receive federal approval in order for federal-aid transportation funds to flow to the Washington region.

Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia, the District of Columbia, local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and non-voting members from the Metropolitan Washington Airports Authority and federal agencies.

The TPB Planning Area:



The vast majority of transportation funding in the Washington region is controlled at the state and local levels. Although the TPB has crafted and supported some regional programs (e.g., the commuter Connections Program and the Metropolitan Area Transportation Operations Coordination –MATOC – Program), most of the project selection and funding decisions reflected in the region's transportation plans and programs are made by the TPB's member agencies and jurisdictions.

The TPB Vision, *Region Forward*, and Economy Forward

Adopted by the TPB in 1998, the *Vision* provides a set of goals, objectives, and strategies to help the region develop the transportation system it needs to promote economic development, environmental protection, and a high quality of life. It is shaped by the following Vision Statement:

> *In the 21st Century, the Washington metropolitan region remains a vibrant world capital, with a transportation system that provides efficient movement of people and goods. This system promotes the region's economy and environmental quality, and operates in an attractive and safe setting – it is a system that serves everyone. The system is fiscally sustainable, promotes areas of concentrated growth, manages both demand and capacity, employs the best technology, and joins rail, roadway, bus, air, water, pedestrian and bicycle facilities into a fully interconnected network.*

The *Vision* also includes six broad transportation-planning goals that provide policy guidance to shape the region's transportation investments. Identifying challenges – that is, the obstacles and shortcomings – in realizing these goals shows us where we must focus and prioritize our efforts. By developing a list of priorities that address regional challenges, we will make important strides toward improving our regional transportation system.

The following six goals derived from the *TPB Vision* provide a foundation for the Regional Transportation Priorities Plan process:

- Provide a Comprehensive Range of Transportation Options for Everyone
- Promote a Strong Regional Economy, Including a Healthy Regional Core and Dynamic Regional Activity Centers
- Ensure Adequate Maintenance, Preservation, and Safety of the Existing System
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Region Forward is a document that was approved in 2010 by the Board of Directors of the Metropolitan Washington Council of Governments (COG) following a two-year development process. It includes goals, targets, and a compact agreement to guide future planning and help measure progress in the areas of housing, transportation, the environment, health and the economy. The goals and targets relate to accessibility, sustainability, prosperity and livability. By the end of 2010, all of COG's member jurisdictions had signed the regional compact established in *Region Forward.*

Region Forward explicitly builds upon past planning activities. According to the final report, "rather than launch a new visioning process that could take several years, the Coalition's challenge was to tie together earlier work in a comprehensive way." For transportation, the primary building block for *Region Forward* was the TPB Vision. However, unlike the TPB Vision, *Region Forward* is multi-sectoral, covering a range of issues such as education and public safety. *Region Forward* includes transportation components, largely focused on promoting alternative modes, which are a subset of goals from the TPB Vision.

In September of 2012, the COG Board of Directors approved Economy Forward, an off shoot of *Region Forward* that focuses on the Washington region's key economic needs, and specific actions that are required to strengthen economic competitiveness and spur and sustain job growth. The TPB's Regional Transportation Priorities Plan is one of the key initiatives identified by the COG Board in the recommendations section of the Economy Forward document.

The Financially Constrained Long-Range Transportation Plan (CLRP)

The CLRP identifies regionally significant transportation projects and programs that are planned in the Washington metropolitan area through 2040. A key feature of the CLRP is that it must be financially constrained: the plan includes only those projects that the region can afford to build, maintain, and operate with revenues that are reasonably expected to be available in the future. By definition, the CLRP may not include projects that are not anticipated to be funded – even if those projects are considered priorities by the region's jurisdictions.

More than 750 projects are included in the CLRP, ranging from simple highway landscaping to billion-dollar highway and transit projects. The projects and programs that go into the plan are developed cooperatively by governmental bodies and agencies represented on the TPB. Some of the projects will be completed in the near future, while others are in the initial planning stages and are scheduled for completion over the longer term. Because the CLRP includes only what we realistically expect to be built by 2040, it provides a baseline for assessing challenges our region faces in achieving our regional transportation goals.

Developing the Regional Transportation Priorities Plan

The concept of a priorities plan has its roots in more than a decade of TPB planning, including the establishment of regional goals through the *TPB Vision* and *Region Forward*, analysis of transportation and land-use scenarios using the adopted CLRP as a baseline, and various studies of the region's transportation funding challenges. In recent years, the TPB has extensively discussed how these activities might be applied to defining priorities for improving the regional transportation system.

The ultimate purpose of the Regional Transportation Priorities Plan (RTPP) is to highlight priorities that should be funded and included in the region's Constrained Long-Range Transportation Plan (CLRP). Because projects cannot be part of the CLRP if funding is not anticipated and because the TPB has little direct control over funding, the actual implementation of priorities, in most cases, will occur at the state and local levels.

The term "regional" is used throughout this document to refer to the National Capital Region. While many worthwhile transportation strategies are developed in response to state, sub-regional or local challenges, not all of these strategies will contribute significantly to addressing regional challenges. Similarly, some strategies for providing facilities and services across regional or jurisdictional boundaries, such as adding "missing links" in the bicycle trail network, for example, may contribute significantly to addressing regional challenges while not being the highest priority for addressing individual state, sub-regional, or local challenges.

In general, the implementation of regional priorities will mean that additional funding must be identified to include new projects in the CLRP. In some cases, however, the region's jurisdictions could choose to

fund these regional priorities by reallocating funding currently assigned to projects in the CLRP that are deemed to be of relatively lower priority.

The timing of the RTPP report for the beginning of FY 2014 is designed to ensure that the results of the regional transportation priorities plan are available for consideration in the development of the next four year update of the TPB's Constrained Long Range Plan (CLRP), due at the end of the calendar year 2014. As with the CLRP, the priorities plan should be revisited and updated on a periodic basis to reflect changes in the CLRP baseline, new land use developments and forecasts, and new challenges which will occur as new policy issues arise over time.

Getting Started

On May 26, 2010 the TPB hosted an event called the *Conversation on Setting Regional Transportation Priorities*, which addressed the possibilities for more explicitly establishing regional priorities. The impetus for that event was a request by the TPB's Citizens Advisory Committee (CAC) for the TPB to develop a "Regional Priorities Plan" that would serve as a financially *unconstrained* regional vision for transportation operations and investment.

The Conversation generated broad interest among TPB stakeholders in developing a priorities plan. As a result, on July 21, 2010, the TPB voted to form a task force to determine the scope and process for developing such a plan. The task force included approximately 20 stakeholders in the TPB process – members of the TPB, CAC, Access for All Committee and the Technical Committee. All task force members were participants in the Conversation. Between October 2010 and April 2011 the TPB Priorities Plan Scoping Task Force met four times and discussed planning processes and activities in the region, reasons for enhancing the current process, and options for change. At its first meeting, the task force also learned about the priorities planning activities of other Metropolitan Planning Organizations (MPOs) around the country.

RTPP Scope

On July 20, 2011, the TPB approved a work scope that had been developed through the TPB's Priorities Plan Scoping Task Force. The scope specified that the purpose of the RTPP was to identify transportation *strategies* that could be recognized throughout the region as offering the greatest potential contributions to addressing continuing regional challenges, and to provide support for efforts to incorporate those strategies into future updates of the CLRP in the form of specific programs and projects. The high priority strategies identified in the RTPP would also provide a source of specific programs and projects that could be advanced in response to particular discretionary funding opportunities, such as the federal TIGER grant program for which the TPB submitted a successful $59 million regional priority bus project application in September of 2009.

Building upon the region's successes and learning from its shortcomings, the process for developing this new plan would be designed to build consensus around key strategies that people from all corners of the region can get behind. The RTPP would outline long-range strategies for the region's transportation system, and would also identify more immediate strategies which the region should aggressively pursue in the near future. The scope indicated that both long-range and more immediate strategies would draw upon ongoing planning activities at the state, regional, sub-regional and local levels.

The scope specified that the RTPP would focus on identifying a limited number of regional priorities, perhaps ten to fifteen in total, in order to encourage concentrated regional efforts on addressing the most pressing regional challenges at the time.

The scope specified that public participation would be sought at every stage of the two-year process.

Public Outreach

Effective communication of the RTPP is essential for gathering public input on regional priorities. Accordingly, the major planning activities undertaken between January and July 2012 focused on how best to communicate RTPP concepts and materials. During this time, listening sessions and a citizens forum tested several approaches to communicating the RTPP to the public. These outreach events helped TPB staff to determine which formats were readily understood and meaningful to the general public, and which ones were not.

- *Listening Sessions*

  In January and February 2012, TPB staff convened five listening sessions with regional stakeholders and citizen representatives to solicit feedback on the initial set of RTPP challenges and strategies. The listening sessions were also intended to provide guidance and input on framing identified challenges for the public during subsequent outreach phases.

  Based upon these sessions, TPB staff determined that greater emphasis should be placed on the use of narrative text, simple charts, and pictures to describe challenges and potential strategies to address them. In general, listening session participants found the use of performance measures in the draft material to be too technical and they did not understand their significance for identifying regional challenges. Responding to this feedback, staff determined that a technically oriented planning approach for deriving priorities, based upon performance measurement, did not resonate with the public and should not provide the primary basis for the RTPP plan development.

  In addition, the listening sessions revealed that regional disaggregation of challenges would be necessary. While some challenges are best presented at the regional level (such as air quality), other challenges are more meaningful if shown in a more locally-specific form (such as congestion and access to jobs).

- *Citizen Deliberative Forum*

  TPB staff conducted a Citizens Forum on Saturday, June 2, 2012, to assess whether the RTPP's draft challenges and strategies were meaningful to the general public, and if there were any additional challenges or strategies that participants could suggest. Additionally, the forum sought to assess how best to communicate goals, challenges, and strategies to the general public.

  The format of the forum utilized a public outreach model called a deliberative forum. A deliberative forum allows citizens to learn about issues, share their thoughts via small group discussions and real-time polling, and hear from their peers. TPB staff contracted with America

Speaks, a non-profit public outreach organization that specializes in the deliberative forum format, to help design and facilitate the forum.

Participants were carefully selected to ensure a sample that was fairly representative of the region in terms of home jurisdiction, race and ethnicity, gender, and other important characteristics. A group of 50 participants was sought, and 41 people ultimately participated in the day-long forum. Participants were provided with a $100 stipend for their time.

Participants were given the opportunity to discuss the RTPP's draft challenges and strategies and vote on their significance. They also had a chance to generate and offer their own ideas about regional priorities. A combination of evaluation forms, keypad polling questions, and debrief meetings with discussion facilitators was used to gather input.

Regarding the content of the RTPP, participants at the forum identified some important new themes that were incorporated into the draft materials, including the importance of agency transparency and accountability to ensure that existing and any possible additional future funds are spent effectively. Participants also called attention to the importance of funding, noting that project costs and potential revenue mechanisms should be suggested for each strategy. Participants said they had difficulty in evaluating strategies without some information on how much they would cost and where funding might come from. Overall, the feedback suggested that the RTPP materials should use more simplified language, use examples whenever possible, and should provide explanations that are thorough but at an appropriate level of specificity.

Based upon feedback from the forum, staff refined its approach to the RTPP, which was reflected in the Interim Report that was presented to the TPB in July 2012.

- *Online Survey*

In a continuing effort to get input from a representative sample of the region's population, TPB staff conducted an online survey on regional transportation priorities in the spring of 2013. This survey used MetroQuest public engagement software, developed by the firm Envision Sustainability. The survey was designed to be visually engaging and educational. The web-based MetroQuest tool was used to solicit citizen input on potential components of the RTPP, and provide an apparatus for collecting and processing opinion data from a large segment of the region's residents.

A controlled sample of more than 600 people, who were each paid $25, took the survey between April and July. Findings from the survey, which will be used to inform the final recommendations of the RTPP, are described in Chapter 4 of this document.

CHAPTER 2:
GOALS AND CHALLENGES

The *TPB Vision*, developed collaboratively over several years in the late-1990s, paints a picture of what the region wants its transportation system to be like in the future. The *Vision* outlines six broad transportation-planning goals that provide policy guidance to shape the region's transportation investments. To identify the region's top transportation investment priorities, this plan identifies the top challenges that stand in the way of achieving our shared regional goals to help show us where we must focus and prioritize our efforts.

This chapter describes each of the six goal areas, where we are now, and where we're headed based on current planning and funding trajectories. Under each strategy, the top challenges in achieving the broader goals are spelled out, as they have identified in the process of developing the plan.

GOAL 1: PROVIDE A COMPREHENSIVE RANGE OF TRANSPORTATION OPTIONS

Having more transportation options to choose from makes it easier for people to find the travel mode that works best for them in meeting their daily needs. This includes providing options for driving, carpooling, vanpooling, taking transit, bicycling, and walking to reach one's destination.

Where are we now and where are we headed?

Our region has an extensive transportation network of roads, rail, bus routes, bike paths and pedestrian infrastructure that provides a range of choices for travelers. However, access to these options varies depending on where in the region you are and your physical, psychological, or financial ability to use them: public transit has a limited geographical reach, many neighborhoods are not bicycle and pedestrian friendly, and some modes of transportation are difficult for people with disabilities and low-income residents to use.

Regional data show that most daily trips in the region rely on the automobile, and forecasts indicate this will continue well into the future. Today, the highway system in metropolitan Washington ranks as one of the most congested in the country and conditions are only forecast to get worse. Population and employment growth will cause rising demand on the region's roads to outpace increases in supply, leading to a significant increase in congestion through 2040.

Many residents in the region have little choice but to endure this congestion to get to work, school, or other important destinations. Though we have a robust public transit system, it suffers from issues of crowding and limited coverage and reliability. The Metrorail system is already operating at close to capacity during peak hours in certain areas of the region and will continue to get more crowded as the region grows. Though Metrobus and other local and express bus services provide another option for many travelers, not everyone lives within close proximity to a bus stop and many routes have limited frequencies. Currently, 55% of the region's population lives within a quarter-mile of bus transit.

People with disabilities and older adults are highly reliant on transit stations and paratransit services that can accommodate travelers with limited mobility or hearing or visual impairments. Unfortunately, the region's transit stations do not all have such accommodations and current public paratransit services have limited coverage and reliability. In addition, those with limited incomes face barriers to accessing transportation options because of rising public transit fares and a lack of adequate financial resources to purchase a personal vehicle.

To achieve our goal of providing transportation options for all individuals, improvements to all modes are needed. This includes both maintenance and expansion of the current systems and programs and services that guarantee that all residents can fulfill their mobility needs regardless income, age, ability, ethnicity, or language spoken.

Most Significant Challenges:

Roadway Congestion **(G1C1)**
The region's roadways are among the most congested in the nation, making it harder for people and goods to get where they need to go.

Transit Crowding **(G1C2)**
The Metrorail system currently experiences crowding during peak hours and lacks the capacity to support future population and employment growth.

Inadequate Bus Service **(G1C3)**
Existing bus service is too limited in its coverage, frequency, and reliability, making transit a less viable option, especially for people with disabilities and limited incomes.

Unsafe Walking and Biking **(G1C4)**
Too few people have access to safe pedestrian and bicycle infrastructure or live in areas where walking and bicycling are not practical options for reaching nearby destinations.

GOAL 2: PROMOTE A STRONG REGIONAL ECONOMY, INCLUDING A HEALTHY REGIONAL CORE AND DYNAMIC ACTIVITY CENTERS

Our region's economy is supported largely by the economic activity that occurs in major housing and jobs centers, known as Activity Centers. Strengthening these areas, including the regional core, and connecting them with good transportation options bolsters the economy, allows us to grow and use land more wisely, and creates numerous opportunities to move people and goods more efficiently.

Where are we now and where are we headed?

The region has several examples of successful Activity Centers, including the NoMa neighborhood in the District of Columbia, Silver Spring in Maryland, and Rosslyn in Virginia. Better coordinating transportation and land-use elsewhere in the region could lead to greater opportunity to achieve similar successes in more places.

Many activity centers currently lack access to high-capacity public transit - Metrorail, Bus Rapid Transit, commuter rail, or light rail. About seven in ten Activity Centers are currently served by high capacity transit or will be by 2040 thanks to planned investments like the Purple Line in Maryland and the Silver Line in Virginia. Some Metrorail stations serve areas that are not currently Activity Centers and represent unrealized opportunities to strengthen the regional economy and gain greater efficiency by attracting higher-density development nearby.

Data collected by the TPB shows that transit, bicycling, and walking rates are significantly higher in locations with high-quality transit and supportive bicycling and walking facilities. For example, in the Metro- accessible, pedestrian- and bicycle-friendly neighborhoods of Logan Circle in the District and Crystal City in Virginia, automobile trips only account for about 25 percent of all trips, compared to Largo, Maryland, or Reston, Virginia, where 80 to 90 percent of trips are taken in automobiles. Higher rates of non-automotive travel means less congestion, more options, and improved air quality, but many Activity Centers currently lack the necessary pedestrian and bicycle infrastructure to support this kind of non-automotive, short-distance circulation.

Though we are making progress, there still remain many unrealized opportunities to coordinate land-use and transportation in more efficient ways, and to improve the jobs and housing balance in the region's Activity Centers.

Most Significant Challenges

Development around Metrorail **(G2C1)**
Too many Metrorail stations, especially on the eastern side of the region, are surrounded by undeveloped or underdeveloped land, limiting the number of people who can live or work close to transit and leaving unused capacity in reverse-commute directions on several lines.

Housing and Job Location **(G2C2)**
Most housing, especially affordable housing, and many of the region's jobs are located in areas outside of activity centers where transit, bicycling, and walking are not safe and viable options.

GOAL 3: ENSURE ADEQUATE SYSTEM MAINTENANCE, PRESERVATION, AND SAFETY

Keeping the region's extensive transportation system in a state of good repair is crucial to ensuring reliability and safety. Maintaining existing infrastructure as repairs are needed can result in better system performance and significant savings in the long run.

Where are we now and where are we headed?

The region is currently giving priority to operations and maintenance of the existing system over expansion. Of the nearly $223 billion in transportation expenditures expected between 2011 and 2040, approximately 70 percent of the funds – or about $163 billion – will go just to operating and maintaining the existing and planned system. Another 23 percent will go toward system preservation efforts – new railcars and buses to replace old ones, road reconstruction, and replacement of aging bridges. Just 7 percent – or about $16 billion – will be spent on expanding the system and adding capacity. These capacity expansions will not be able to keep pace with rising demand over the coming years. And traditional revenue streams – especially taxes on motor fuels, as the fuel-efficiency of vehicles continues to rise – will increasingly fall short of helping us meet our growing needs.

On Metro, unreliable escalators and unscheduled delays caused by rail or railcar malfunctions have become a major regional concern. Roadways, too, suffer from potholes, crumbling pavement, and deficient bridges in some locations. These problems are the direct result of deferred maintenance, a result mainly of inadequate financial resources.

We have approved stop-gap measures to address Metrorail maintenance, but we have not found a long-term solution to Metro's maintenance needs. In response to calls for more funding for maintenance and rehabilitation of the Metrorail system, Congress in 2008 passed the Passenger Rail Investment and Improvement Act (PRIIA), which with 50 percent matching funds from the three states provides $3 billion in funding over ten years for Metro's rehabilitation needs. The agreement is set to expire in 2020, and currently there is nothing in place to ensure this level of funding is continued. As a result, the Metrorail system may be unable to handle projected ridership growth, limiting the number of people who can use Metrorail and possibly forcing more people onto already crowded roadways.

As funding levels become less dependable, so does our ability to provide timely repairs and maintenance of our aging transit and roadway infrastructure. Paying for necessary maintenance is a continuing struggle that will only worsen over time if current funding trends continue.

Most Significant Challenges

Metrorail Repair Needs **(G3C1)**
Deferred Metrorail maintenance over the years has led to unreliability, delays, and safety concerns today, as well as higher maintenance costs.

Roadway Repair Needs **(G3C2)**
Older bridges and roads are deteriorating and in need of major rehabilitation to ensure safe, reliable, and comfortable travel for cars, trucks, and buses.

GOAL 4: MAXIMIZE OPERATIONAL EFFECTIVENESS AND SAFETY OF THE TRANSPORTATION SYSTEM

Maximizing system effectiveness and safety means utilizing available technologies, techniques, and programs to get the most out of the existing system. Rapid growth and limited financial resources make it especially important to maximize system efficiency.

Where are we now and where are we headed?

Jurisdictions throughout the region have been working hard to increase safety for users of all modes of transportation and to coordinate public information and messaging.

Over the past few years, safety on our roadways has been steadily increasing in part due to advances in vehicle safety technology and enhanced enforcement. According to data collected by the TPB, automobile driver and passenger fatalities have been steadily declining since the early 2000s, from 342 in 2002 to 194 in 2012. Over the same period of time, however, the number of pedestrian and bicyclist fatalities has remained relatively constant.

As anyone who drives or uses transit on a regular basis knows, accidents and weather can have impacts on the transportation system far from the scene of the problem. Though incidents cannot be avoided entirely, transportation officials are committed to improving incident management and information through the Metropolitan Area Transportation Operations Coordination (MATOC) program. Since its inception, MATOC has facilitated better transportation management by monitoring traffic and weather conditions and coordinating responses to highly disruptive incidents like severe weather and major accidents.

Transportation users today have access to new forms of technology that improve the overall user experience. Public and private entities are continuing to develop more and better resources that help users make more effective transportation decisions. Third-party smartphone applications, for example, allow users to access up-to-date arrival time information for their buses using data provided by regional transit agencies.

Public information programs have become an effective means to better manage how the region's residents interact with the transportation system. One successful example of this is the TPB's "Street Smart" campaign, a public information campaign that aims to reduce pedestrian and bicyclist injuries and deaths. Since it began in 2002, the campaign has used radio, newspaper, and transit advertising, and added law enforcement to remind motorists, pedestrians, and bicyclists about the region's traffic safety laws in an effort to reduce deadly collisions.

Though progress has been made, there is room for significant improvement. Safety measures need to be improved in order to continually reduce the number of injuries and fatalities system wide, and information, public messaging, and technology resources will continually need to be improved to better serve our residents.

Most Significant Challenges

Incidents **(G4C1)**
Major accidents and weather disruptions on roadways and transit systems cause severe delays and inconvenience.

Pedestrian and Bicyclist Safety **(G4C2)**
The number of bicycle and pedestrian fatalities each year is holding steady even as the number of vehicle fatalities has declined steadily.

GOAL 5: ENHANCE ENVIRONMENTAL QUALITY, AND PROTECT NATURAL AND CULTURAL RESOURCES

An effective transportation system needs to balance the mobility needs of a growing region with the potentially harmful effects that travel by car and other modes may have on the environment and the health of our residents.

Where are we now and where are we headed?

Jurisdictions regionwide have implemented a variety of transportation-, land-use-, and energy-related policies to protect and preserve environmental resources. Though these efforts have been helpful, there is much more that can be done to enhance environmental quality.

The region is currently making good progress toward meeting Environmental Protection Agency (EPA) standards on regional air quality. Emissions of harmful air pollutants and greenhouse gases from motor vehicles are forecast to decline steadily over the next 30 years as more stringent federal standards come into effect and cleaner vehicles come onto the market.

Hybrid and electric vehicle use is on the rise, which will also contribute to a reduction in emissions. Today there are more than 50,000 hybrid vehicles and approximately 500 electric vehicles on the road in the region. As these technologies become more cost effective they are likely to replace vehicles that rely on gasoline. The electric vehicle market has been slow to take off because of a simultaneous lack of supply and demand. A large number of electric vehicles will not be sold until consumers feel as though there is a sufficient charging infrastructure to support their purchase, and the recharging industry will not be able to build significant infrastructure until there are enough vehicles on the road to support the investment.

Transportation infrastructure also has effects on water quality and open space development. Many of the region's waterways continue to suffer from degradation, erosion, and pollution cause caused by stormwater runoff from roads and other infrastructure. In addition, transportation facilities often support development in previously un-developed parts of the region. Local and state governments have been putting programs in place to enhance and protect green space, recognizing the importance of preserving open space for farming, wildlife habitat, and recreation. Nevertheless, much of the farmland and open space remains open to development and is slowly decreasing as the region grows outward.

In order to meet our environmental goals, we need to continue to make efforts to meet and exceed clean air and clean water standards, increase the energy efficiency of our transportation modes, and support more stringent preservations programs to development of open spaces.

Most Significant Challenges

Environmental Quality **(G5C1)**
Increasing amounts of vehicle travel resulting from population and job growth could threaten the quality of our region's air and water.

Open Space Development **(GSC2)**
Wildlife habitat, farmland, and other open spaces are threatened by construction of new transportation facilities and land development.

GOAL 6: SUPPORT INTER-REGIONAL AND INTERNATIONAL TRAVEL AND COMMERCE

The region strives to be among the most accessible in the nation for international and inter-regional passenger and goods movement. Providing strong passenger and freight connections by air, highway, rail, and sea brings economic benefits to our region.

Where are we now and where are we headed?

The Washington region is among the fastest growing areas in the country, and this trend is forecast to continue through 2040. As we grow, our transportation system has to adapt to a constant influx of people and goods, and will to have to accommodate even more in the future.

Today the region's major airports support nearly 25 million outbound trips per year, and major growth in air traffic is forecast. More air passengers and cargo coming and going from the region will place greater demand on both the airports and the ground transportation system that supports travel to and from them.

Highway bottlenecks currently cause delays and unreliable travel times for people and goods. Based on congestion forecasts, these bottlenecks are expected to get worse, causing delays for those traveling in the region, traveling out of the region, or simply passing through.

Bottlenecks also have a negative effect on the trucking industry, which is a critical part of the region's economy. At present, trucks carry approximately 76 percent of goods to, from, and within the region. As our economy grows, so too will the number of trucks on the road delivering goods. The shipping industry will face longer traffic delays as bottlenecks and congestion worsen.

Freight rail is also a necessary element of our regional economy. Metropolitan Washington serves primarily as a through corridor for freight rail travelling along the East Coast, but major railroads are in need of infrastructure improvements. For example, CSX is working to rebuild the rail tunnel under Virginia Avenue SE in the District of Columbia because freight trains carrying double-stacked cargo containers are unable to use the 100-year-old tunnel, while single-stack trains that can use the tunnel must often queue at either end while they wait to use the tunnel's single track. Trains queuing at the western end of the tunnel interfere with Amtrak and Virginia Railway Express (VRE) passenger traffic leaving from or approaching Union Station.

To ensure that metropolitan Washington remains a global economic center, a world-class destination for tourists, and an attractive place for businesses to locate, we must make efforts to make travel to, from, and through the region as smooth as possible.

Most Significant Challenges

Bottlenecks **(G6C1)**
Bottlenecks on the highway and rail systems cause delays in inter-regional travel for both freight and passengers, hurting the region's economic competitiveness.

Travel Time Reliability (G6C2):
Travel times to and from the region's airports are becoming less reliable for people and goods movement.

CHAPTER 3:
STRATEGIES

There is no question that we face an uphill battle in achieving our region's long-term transportation goals. Limited resources combined with growing demand means our transportation system is strained and state, local, and regional transportation agencies are finding it more difficult to meet the region's needs. The 15 strategies outlined in this plan are intended to identify those strategies that offer the greatest potential to respond to our most significant transportation challenges and to help us realize the transportation future we envision for ourselves, our children, and for future generations.

The strategies that this plan identifies are divided into three categories, according to the timeframe by which they should be achieved:

- **Near-Term:** to be completed within the next 1 to 5 years
- **Ongoing:** will require continuing attention and investment over time
- **Long-Term:** to be completed within the next 10 to 30 years

Included in the following chapters are summaries of each of the strategies, outlining the key strategic elements we should pursue and why we should pursue them. The summaries also provide an estimate of the magnitude of the cost of implementing a given strategy.

In most cases, many state, local, and regional transportation agencies are already pursuing these strategies in one form or another. But we need to do more if our transportation system is to support growth and a strong economy, and to provide a high quality of life for future generations by ensuring economic opportunity and strengthening communities.

NEAR-TERM STRATEGIES

A number of strategies to pursue in the next 1 to 5 years are an important first step in overcoming some of our region's biggest transportation challenges and achieving our long-term transportation goals. Many of our state, local, and regional transportation agencies are already pursuing these strategies, but we need to ensure that those efforts can continue into the future.

The six near-term strategies described in greater detail below include, in no particular order:

- **Improve Access to Transit Stops and Stations (NT1)**
- **Alleviate Roadway Bottlenecks (NT2)**
- **Support and Promote Electric Vehicles (NT3)**
- **Promote Commute Alternatives (NT4)**
- **Expand Pedestrian Infrastructure (NT5)**
- **Expand Bicycle Infrastructure (NT6)**

IMPROVE ACCESS TO TRANSIT STOPS AND STATIONS (NT1)

What we should do

Make it easier and safer to get to bus stops and rail stations, especially by modes other than car, and make bus stops and areas around rail stations more comfortable and inviting.

- Build sidewalks and pedestrian crosswalks and/or overpasses that connect transit stops to nearby neighborhoods, commercial areas, and existing pedestrian infrastructure
- Connect bicycle paths to transit stops and provide ample bicycle parking
- Install protective shelters, curb ramps, and better lighting at or near stations
- Improve signage and wayfinding in and around transit stops to aid in locating the stop as well as nearby destinations reachable on foot or by bicycle
- Provide bike-share and car-share services at or near transit stops to make more destinations reachable by transit

How much it will cost

**$$**$$$

Tens of millions of dollars

Why we should do it

Increases transit ridership

One of the barriers to choosing transit as a travel mode is the inability of potential users to access rail stations and bus stops easily and safely. Physical access improvements, like sidewalk connections and bike lanes, help make transit a more attractive and practical travel option for those who live or work nearby. Protective bus shelters, curb ramps, and better lighting make riders feel safer and more comfortable. And improved signage and wayfinding can help users feel more confident in finding their way to transit stops and through the system. All of these things, together, can encourage more people to ride transit.

Physical access improvements also help connect transit stops to final destinations, which is equally important in making transit a viable transportation option. All transit trips are, by nature, multi-modal journeys. Upon arriving at a stop, one must walk, ride, or drive to a final destination, whether home, work, restaurants, shops, medical appointments, or recreational opportunities. Sidewalks and bicycle lanes that connect to nearby residential and commercial areas, signage to help people find their way to such areas, and additional services like bike-share and car-share can help people reach their final destination more easily and safely, effectively expanding the number of destinations accessible by transit.

Can catalyze development near transit stations

In addition to making transit more accessible for people who already live or work near it, physical access improvements can also catalyze new residential and commercial development near transit stations –

especially underutilized ones – increasing the number of people for whom transit is a convenient option. Sparking new development near underutilized stations, especially on the eastern side of the region, can make better use of the existing system by filling empty seats in reverse-commute directions on trains that are currently operating with plenty of available capacity.

Spurring more development near stations closer to the regional core can also help take greater advantage of the existing system by creating a better balance of housing and jobs in station areas, which can provide opportunities to "sell the same seat twice" – first to workers commuting to a mixed-use housing and jobs center, and second to people living in the center and boarding the train to commute further along the line.

CALLOUT BOX:
Financial analyses consistently show net positive benefits of physical access improvements to transit stations and stops compared to their costs. For example, a 2012 Transportation Planning Board analysis of several proposed access improvements included in an application for federal TIGER funding found that investing in these types of improvements leads to substantial travel time and travel cost savings, in addition to congestion, environmental, health and safety benefits that outweigh the costs of building and operating them.

ADDITIONAL RESOURCES (Consistently identified as a goal by agencies in our region):

- *TPB – TLC program was established in 2006 to help jurisdictions plan small improvements – such as pedestrian facilities, safety and access improvements, or multimodal concepts for intersections or streets – to make activity centers function more effectively as vibrant, mixed-use places.*
- *TPB – TCSP grant to identify strategic recommendations for bicycle and pedestrian access improvements using a complete street approach that will complement housing and employment development close to Metrorail and commuter rail stations.*
- *WMATA – Metrorail Bicycle and Pedestrian Access Improvements Study - identifies strategies to enhance pedestrian and bicycle access and connectivity in and around Metrorail Stations.*

ALLEVIATE ROADWAY BOTTLENECKS (NT2)

What we should do

Make targeted roadway improvements that provide congestion relief for drivers in key locations throughout the region.

- Install extra turn lanes, extend highway on- and off-ramps, and build new lanes where doing so is modest in cost and provides congestion relief that supports other regional goals

How much it will cost

**$$**$$$

Tens of millions of dollars

Why we should do it

Reduces unnecessary congestion and travel delay

Bottlenecks on existing roads can create unnecessary traffic back-ups and delays for drivers and the movement of goods, resulting in wasted time and fuel and diminished economic productivity. Improvements like new turn lanes, longer on- and off-ramps, and additional lanes in key locations can significantly reduce congestion and improve travel time reliability for drivers. And the benefits of relieving bottlenecks can multiply quickly when they affect large numbers of travelers or goods shipments.

A wise use of limited resources

Building significant new roadway capacity is expensive. In an era of limited funding, it's especially important to identify and make improvements that promise the greatest benefits and outcomes relative to their cost. That means we need to be smart in the way we evaluate and prioritize bottlenecks that deserve attention, focusing on improvements that will provide the greatest reductions in congestion and increases in travel time reliability, and that support other regional goals like economic development and more efficient land-use.

Already the region's state and local governments go to great lengths to monitor current travel conditions and forecast future demand to identify bottlenecks worthy of improvements. The TPB conducts an aerial traffic survey of area freeways every three years to identify the chokepoints where travelers experience the greatest delays. The TPB's Freight Subcommittee has also worked to identify bottlenecks that are essential for improving goods movement in the region. In Maryland, the key short-term improvement identified by the subcommittee is to increase capacity along a four-mile stretch of Interstate 70 in Frederick County. In Virginia, construction of a new exit ramp from eastbound Interstate 66 to northbound Interstate 495, which is currently underway, will relieve a major bottleneck for trucks at the interchange.

While we need to seek out smaller-scale, high-payoff projects, we also need to recognize that not all bottlenecks will be quick or low-cost fixes. The Woodrow Wilson Bridge replacement, which cost more than $2 billion, provided massive regional benefits, but took years to coordinate and complete.

Demonstrates public sector responsiveness

Alleviating bottlenecks is seen by the public as a basic, commonsense solution to the region's transportation problems, and projects that alleviate bottlenecks are often highly visible. Because of this, efforts by transportation agencies to alleviate bottlenecks can be a good way to increase the public's trust in the ability of government agencies to solve problems and provide real improvements in our daily lives. Such renewed confidence is good for public agencies, our quality of life, our collective faith in the future of the region, and for our prospects for economic prosperity.

SUPPORT AND PROMOTE ELECTRIC VEHICLES (NT3)

What we should do

Make electric vehicles more convenient to use and encourage more consumers and businesses to purchase such vehicles.

- Invest in a system of public-access electric vehicle recharging stations for vehicles that run on electricity
- Offer tax credits to private businesses that install recharging stations and make them available to employees, customers, or the general public
- Offer benefits, such as access to HOV lanes or priority parking, to owners of electric vehicles
- Pursue all-electric car fleets for car-sharing programs like Zipcar and Car2Go, and for public agencies and other organizations with vehicle fleets

How much it will cost

**$**$$$$

Millions of dollars

Why we should do it

Better for the environment

Burning petroleum-based fuels results in emissions of harmful pollutants and diminishes the region's air quality. In 2007 in the Washington region, motor vehicles were responsible for 55% of nitrogen oxide emissions and 16% of fine particle emissions – two pollutants that cause a range of respiratory ailments. Since electric vehicles do not burn petroleum-based fuels, they do not produce tailpipe emissions of such harmful pollutants and would contribute significantly to improved air quality.

Widespread adoption of electric vehicles could also go a long way in reducing emissions of greenhouse gases. The U.S. Department of Energy sees the electrification of vehicles as one of the highest impact strategies for reducing greenhouse gas emissions and combating climate change. Though most of the electricity in the Washington region is still generated using carbon-based fuels like coal, the local electrical grid has a relatively low greenhouse gas emissions profile, producing emissions equivalent to automobiles that have a fuel efficiency of 50 miles per gallon or more. And since electric vehicles run on electricity produced at a central location, they become cleaner and more efficient as we phase in alternative forms of electricity production, such as solar and wind power.

A cheaper and more dependable energy source

Electric vehicles have fuel efficiencies generally equivalent to 75 to 100 miles per gallon and cost about $0.04 per mile to operate, compared to conventional fuel-burning vehicles, which cost about $0.13 per mile. An estimate from the Union of Concern Scientists says that drivers in the Washington region could save around $950 a year in fuel and operating costs by driving an electric vehicle.

Electricity is more dependable than petroleum-based fuels like gasoline and diesel because it can be produced from a variety of energy sources, including renewable sources like wind, solar, and biomass. Petroleum is not a renewable resource, meaning that unlike plants and other ever-present energy sources like the sun and wind, once our current reserves are used up it will no longer be a viable source of energy. And as oil supplies dwindle, fuel prices will increasingly suffer from greater volatility as the future availability of fuel becomes less and less certain. Encouraging the use of electric vehicles protects vehicle owners from such volatility.

An increasingly practical alternative for households

Though electric vehicles are still few in number in the Washington region, data on household travel patterns collected by the Transportation Planning Board suggest that electric vehicles, despite their limited range compared to gasoline-powered vehicles, could be practical for many of the vehicle trips currently made throughout the region. At 7.7 miles, the average length of a one-way trip by car is well within the range of a typical electric vehicle on a single battery charge. And in most jurisdictions in the region, the average total daily amount of driving per household is less than the one-charge range of most electric vehicles currently on the market.

Although there are a few electric vehicle models for sale to consumers, the market has been slow to take off because of a simultaneous lack of supply and demand. A large number of electric vehicles will not be sold until consumers feel as though there is a sufficient charging infrastructure to support their purchase, and the recharging industry will not be able to build significant infrastructure until there are enough vehicles on the road to support the investment. Much as the Internet needed substantial public investment in its early stages before it was widely adopted, so too do electric vehicle technology and infrastructure. Offering a variety of incentives to consumers and to industry to encourage adoption and overcome what is a classic "chicken and egg" dilemma is a low-cost way to support an industry that could bring a number of benefits to the region.

CALLOUT BOX

- *Feature COG/DEP report: "Charged Up"*
- *DDOE and DDOT are active with the TCI/NYSERDA planning grant that is investigating EV and CNG infrastructure expansion along the Northeast Corridor. Ten northeast states and the District of Columbia announced the formation of the Northeast Electric Vehicle Network to expedite the deployment of EVs in the region and promote the use of alternative fuels. The Network seeks to bolster economic growth, maintain the region's leadership in the clean energy economy and reduce the area's dependence on oil and its emissions of greenhouse gases and other pollutants.*
- *Fairfax County's Department of Vehicle Services is evaluating sites for installation of EV charging stations. On two of the county's new projects, conduit has been added out to some parking spaces for possible future charging infrastructure.*
- *Loudoun County has invested in 5 public charging stations at future Metro station in the county.*
- *Montgomery County has a green fleet policy in place and was a runner up for the 2009 National Green Fleet Award.*
- *City of Rockville - 2007 Sustainability Plan contains the City's green fleet goals and actions: http://www.rockvillemd.gov/environment/sustainability/SustainableRockville.pdf*

PROMOTE COMMUTE ALTERNATIVES (NT4)

What we should do

Encourage commuters to use travel modes that make efficient use of limited roadway space at peak hours.

- Reach out to commuters with more information on alternative ways to get to work, including by transit, carpool, vanpool, bicycle or walking, or by teleworking or living closer to work
- Provide more incentives for first-time users of alternative commute modes to encourage the shift into more efficient travel modes
- Help employers establish commute alternative programs that encourage and support employees who choose alternative modes

How much it will cost

**$**$$$$
Millions of dollars

Why we should do it

Increased efficiency, reduced emissions, and better quality of life

Even small decreases in the number of cars trying to use a crowded roadway can go a long way toward alleviating congestion and travel delay. Any vehicle with two or more people in it makes more efficient use of limited roadway space than vehicles with just a solo driver. Buses and other high-capacity vehicles make the most efficient use of limited roadway space, although teleworking and bicycling and walking to work can eliminate trips on crowded roadways altogether, and living closer to work can significantly reduce the overall number of miles one commutes.

Reducing the number of cars on the road also leads to reductions in the emissions of harmful, vehicle-related pollutants, resulting in improved air quality. And when travelers take advantage of alternative, more efficient modes, they stand to gain personally, through time savings, reduced fuel and vehicle maintenance costs, and reduction in stress associated with sitting in traffic – all of which leads to increased quality of life.

We have a good system of alternatives already in place

Fortunately, the Washington region's transportation system already provides a wide range of travel options for commuters – numerous park-and-ride lots where carpools and vanpools can meet; extensive Metrorail, commuter rail, and local and express bus services, especially at peak hours; increasingly robust bicycle and pedestrian infrastructure, like sidewalks, crosswalks, and bike lanes; more and more compact, walkable, mixed-use development centers that allow people to live closer to work or to transit; and a rising number of employers open to teleworking and flexible work schedules. With such options in place, efforts to promote alternative modes of travel can be especially effective.

People support commuter alternatives

People believe that getting more commuters to use alternatives to driving alone is a good idea, repeatedly suggesting that providing additional services and information – like more incentives and more and bigger mass media campaigns – to support and promote the use of alternatives is an obvious next step in addressing congestion and other transportation challenges.

Already, the TPB's Commuter Connections program actively reaches out to Washington area commuters to provide information about alternatives like carpooling and vanpooling, transit, biking and walking, teleworking, and living closer to work. Commuter Connections even provides incentives for first-time users of alternative modes to encourage the shift away from solo driving. Numerous transportation agencies around the region have similar programs in place. But the region should do more to spread the word about these alternatives and encourage commuters to take advantage of them.

EXPAND PEDESTRIAN INFRASTRUCTURE (NT5)

What we should do

Make walking a viable transportation choice for more people in more places by making it safer, easier, and more convenient.

- Add new sidewalks and improve existing ones
- Install crossing signals at more crosswalks, pedestrian refuge islands, and raised medians
- Employ traffic calming to reduce speeds in areas where there is a high density of pedestrians
- Provide direct pedestrian connections between nearby streets and land uses to reduce walking distance and make more destinations easily accessible on foot
- Ensuring accessibility to all users, including users of assistive mobility devices and persons with disabilities

How much it will cost

**$$**$$$

Tens of millions of dollars

Why we should do it

Improves safety and encourages more walking

Nearly 10% of all trips in the Washington region are made by foot, according to a 2007 TPB survey of household travel patterns. Everyone is a pedestrian at some point in their day – whether for whole trips to destinations or a part of one, like walking to or from a transit station or stop, even to or from one's parked car. According to data compiled by the TPB, while the number of motorists and vehicle passengers killed in traffic accidents has been declining steadily since the early 2000s, the number of pedestrian and bicyclists fatalities has remained relatively constant. Sidewalks, crosswalks, crossing signals, and other such infrastructure make trips on foot safer and help reduce the number of pedestrians injured or killed in traffic collisions.

Installing more pedestrian infrastructure can also encourage more people to make more trips on foot, which has numerous benefits. When trips are made by foot instead of by car or transit, it contributes to less overall congestion on both systems. Greater pedestrian travel also has a positive effect on public health: a 2012 study by the Alliance for Biking and Walking found that areas with high rates of non-motorized transportation often have lower rates of obesity, high blood pressure, and diabetes. And the increased use of non-motorized transportation also has environmental benefits, reducing the negative effects of automobile use, such as air, water, and noise pollution.

Supports activity centers and builds community

As the region moves toward a model of high-density development around transit stations, pedestrian infrastructure is a key element in providing mobility and circulation within these places. This infrastructure is especially important in areas where there is a high density of destinations that are within close proximity to one another.

Pedestrian mobility also helps to build a sense of community since pedestrians are more likely to interact with, get to know, and identify with an area and the people within it. Increasing the prevalence of pedestrian infrastructure is also especially important to the safety and security of residents that must walk to fulfill their daily needs but live in areas with little to no pedestrian infrastructure.

CALLOUT BOX

All three states and most of the region's jurisdictions have Complete Streets policies in place that call for a transportation system that accommodates all users including pedestrians. The TPB adopted a regional Complete Streets policy in 2012 and called upon its member jurisdictions to develop their own policies if they had not already. Montgomery, Prince George's, and the Maryland State Highway Administration (SHA) adopted policies that were influenced in part by this regional policy.

Swanson, Kristen. 2012. Bicycling and Walking in The United States: 2012 Benchmarking Report. Washington, DC: Alliance for Biking & Walking.

EXPAND BICYCLE INFRASTRUCTURE (NT6)

What we should do

Make bicycling a viable transportation choice for more people in more places by making it safer, easier, and more convenient.

- Invest in more bike lanes and bike paths
- Expand bike-sharing systems like Capital Bikeshare
- Provide more bicycle parking
- Increase workplace amenities for bicyclists, such as showers and changing rooms

How much it will cost

**$$**$$$

Tens of millions of dollars

Why we should do it

Responds to rising demand

Bicycling is booming in the Washington region – not just as way to get healthy and have fun, but as a practical mode of transportation. Because of this rising demand, we need to expand bicycling infrastructure to make it safer and easier for more people.

Between 2000 and 2011, the District of Columbia saw the share of its residents who bicycle to work double, from 1.4% to 3.5%. Regionally, the share is still below 1%, but growing. Some higher-density, mixed-use communities outside the regional core have higher shares of people commuting to work by bike, like the area near the East and West Falls Church Metrorail stations, which saw 3.6% of commuters traveling by bike.

Interest in and support for bicycling is also growing across the region. Suburban jurisdictions are increasingly seeing that bicycling can provide a viable transportation option in locations where it was previously considered unrealistic. Fairfax and Montgomery counties, for example, are both pursuing the expansion of Capital Bikeshare into communities there. Bike to Work Day 2013 had a record 14,500 total participants, with individuals from every jurisdiction in the region pledging to commute to work by bike as part of the event.

Encourages greater use

The more bicycle infrastructure that is available, the more people are likely to ride. For example, since the year 2000, the District Department of Transportation (DDOT) has designated 56 miles of marked bike lanes, installed 2,300 bicycle parking racks, and launched Capital Bikeshare. Most of the increases in bicycle use observed over the last decade have occurred in the neighborhoods near downtown Washington, which has the highest concentration of new bike lanes, cycle tracks and bike share stations. Capital Bikeshare has been particularly effective in increasing bicycling trips. Bikeshare members take more than 240,000 trips each month.

Bicycling infrastructure is cost effective

Bike lanes cost about $15,000 per mile and costs can be much lower if the striping is done as part of planned resurfacings or larger streetscape projects. The new protected cycle tracks are more expensive at approximately $200,000 per mile, but they also facilitate more bicycling than can normal lanes.

Supports activity centers and builds community

Bicycling infrastructure is key element in community design. The TPB's Complete Streets Policy, adopted in 2011, called upon the region's governments to adopt policies to promote street design policies and standards to make alternative modes of transportation – including bicycling and walking, safer and more comfortable. Today, nearly all the region's jurisdictions have adopted complete streets approaches and are finding ways to make a range of transportation options available to more and more residents. Jurisdictions in all corners of the region are seeking their own ways to promote mixed-use activity centers and bicycle infrastructure to expand the number of destinations that can be reached without a car.

As we seek to improve air quality and improve public health, bicycling provides the freedom to get where you need to go quickly and efficiently. Even for people who do not often bike, it represents an expansion of our options for travel. And transportation choice is a key element in our region's vision for the future.

ONGOING STRATEGIES

A number of ongoing strategies are also important to achieving our region's long-term goals. These are strategies that will require continuing attention and investment over time. As with the near-term strategies identified above, many of our state, local, and regional transportation agencies are already pursuing these strategies, but we need to ensure that those efforts can continue into the future as we continue to work to achieve our goals.

The six ongoing strategies described in greater detail below include, in no particular order:

- **Ensure Maintenance of the Transit System (OG1)**
- **Ensure Maintenance of Roads and Bridges (OG2)**
- **Apply Priority Bus Treatments (OG3)**
- **Increase Roadway Efficiency (OG4)**
- **Ensure Accessibility for Persons with Disabilities (OG5)**
- **Update and Enforce Traffic Laws (OG6)**

ENSURE MAINTENANCE OF THE TRANSIT SYSTEM (OG1)

What we should do

Keep the Metrorail, Metrobus, local bus, and commuter rail systems in the region safe and in good working order.

- Finish carrying out the backlog of deferred maintenance
- Set up systems to address maintenance challenges as they arise
- Secure dedicated, reliable sources of funding to ensure maintenance is carried out as needed

How much it will cost

**$$$**$$

Hundreds of millions of dollars

Why we should do it

Our daily lives and our future depend on it

The Metro system is an essential part of our daily lives, providing than one million trips a day to area travelers. In the region's the core jurisdictions, our most congested areas, more than 43 percent of workers rely on transit to get to work. Regionally, 17 percent of commuters use transit to get to work – more than three times the national average. Lower-income residents are particularly dependent upon Metro services to get to jobs, schools and shops.

Metro is also a cornerstone for our future. The Council of Governments' vision for the future, Region Forward, calls for more development in mixed-use, walkable activity centers, many of which are focused around Metro stations and services. The TPB's long-range plan calls for more than $7 billion in regional transit investments, including the Silver Line, the Purple Line, and portions of the District of Columbia's planned streetcar system. These investments will create new demands on the existing system and new pressures on maintenance. If we don't take care of Metro today, these other projects will not be as effective as they need to be. And as a result, continued employment and population growth around stations will not be sustainable. Essentially, if Metro is not maintained, our lives and our economy will be immediately threatened.

Metro is iconic and part of our region's self-identity

Over the last 50 years, we have invested much more than money in the Metro system. In many ways our regional self-identity and our vision of the future is riding on Metro. At its best, the system symbolizes our region's vibrancy and the connectivity among our local communities and economies. But at its worst, Metro's maintenance problems can cause us to question our region's very ability to take care of our most basic needs. If we can't maintain our regional transit system, how can we expect to thrive in a competitive global economy?

We're already making progress, but need to do more

We are making progress with the backlog of maintenance needs that have accumulated over the years. Thanks to an infusion of federal and state funding, Metro in 2011 launched an aggressive $5 billion program to pull itself out of the hole of deferred maintenance. This intensive effort has already delivered a host of improvements that are improving safety, reliability, and customer service.

But we can't stop now. The current funding agreements do not extend beyond 2020.WMATA estimates that it will need more than $1 billion annually just to maintain and replace assets on a regular life-cycle basis to ensure a state of good repair and continue current levels of service. These projects include safety improvements recommended by the National Transportation Safety Board (NTSB), rail car and bus replacement and repair, and escalator replacements. We need to secure a dedicated, reliable source of funding to make sure these things can happen on a continuing basis in future years.

ENSURE MAINTENANCE OF ROADWAYS AND BRIDGES (OG2)

What we should do

Ensure that roadways and bridges provide safe, reliable, and comfortable travel for people and goods.

- Ensure that needed road and bridge maintenance projects are completed as a first priority for use of highway funding

How much it will cost

**$$$**$$

Hundreds of millions of dollars

Why we should do it

Preserves the backbone of our transportation system

High-quality, well-functioning roads enable the many essential economic transactions that make our region's economy so strong and resilient, ensuring tremendous economic opportunity and a high quality of life for as many people as possible. More than 1.3 million people use the region's road network to get to jobs each day, whether by car, vanpool, bus, or bike. And the goods that move using our road network are an essential part of day-to-day life and overall economic well-being.

Our road and bridge network truly is the backbone of our transportation system. Maintaining it is essential to the region's economic health. And it helps us meet so many of our other transportation and land-use goals, including improved bus service, more bicycle use, and strengthening and connecting mixed-use activity centers.

Saves motorists money and time… and their lives

By one estimate, motorists in the Washington region pay more than $500 a year in additional vehicle operating costs – accelerated vehicle depreciation, additional repair costs, increased fuel consumption and tire wear – due to poor pavement conditions (TRIP press release, 5/8/2009). And time spent stuck in slow-moving traffic due to poor pavement conditions also adds up. But, ultimately, road and bridge maintenance is a matter of personal safety. Deteriorating roads can lead to an increased number of accidents in which drivers and passengers are at greater risk of injury or death. Deteriorating bridges can and do collapse, as seen recently on I-5 in Washington State and in 2007 on I-35W in Minnesota.

Saves tax dollars in the long-run

Waiting for roads to crumble or bridges to fall down before performing routine maintenance is poor public policy. Keeping our roads and bridges in a state of good repair – that is, repairing and maintaining them before they deteriorate to the point of needing to be fully rebuilt – saves transportation agencies significant amounts of money in the long run. One estimate from the American Association of State Highway and Transportation Officials says that every $1 spent to keep a roadway in good condition saves $7 in spending to reconstruct it once it has fallen into disrepair. (AASHTO, *RRA*, p. viii)

APPLY PRIORITY BUS TREATMENTS (OG3)

What we should do

Apply priority bus treatments on key routes to make bus transit faster, more reliable, and more convenient.

- Roadway improvements, like separated bus-only lanes and queue jump lanes at intersections to allow buses to bypass traffic congestion
- Signal priority, to give buses more green lights
- Curb extensions, station platforms, pre-boarding payment systems and low-floor buses to ease and speed boarding and alighting
- Real-time bus information to help travelers plan their trips

How much it will cost

**$$**$$$

Tens of millions of dollars

Why we should do it

It's a smart use of existing infrastructure

Bus priority treatments can be a smart use of existing infrastructure. Rather than implementing new transit services that could put unrealistic capital and operating burdens on cash-strapped public transit providers, these approaches will create new transit capacity without requiring new operating expenditures.

Reduces travel times and greater reliability

The region has already prioritized these kinds of improvements and we are looking to do more, because the benefits of bus priority treatments are significant. Analysis of WMATA's Priority Corridor Network found that bus-only lanes and off-board fare collection can each provide travel time savings of three minutes per mile. Transit signal priority systems reduce travel times by approximately 30 seconds per mile.

Encourages increased transit ridership

These benefits will add up to more predictability and convenience in the daily commutes of bus riders throughout the region. As bus travel becomes more attractive, more people will use them, which will reduce roadway congestion, improve air quality, and provide more accessibility to economic opportunity for people in all corners of the region.

CALLOUT

In 2010, the TPB was awarded a federal stimulus grant of $58.8 million under the TIGER (Transportation Investment Generating Economic Recovery) Program to implement bus priority projects throughout the region. Today the 16 projects funded under that grant are demonstrating efficiency benefits that are

models for replication. Looking forward, WMATA's Priority Corridor Network Plan has identified recommended improvements along 24 bus corridors throughout the region that could be first in line to receive funding for priority treatments.

INCREASE ROADWAY EFFICIENCY (OG4)

What we should do

Smooth traffic flow and minimize delays on the existing road network.

- Coordinate traffic signals and construction schedules
- Provide travelers with more real-time traffic information
- Respond to and clear traffic accidents more quickly
- Prepare for severe weather and other highly disruptive incidents

How much it will cost

**$$**$$$

Tens of millions of dollars

Why we should do it

Potential for extra capacity and fewer delays exists

We've found lots of ways over the years to use our road network more efficiently – for example, by using open-road tolling to eliminate queues at tollbooths and broadcasting traffic reports on television and radio so motorists can choose alternate, less congested routes. But the region can do more. And thanks to advances in technology, squeezing additional capacity out of the existing road network in such ways is becoming easier.

Already the state departments of transportation and other agencies in our region have come together to create and support MATOC, the Metropolitan Area Transportation Operations Coordination program. MATOC exists to monitor traffic and weather conditions and coordinate responses to highly disruptive incidents like severe weather and major accidents.

But measures like more traffic cameras and in-road sensors could help spot and respond to traffic accidents more quickly and to relay information about traffic conditions to drivers on overhead signs, smartphone apps, and in-vehicle navigation systems. Efforts to collect and store data about traffic conditions on an ongoing basis could be used to make predictions about future travel patterns, which could help identify improvements needed to further smooth traffic flow and minimize delays.

Eventually, technology could allow roadways to communicate with vehicles, and vehicles to communicate with other vehicles, allowing cars to follow one another more closely at constant speeds – minimizing congestion and moving more cars through a given roadway. Such steps could also improve on-road safety by reducing the chances of accidents.

The benefits of small improvements multiply quickly

The benefits of roadway efficiency measures multiply quickly, since they can affect so many travelers at once. Even something that saves an individual traveler only two minutes of travel time can get multiplied across tens of thousands of drivers on busy roads at peak travel times. The personal time-

savings, increased travel time reliability, savings on wasted fuel and increased productivity all add up to benefits for the region. And trucks that are responsible for moving goods and making on-time deliveries are also better able to do their jobs, providing further economic benefit.

Makes the most of what we already have

Finding ways to squeeze more capacity out of our existing road network helps us make the most of the transportation infrastructure we already have. That can allow us in some cases to avoid building expensive new infrastructure. Construction costs and limited availability of land, especially in urbanized areas, can make it difficult to expand roads, so finding ways to make the most of what we already have is a necessity.

ENSURE ACCESSIBILITY FOR PERSONS WITH DISABILITIES (OG5)

What we should do

Improve access to the existing transit system and other transportation services for people with disabilities, in order to create more and better travel options for all individuals.

- Increase oversight and compliance with requirements under the Americans with Disabilities Act (ADA)
- Improve MetroAccess and other paratransit services, and provide more wheelchair-accessible taxis regionwide
- Coordinate programs that benefit those with disabilities and increase information services such as travel training
- Encourage Complete Streets provisions that ensure that public rights-of-way are designed with all users in mind
- Ensure adequate funding to make accessibility improvements to public transportation

How much it will cost

**$$**$$$

Tens of millions of dollars

Why we should do it

Mobility is essential to equal opportunity

Two decades after passage of the Americans with Disabilities Act, or ADA, transportation options for many people with disabilities in the Washington region remain limited. Though ADA has led to substantial advancements by guaranteeing a baseline of accessibility to public transportation, some parts of the transportation network still do not comply with minimum ADA requirements, creating obstacles to access. Accessible transportation options are particularly sparse for individuals who live outside of the reach of public transportation.

Unfortunately, this lack of options means that getting to work, to school, to medical appointments, and to countless other destinations can be a challenge for individuals with limited mobility. Without access to reliable, affordable transportation options, many individuals are unable to contribute to and benefit from society as individuals, workers, taxpayers, and consumers.

Mobility for all means advantages for all

Most improvements that help people with disabilities also help the population at large. Everyone benefits from Complete Streets policies that promote high-quality pedestrian amenities, more accessible bus stops, easy-to-read signs, audible indications, and visual communications on transit. Additionally, as our population ages, a greater number of us will require more transportation options that are accessible to individuals with limited mobility.

We can easily build on programs that already exist

Efforts to improve transportation options for people with disabilities are already under way in our region. MetroAccess, WMATA's paratransit service, provides door to door service within a three-quarter mile radius of Metrorail stations and Metrobus stops in Maryland and the District, and jurisdictions throughout the region have passed legislation requiring operation of wheelchair-accessible taxicabs.

In addition, efforts to educate the public on existing options are gaining traction. Through the Reach-A-Ride program, the TPB is trying to make it easier for people with specialized transportation needs to find the services they require and to find providers that serve their area. With the help of federal grant funds, organizations in the region have begun to provide "travel training" to educate individuals and groups on how to use the transportation system safely and effectively. By participating in these programs, individuals can enjoy significantly greater independence, self-reliance, and mobility as they start using public transit. Much can be done to improve and expand these services so they become better options throughout the region.

UPDATE AND ENFORCE TRAFFIC LAWS (OG6)

What we should do

Apply non-engineering solutions to make the transportation system safer and reduce the number of traffic-related injuries and fatalities.

- Update existing traffic laws to make roadways safer for all users, especially bicyclists and pedestrians
- Improve enforcement of traffic laws, through stepped up in-person enforcement and automated enforcement techniques like red-light and speed cameras in high-exposure areas
- Increase public information and outreach regarding traffic laws to ensure that everyone is aware of the "rules of the road"

How much it will cost

**$**$$$$
Millions of dollars

Why we should do it

Improves safety for all users

As more and more trips in the region are made by bicycle and on foot, we have to find ways for all road users to coexist safely and peacefully. "Engineering" solutions – like striped crosswalks, pedestrian signals, and bike lanes – go a long way to making bicyclists, pedestrians, and drivers safer, by reducing the risk of collisions and other conflicts. But updated laws that account for the particular needs and vulnerabilities of non-motorized road users – and enforcement of those laws – are also important in reducing the risk of accidents that cause injuries, or even death.

One of the most effective ways to protect bicyclists and pedestrians is by lowering vehicle speeds in areas where they are most likely to be or would want to be. A 2011 study by the American Automobile Association (AAA) found that the average risk of severe injury for a pedestrian struck by a vehicle rises from 10% if struck by a vehicle traveling at 16 mph up to 50% if struck by a vehicle traveling at 31 mph. The risk increases to 75% at 39 mph and to 90% at 46 mph. Many places throughout the region, where local planners, officials, and residents are seeking to encourage non-motorized travel, have taken steps to reduce speed limits in key areas.

Changes to other laws, especially those that require bicyclists to operate as if they're motor vehicles, should also be changed to help reduce potential conflicts – for example, allowing bicyclists to enter intersections ahead of motorized vehicles. Other states and local jurisdictions also have in place laws requiring motorists to give three feet when passing bicyclists and imposing higher penalties for motorists who injure or kill a pedestrian or bicyclists through careless or inattentive driving.

To ensure that these measures are as effective as possible, stepped up in-person enforcement and automated enforcement techniques like red light and speed cameras, especially in high-exposure areas, are also important. Twice a year, the TPB sponsors the regional Street Smart program, which aims to

remind motorists, bicyclists, and pedestrians about traffic safety laws and to encourage local law enforcement to step up patrols in high-exposure areas.

Minimizes conflicts and improves traffic flow

All roadway users stand to gain from updating laws that minimize conflicts between different types of users because of reduced chances of collisions and the stress associated with that risk. Doing so can also smooth traffic flow by helping different users operate within the roadway in a predictable, coordinated way rather than in what can sometimes feel like chaotic, haphazard interaction.

Supports activity centers and builds community

Updating and enforcing traffic laws, especially those that protect bicyclists and pedestrians, makes modes of travel other than driving more viable travel options for more people. Such efforts complement expanded bicycle and pedestrian infrastructure to make activity centers function better and to build community. Moving people around within activity centers is crucial to the functioning of such high-density, mixed-use areas. But facilities alone – that is, engineering solutions – only go so far. Making bicycling and walking safer and easier invites more people to use non-motorized modes, which adds to the functioning of activity centers but also the sense of community that bicycling and walking encourages by making people more likely to interact with, get to know, and identify with an area and the people within it.

LONG-TERM STRATEGIES

A half-century ago, we built the Capital Beltway and launched the Metro system. These bold projects responded to our region's needs in a manner well suited to the post-World War II era, when resources were more abundant and support for major public spending projects was much higher.

Today things are different. Funding is tight, our road and rail systems desperately need maintenance, and expansion opportunities are limited due to resource constraints and little public will to raise new revenue. But the demands on our transportation system are even greater than they were 50 years ago. The region is growing and our economy is diversifying. We cannot afford to just sit back. The right transportation decisions today can help us seize the opportunities of tomorrow.

Massive public works projects like the Beltway and Metro were the result of bold, visionary, post-World War II thinking and determination. But what will be the bold solutions that serve the next generation? What will be the iconic transportation initiatives that respond to – and take advantage of – this current moment in history?

Our long-term strategies must be cost-effective. We need to be smart about our transportation decision-making, beginning with the fact that we need to make better use of infrastructure that is already in place. That means we need to promote growth in regional activity centers so that we can maximize existing transportation connections among and within these centers.

But we also need to capture the imagination of the public through visionary thinking and creative problem solving. At the most basic level, we need to continue to meet the everyday needs of a growing population, while planning for the growth expected over the coming decades.

The three integrated long-term strategies described below combine certain long-term strategies with others that, together, have synergistic effects surpassing the sum of the benefits of implementing either strategy by itself.

SCENARIO A: EXPRESS TOLL LANES WITH BUS RAPID TRANSIT (LT1)

What we should do

- **Build express toll lanes on most interstate highways and some major arterial highways**
- **Operate a network of bus rapid transit on express toll lanes, with connections primarily to Activity Centers and/or major rail stations**

How much it will cost

**$$$$**$

Billions of dollars

Why we should do it

Meets rising roadway demand in an era of limited funding

Express toll lanes represent a new way of thinking about how to meet rising demand for driving in an era of limited public funding. Express toll lanes can add capacity to our existing road system in a manner that ensures that congestion-free options will always be available for drivers willing to pay for them – that the lanes won't simply "fill up again" as more people crowd on to the region's roads. Rather than building enough capacity to ensure free-flowing traffic for all vehicles at all times – which most engineers agree is impossible in most urban areas – express toll lanes always make congestion-free travel an option for individuals when they need it most by charging tolls that vary based upon levels of congestion to ensure that traffic remains free-flowing and that travel times are more predictable and reliable.

Managed toll lanes already exist on the Intercounty Connector (ICC) in Maryland and on the 495 Express Lanes on the Capital Beltway in Virginia. Such lanes are also under construction on I-95 in Virginia. These facilities make more efficient use of our road system by putting a price on the use of new roadway capacity to help manage congestion and to help raise revenue for its construction. Toll lanes are the most likely way that we will be able to help fund the road improvements that we are going to need in our growing region, even as we seek to reduce our dependence on driving.

Provides high-quality transit service at a fraction of the cost of rail transit

Bus rapid transit, otherwise known as BRT, provides high-quality transit service approaching the speed, frequency, and reliability of heavy rail – like Metro – but at a fraction of the cost to build. Pre-payments systems and level boarding – either low-floor buses or elevated station platforms – assure speedier and more efficient service. Bus-only lanes or lanes with guaranteed free-flow traffic conditions ensure that BRT vehicles do not get stuck in traffic. And because BRT uses much of the same kind of infrastructure that cars do, it can be implemented on limited-access highways or arterial roads, as is being done on Route 1 in Alexandria.

Express toll lanes and BRT are mutually supportive

A combined network of express toll lanes and BRT would produce benefits that neither approach would independently offer. The congestion-free travel lanes provided through a variable tolling system would be used by BRT vehicles to ensure predictable service. In addition, TPB studies have found that tolls collected on the express toll lanes will cover much of the cost of the new lanes and bus service. Such a system would substantially increase the travel choices offered throughout the region – both for transit riders and for drivers who are seeking congestion-free driving.

Pairing the priced lanes with BRT services provides the potential for great synergy: variable priced toll lanes provide free-flowing running way for buses while toll revenues offset the cost of bus facilities and services. BRT services reduce the demand for the priced lanes, allowing them to operate more smoothly and carry more people with fewer vehicles. Both the BRT and priced lanes would provide incentives for travelers to choose more efficient travel modes, like carpools, vanpools, or transit, providing congestion relief to the existing general-purpose lanes.

TPB analysis has found that such a network would substantially reduce the anticipated increase in congestion, while providing the new road capacity necessary to keep our region's economy functioning. It would also provide improve transit access and shorten average commute times.

SCENARIO B: CONCENTRATED GROWTH WITH MORE TRANSIT CAPACITY (LT2)

What we should do

- **Concentrate more development in Activity Centers to achieve land-use and transportation efficiencies**
- **Increase capacity of the existing rail and bus network to meet rising demand**
- **Expand pedestrian and bicycle infrastructure, especially in Activity Centers, to enhance local circulation and encourage more bicycling and walking**

How much it will cost

**$$$$**$

Billions of dollars

Why we should do it

Achieves land-use and transportation efficiencies

Concentrated growth has become a hallmark of our regional land-use policy. The *TPB Vision* and COG's *Region Forward* both emphasize the role of mixed-use regional activity centers throughout the region as focal points for job and housing development and as nodes for transportation linkages. COG's current list of regional activity centers includes 141 locations, about seven out of ten of which are or will, under current plans, be served by high-frequency, high-capacity transit service.

More housing and jobs located in activity centers near transit means more people can use the transit system and will have more opportunities to walk or bicycle to nearby destinations. But developing activity centers will do more than just achieve transportation efficiencies. It also supports and encourages more balanced job and household growth that benefits the region in other ways – by promoting robust economic development in all jurisdictions, inner and outer, east and west, for example. Activity centers can also be more resource-efficient, typically capitalizing on existing infrastructure like water, sewer, and power utilities and other public services, as well as transportation, instead of requiring expensive expansion.

The focus on activity centers is not a one-size-fits-all approach, however. The region's activity centers are located throughout every jurisdiction and must capitalize on their own unique identities and assets. An activity center in Loudoun County will not look like one in the District of Columbia, but both places can be less auto-dependent, and more walkable and economically vibrant.

Meets rising demand for transit, especially in the regional core

Basic capital improvements in the Metro system, commuter rail, and the region's other transit systems are desperately needed, as are capacity improvements in key locations, especially the regional core. The Metrorail system is already operating at close to capacity in some locations during peak hours and will continue to get more crowded as the region grows.

These needs are acute and will require action in the short-term. According to current regional plans, there is no funding for expanding Metro capacity in the core, and as a result, the Metrorail system may be unable to handle projected ridership growth, limiting the number of people who can use Metrorail and possibly forcing more people onto already crowded roadways. That kind of constraint is exactly the wrong direction for our region and our future economic prosperity and well-being, which will rely on increased transit ridership.

To respond to this need, the region needs to fund priority improvements for the next 10 years, including all eight-car trains during rush hour and station enhancements. So much depends on whether Metro and other transit systems in the region can handle the challenges they will face over the next decade. Activity centers – a cornerstone of our regional economic development policy – simply will not work if transit and commuter rail systems are not able to connect them and move people efficiently between them. And the new transportation systems that we have planned, including investments of $7 billion currently in the CLRP, will not perform as expected if the existing transit system does not rise to the challenge of anticipated growth.

Supports higher-density development and encourages more bicycling and walking

Travel *within* an activity center is just as critical as travel *between* activity centers. The region's communities must be designed to accommodate short trips on foot, by bike, or on circulator buses and vans, as these modes of transportation make much more efficient use of limited space and public resources. Our long-term strategies must include comprehensive efforts to ensure non-motorized options are fully viable, which can mean something as simple as building a sidewalk or as complicated as establishing a bike-share program in a suburban location.

Such enhancements will reduce localized congestion that may be created by concentrated development. They will help make transit a more attractive and practical travel option for those who live or work nearby by making it easier and safer to access transit or to reach final destinations.

More housing and jobs located near transit makes transit a more viable travel option for more people. But people won't take advantage of this increased opportunity if our trains and buses are too crowded, unreliable, or not even present. Nor will they choose to walk or bicycle to nearby destinations if communities don't have sidewalks and bike lanes, or if they feel unsafe or unwelcoming. To make activity centers vibrant and livable we need to implement these strategies in combination.

TPB analysis of this package of strategies shows that more compact development, with supportive transportation improvements, will be key to achieving greater efficiencies in our transportation system. By altering land-use priorities, this package suggests that we can take advantage of a significant amount of unused transportation capacity that already exists in reverse-commute directions on certain transit lines, as well as "selling the same seat twice" in the peak direction as one group alights to reach jobs at a suburban mixed-use center and another group boards to travel further along the line.

This package of strategic elements would provide substantial benefits in access for transit riders as well as for bicyclists and pedestrians. More modest benefits would also be achieved in reducing average commute times and in reducing anticipated increases in congestion.

COMBINATION OF STRATEGIES A AND B (LT3)

What we should do

- **Build express toll lanes on most interstate highways and some major arterial highways**
- **Operate a network of bus rapid transit on express toll lanes, with connections primarily to Activity Centers and/or major rail stations**
- **Concentrate more development in Activity Centers to achieve land-use and transportation efficiencies**
- **Increase capacity of the existing rail and bus network to meet rising demand**
- **Expand pedestrian and bicycle infrastructure, especially in Activity Centers, to enhance local circulation and encourage more bicycling and walking**

How much it will cost

$$$$$

Tens of billions of dollars

Why we should do it

Maximizes the mutually-supportive benefits of all the strategic elements

This combination would pull together all of the strategic elements described above. This strategy would be grounded in a regional land-use policy that would encourage activity centers to blossom into vibrant nodes of mixed-use and walkable development. People who live and work in these centers would enjoy a variety of travel options for trips across town and across the region. They could choose from a range of transportation options for longer trips that connect activity centers, including an integrated system of BRT and toll lanes, as well as a revitalized transit network. And for short trips, they could safely and easily walk, bike or take a short local bus.

The TPB has studied the elements of such a strategy in its *CLRP Aspirations Scenario*, which looked at the effects of implementing a 1,650-mile regional toll-lane network, a region-wide 500-mile system of high-quality bus rapid transit service, and changes in land-use policies to promote denser, transit-oriented development. The TPB found that combining all these elements above would give people in the region greater benefits than the disaggregated elements described earlier or the currently planned future. It would also create access to the widest variety of travel options. A range of new transportation options would be provided – including more transit, congestion-free priced lanes, and pedestrian and bicycle facilities, and new road capacity. Congestion will be less pervasive than otherwise predicted and commutes will take less time.

CHAPTER 4:
PUBLIC OPINION SURVEY

In the spring of 2013, TPB staff conducted an online survey on regional transportation priorities in order to solicit citizen input on potential components of the RTPP. The survey was designed and administered using MetroQuest public engagement software, developed by the firm Envision Sustainability.

SURVEY METHODOLOGY

Sample Design

The Regional Transportation Priorities Plan (RTPP) Survey was designed to obtain opinions on regional transportation challenges and strategies from a probability-based random sample of 600 adults residing in households located within local jurisdictions that comprise the TPB Planning Area. A multi-stage sampling process was used to obtain this scientifically selected random sample. In the first stage, a systematic random sample of all potential households to be surveyed was drawn from a current list of residential mailing addresses in the TPB Planning area. In this first stage, every household in the TPB planning area had an equal probability of being selected to participate in the RTPP survey. The randomly selected households from the first stage were sent letters in English and Spanish asking that the member of their household 18 years of age or older with the next upcoming birthday access and complete the RTPP Survey via an Internet web link and personal identification number (PIN) code provided in the letter. Selecting the household member 18 years of age or older with the next upcoming birthday was a simple way of randomly selecting one adult within each household to complete the RTPP survey. The randomly identified person in each household agreeing to participate in the survey was offered and provided with a $25 gift card once they completed the on-line RTPP survey.

Recruiting Participants

Recognizing that not every randomly selected household receiving a letter asking for their participation in the RTPP survey would agree to participate, a survey recruitment plan based on the postal carrier routes of the initial 600 randomly selected households was followed. Because it was estimated that only about 10% of the households receiving the RTPP Survey letters would likely participate, additional letters were mailed in successive, multiple waves to households living in the same postal carrier route as the initially selected household. That way, if the initially selected household did not agree to participate, additional mailings were made to other households in the same general neighborhood until a household residing within that same postal carrier route agreeing to participate was found. Up to 21 mailings in some postal carrier routes were made in an attempt to obtain at least one response from each of the 600 selected carrier routes. A postal carrier route is the house-to-house and apartment-to-apartment sequence of mail deliveries that a postal carrier follows each day. On average, postal carrier routes include deliveries to about 550 residential units and are generally homogeneous in the type of neighborhood served.

Response Rates

A total of 660 persons in 481 unique postal carrier routes responded to the request to participate and completed the online survey. Overall, about 8 percent of the households that were mailed letters requesting their participation completed the survey. Based on the number of completed survey responses in the 481 carrier routes, a sampling error of about +/- 3.5% at the 90-percent confidence level is estimated.

At least one survey response was received from every local jurisdiction in the TPB Planning Area, as shown in Table 1. A map depicting the geographic distribution of the RTPP Survey responses is presented in Figure 1.

TABLE 1: Completed Responses by Jurisdiction

Jurisdiction	Number of Surveys Completed
District of Columbia	77
Arlington County	56
City of Alexandria	21
Montgomery County	127
Prince George's County	81
Fairfax County	148
Fairfax City	5
City of Falls Church	3
Loudoun County	39
Prince William County	48
City of Manassas	3
City of Manassas Park	1
Frederick County	32
Charles County	19
TPB Regional Total	**660**

Weighting Responses

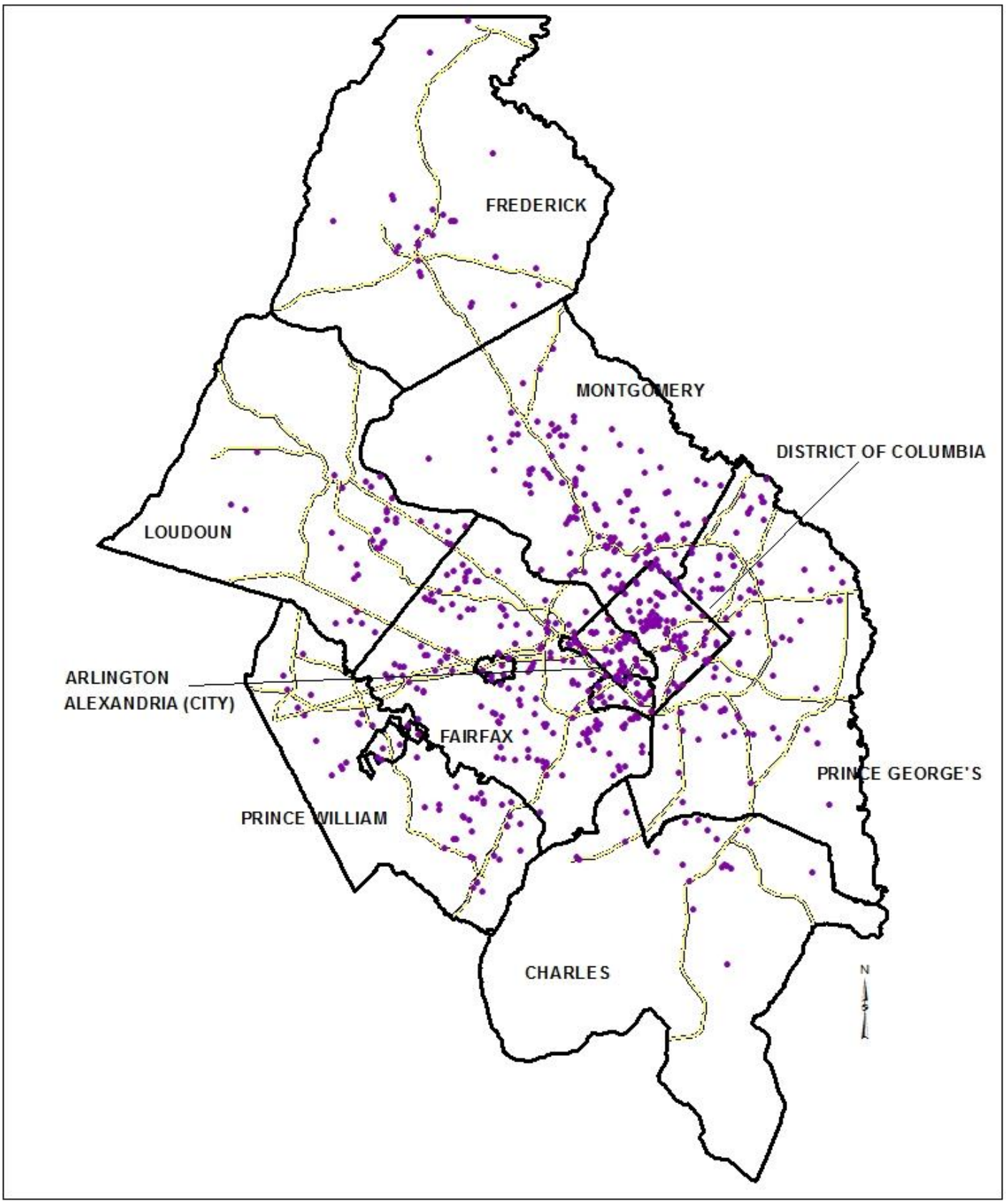
Rigorous statistical methods and controls were used to weight and tabulate the 660 survey responses. This was done to eliminate potential bias caused by people who did not respond and to ensure that the survey results accurately represented the opinions of all adults residing in households located within the TPB Planning Area.

First, each of the 600 postal carrier routes identified in the original systematic random sample of all potential households was assigned a base survey weight equal to the inverse of the probability of a

household in that carrier route would be selected in the random sample. Roughly, this value equated to a survey weight of 3,300 and meant that each household in the original random sample represented

Figure 1:

RTPP Survey Responses for the TPB Area



approximately 3,300 other households when expanded back to represent the total number of households in the TPB Planning Area.

Next, because multiple survey responses were received from some postal carrier routes and no responses were received from others, two additional weighting steps were required to maintain the overall representativeness of the original systematic random sample. First, in postal carrier routes with multiple survey responses, multiple response weighting factors were calculated by dividing each individual response from that carrier route by the total number of responses for that carrier route. Thus, if there were two survey responses from the same carrier route, then each response was weighted by one-half, or 0.50. Similarly, if there were three responses from the same carrier route each response was weighted by one-third, or 0.33, and so on.

The second additional weighting step accounted for the carrier routes from which no survey responses were obtained. In this step, all of the original 600 postal carrier routes in the original systematic random sample were post-stratified into 197 jurisdiction, income group, and carrier route housing type strata. Final survey weights for each responding household were then calculated by summing the initial carrier route base weights within each of the 197 jurisdiction, income group, and housing type strata and dividing this value by the sum of the total survey responses, weighted for multiple responses, in each of the respective strata. In the post-stratification process initial carrier route base weights and weighted surveys responses for the independent cities of Fairfax City and Falls Church were combined geographically with those for Fairfax County. Similarly, initial carrier routes base weights and weighted surveys responses for the independent cities of Manassas and Manassas Park were combined geographically with those for Prince William County.

Survey Respondents by Geographic and Household Characteristics

The distribution of weighted survey responses by jurisdiction within the TPB Planning Area matches up extremely well with the jurisdictional distribution of households reported from the 2010 Decennial Census, as shown in Table 2. No detectable survey bias in the geographical distribution of weighted survey responses is seen within the TPB Planning Area.

Also, the weighted survey responses by housing unit type compare very well with similar household data from the 2011 Census American Community Survey (ACS) for the Washington, DC, Metropolitan Statistical Area as shown in Tables 3. The distribution of median household incomes in the randomly selected postal carrier routes compared with similar 2011 ACS data show that a higher percentage of the respondents to the RTPP survey tended to live in postal carrier routes in middle income ranges as opposed to the highest income range, as seen in Table 4.

TABLE 2: Comparison of Regional Distribution of Weighted RTPP Survey Respondents with the 2010 Census

Jurisdiction	RTPP Survey Percent	2010 Census Percent
District of Columbia	14.2%	14.1%
Arlington County	5.5%	5.2%
City of Alexandria	3.5%	3.6%
Montgomery County	18.7%	18.9%
Prince George's County	16.3%	16.1%
Fairfax County/Cities	21.0%	21.5%
Loudoun County	5.5%	5.5%
Prince William County/Cities	8.0%	7.8%
Frederick County	4.7%	4.5%
Charles County	2.7%	2.7%
Total	100.0%	100.0%

TABLE 3: Percentage Distribution of RTPP Respondents by Housing Unit Type

	RTPP Survey Percent	2010 Census Percent
Single-Family House	67.0%	68.3%
Apartment or Condo	33.0%	31.6%
Total	100.0%	100.0%

TABLE 4: Distribution of Median Household Income

	RTPP Carrier Route Percent	2011 Census ACS Percent
Less than $75,000	38.2%	43.0%
$75,000 - $99,999	27.4%	13.6%
$100,000 - $124,999	21.0%	11.6%
$125,000 or more	13.4%	31.8%
Total	100.0%	100.0%

Survey Respondents by Demographic Characteristics

Persons responding to the RTPP Survey were asked three questions on their demographic characteristics and one question about their usual commuting mode. The three demographic characteristics were gender, age group, and race/ethnicity. Comparisons of the weighted RTPP survey responses with similar data from the 2010 Census data by gender, age group, and race/ethnicity are shown in Tables 5 to 8.

Generally, the demographic characteristics of the RTPP respondents compared very well with the Census data. Nonetheless, a slightly higher percentage of RTPP respondents tended to be in the 55 to 64 age group and slightly lower percentages of the RTPP respondents were in the 18 to 24 and 65+ age groups. Also, a somewhat higher percentage of RTPP respondents were Non-Hispanic and White by ethnicity and race compared to the 2010 Census data.

TABLE 5: Percentage Distribution of RTPP Respondents by Gender

	RTPP Survey Percent	2010 Census Percent
Female	53.7%	52.3%
Male	46.3%	47.7%
Total	100.0%	100.0%

TABLE 6: Percentage Distribution of RTPP Respondents by Age

	RTPP Survey Percent	2010 Census Percent
18-24 years	3.8%	11.0%
25 - 34 years	22.5%	20.9%
35 - 54 years	44.3%	40.2%
55 - 64 years	21.0%	14.9%
65 and over	8.4%	12.9%
Total	100.0%	100.0%

TABLE 7: Percentage Distribution of RTPP Respondents by Ethnicity and Race

Non-Hispanic/Latino:	RTPP Survey Percent	2010 Census Percent
White/ Caucasian	64.8%	56.6%
Black/African American	21.0%	29.4%
Asian American	7.6%	10.5%
All Other Race	6.6%	3.4%
Total Non-Hispanic Latino	100.0%	100.0%
Hispanic/Latino	6.1%	13.5%

Survey Respondents by Usual Commuting Mode

In addition to the three questions on their demographic characteristics, RTPP Survey respondents were also asked about their usual means of commuting to work. Table 8 shows that a significantly higher percentage of RTPP Survey respondents reported that they usually use transit to commute to work and lower percentages of RTPP Survey respondents reported that they drove alone or carpooled to work compared to similar data from the 2011 ACS. Nonetheless, still more than 60% of the RTPP respondents reported that they normally commuted to work by auto. Because each household in the initial randomly selected sample had an equal opportunity to respond, the higher percentage of transit commuters completing the RTPP survey may indicate that regular transit users may have a greater interest in regional transportation challenges and strategies than other types of commuters.

Overall, the analysis of the RTPP Survey respondents by geography, household and demographic characteristics, and usual commuting mode show that these respondents are generally representative of adults residing in households located within local jurisdictions that comprise the TPB Planning Area.

TABLE 8: Percentage Distribution of RTPP Respondent by Usual Commuting Mode

	RTPP Survey Percent	2011 Census ACS Percent
Drove Alone	58.6%	65.8%
Carpool	3.6%	9.7%
Public Transportation	29.0%	15.4%
Walk and Bike	3.9%	4.0%
Work at Home/Other	4.8%	5.1%
Total	100.0%	100.0%

SURVEY DESIGN

MetroQuest software was selected because it offered many advantages over a traditional survey. The software is fully customizable and provides an apparatus for collecting and processing opinion data from a large segment of the region's residents. It has the ability to convey large amounts of complex information in an attractive, engaging visual interface. In addition, the software solicits a variety of feedback including rating and rankings, traditional survey questions, and open-ended response areas for suggestions and additional comments.

The information that was presented to participants through the MetroQuest software was limited in terms of technical specificity since the survey was self-administered. Technical performance measures were not presented because they were difficult to communicate well to the general public through the web-based tool. Instead, the survey was designed give users information to understand the context for the Regional Transportation Priorities Plan before asking for feedback from them. Before the survey went public, two rounds of beta testing were held in order to make sure that the survey tool was clear and understandable to potential respondents. When released the survey was available in both English and Spanish, and additional accommodations were arranged for other participants when requested.

Goals and Challenges

Each goal was presented on a separate screen, and challenges keeping us from reaching the goals were presented below the goal description. Every goal included an optional "Read More" section that contained additional information about the goal, including where the region is in terms of achieving the goal. For each challenge, the following question was asked:

In order to reach the goal, how significant is each challenge?

Rate from 1 star (not significant)  to 5 stars (very significant)

Participants were also invited to comment on each challenge and to suggest additional challenges that might have been left out.

Strategies

Survey participants were then presented with 15 separate strategies organized into three categories: near term; on-going; and long term. Each strategy was presented with a picture, a brief description, and information on "what we get" and "what it costs us." Respondents were asked to answer two questions for each strategy:

1. **Do you support this strategy?** (Move the slider to indicate support or opposition)

Oppose Support

2. **How would you pay for it?** (select one)

Additional Dedicated funding
Compete for existing fund
Don't support/ fund

The question about funding was asked and coupled with the question of support in order to remind participants that strategies will need to be paid for, and to find the strategies that had a deeper level of support from our participants if they indicated that they would support "additional dedicated funding". Our beta test subjects confirmed that they answered "additional dedicated funding" only for the strategies that were most important to them. Participants were also asked to submit comments on each of the strategies, and to suggest addition strategies that were not included in the survey.

Polling Questions

Following the main elements of the plan, three polling questions were asked to gauge participants' opinions on matters outside of the goals, challenges and strategies. Each of the questions was meant to address feedback from previous engagement activities that did not fit nicely into the discrete strategies that were being developed. These questions were:

1. **How confident are you that the transportation agencies serving the region will make good use of the resources available to them?**
    - Not confident at all
    - Somewhat not confident
    - Neutral
    - Somewhat confident
    - Very Confident

2. **How important do you think public information campaigns are?**
    - Not important at all
    - Not important
    - Neutral
    - Important
    - Very Important

3. **Do you think opposition from current residents and business owners would be an obstacle to increasing development in these areas?)**
    - Definitely Not
    - Probably Not
    - Neutral
    - Probably
    - Definitely

SURVEY RESULTS

Challenges

Survey respondents were asked to rate, on a scale of 1 to 5, how significant each of the transportation challenges was in keeping us from achieving the regional goal that it was associated with. A rating of 1 meant that the challenge was not significant and 5 meant the challenge was very significant.

NOTE: *The observed number of respondents for carpool, walk/bike, and other transportation mode users is very low. Information that is reported for each of these modes is meant to be illustrative.*

Findings:

- All of the regional challenges identified in the survey tool were rated as being significant issues standing in the way of achieving our regional goals. The average ratings for each challenge ranged from 3.26 (out of 5) to 4.47 (out of 5).

- The top four challenges that were identified as the most significant region-wide were, in order: **Transit Crowding**, **Metro Repair Needs**, **Roadway Congestion**, and **Roadway Repair Needs**
    - These four challenges were identified as the most significant by respondents in both the core and inner suburban jurisdictions
    - Respondents from the outer jurisdictions identified **Transit Crowding**, **Roadway Repair Needs**, **Bottlenecks**, and **Incidents** as their top four significant challenges
    - The top four challenges for users of different modes varied:
        - **Transit Crowding** was rated as a top challenge by all mode users.
        - **Metro Repair Needs** was identified as a top challenge by all mode users except those who drive alone.
        - Carpoolers identified **Environmental Quality** and **Open Space Development** in their top four challenges
        - Transit users also identified **Environmental Quality** as a top challenge
        - Walkers and bikers said that **Unsafe Walking and Biking Facilities** was also a top challenge

- Overall **Transit Crowding** was identified as the most significant regional challenge
    - This was consistent among respondents across the region: Transit crowding was the top challenge among respondents in all three sub-regional areas (regional core, inner suburbs, and outer suburbs).
    - Transit crowding was also identified as the top challenge across users of all modes of transportation, except transit-users who identified roadway congestion as slightly more significant.

- Overall, **Pedestrian and Bicyclist Safety** and **Development Around Metrorail** were rated as the least significant challenges.

- A similar percentage of respondents gave a rating of four for each challenge. The main difference in the responses was the rating of 5.

Figure 2: Transportation Challenge Ratings
Regional Averages

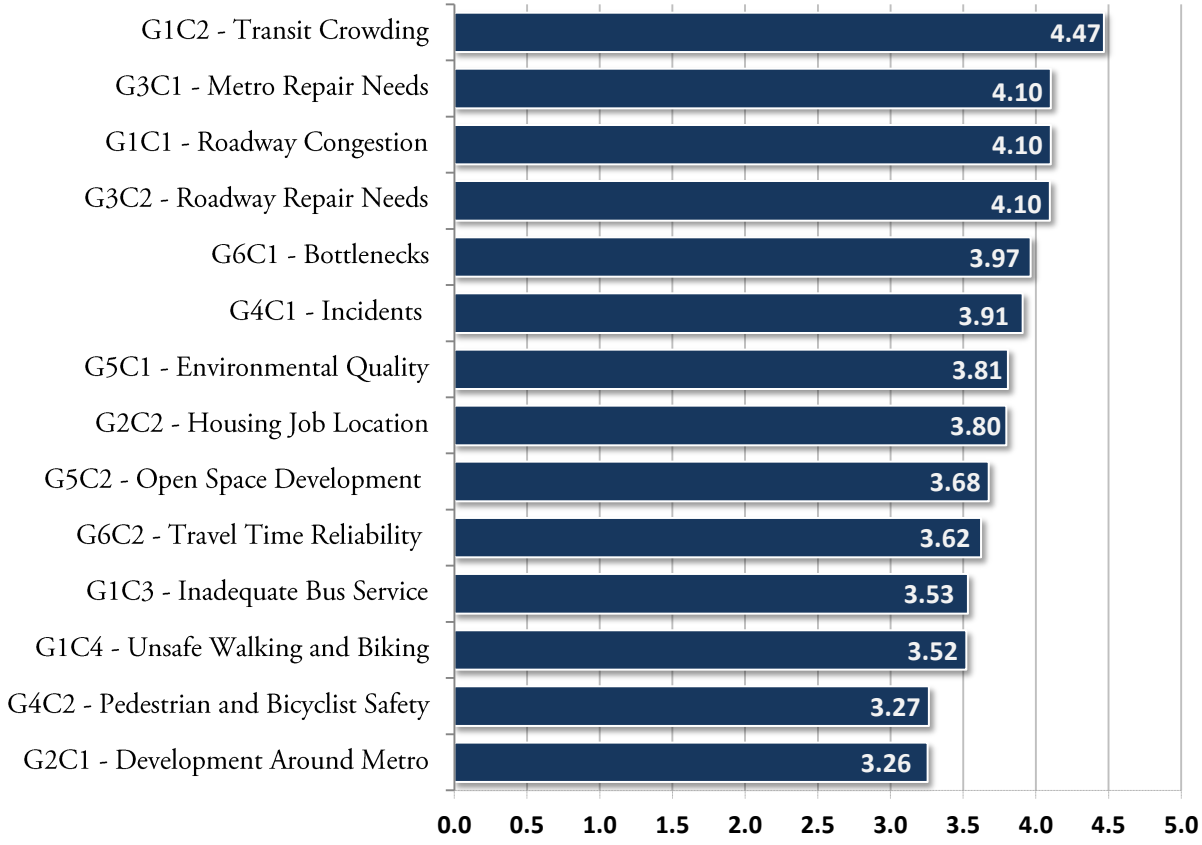


Figure 3: Tranportation Challege Ratings
Regional Distribution of Responses

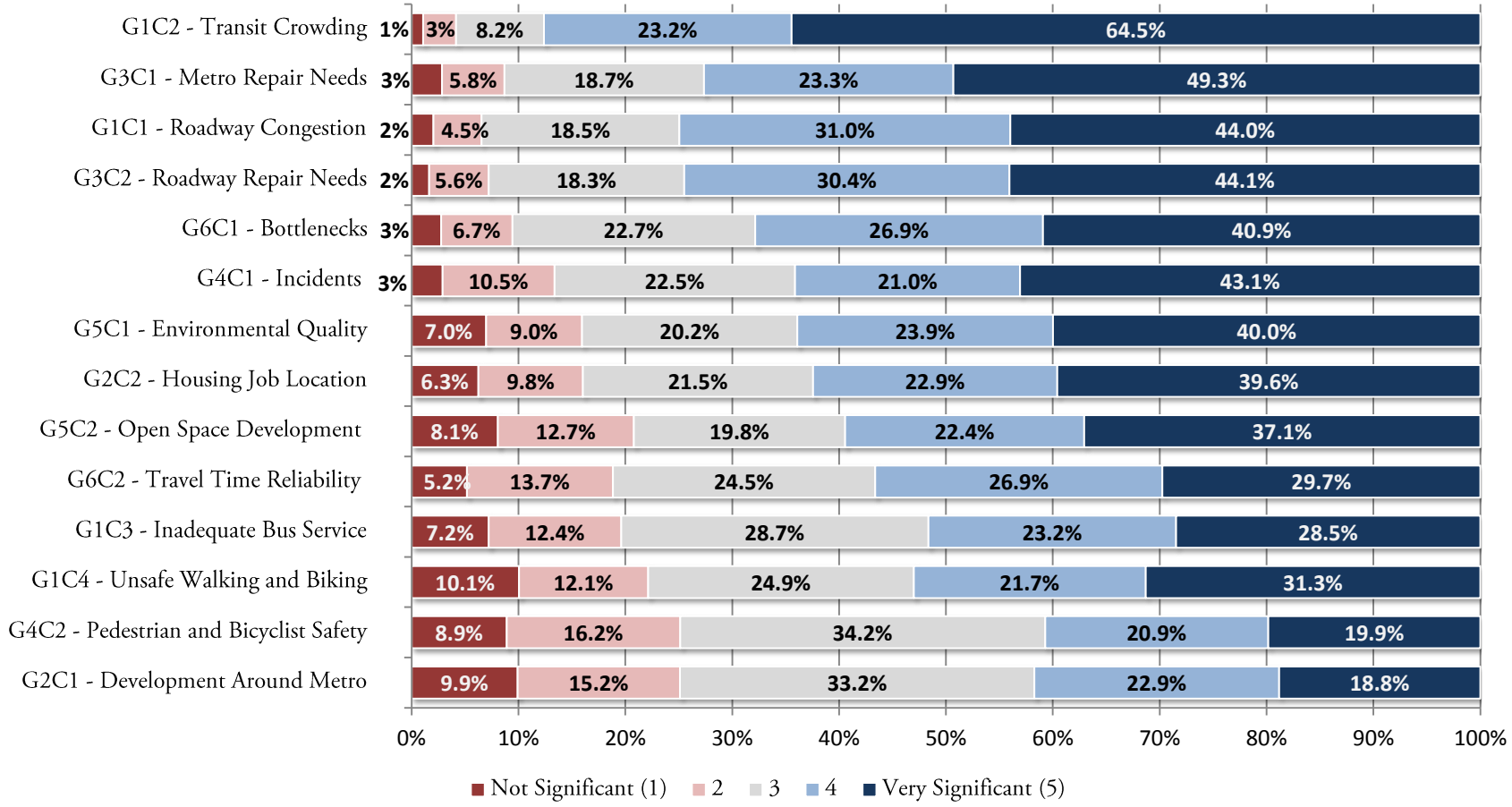


Table 9: Transportation Challenge Ratings: Regional Averages

(Question asked: on a scale of 1-5 rate how significant each challenge is to achieving regional goals?)

		Frequency Distribution					Avg. Rating by Sub-Regional Area			Avg. Rating by Primary Commute Mode				
Challenge:	**Overall Avg.**	1 (Not significant)	2	3	4	5 (very significant)	**Core**	**Inner**	**Outer**	**Drive Alone**	**Carpool**	**Transit**	**Walk/bike**	**Other**
G1C2 - Transit Crowding	**4.47**	1.1%	3.1%	8.2%	23.2%	64.5%	**4.3**	**4.5**	**4.5**	**4.6**	**4.4**	**4.3**	**4.2**	**4.6**
G3C1 - Metro Repair Needs	**4.10**	2.9%	5.8%	18.7%	23.3%	49.3%	**4.3**	**4.2**	**3.8**	**4.0**	**4.0**	**4.4**	**4.1**	**4.0**
G1C1 - Roadway Congestion	**4.10**	2.1%	4.5%	18.5%	31.0%	44.0%	**4.3**	**4.1**	**3.9**	**3.9**	**3.8**	**4.5**	**4.1**	**4.0**
G3C2 - Roadway Repair Needs	**4.10**	1.6%	5.6%	18.3%	30.4%	44.1%	**3.9**	**4.2**	**4.0**	**4.2**	**4.0**	**4.0**	**3.8**	**4.2**
G6C1 - Bottlenecks	**3.97**	2.8%	6.7%	22.7%	26.9%	40.9%	**3.8**	**4.0**	**4.2**	**4.0**	**3.7**	**3.9**	**3.8**	**3.8**
G4C1 - Incidents	**3.91**	2.9%	10.5%	22.5%	21.0%	43.1%	**3.6**	**4.0**	**4.0**	**4.0**	**3.7**	**3.8**	**3.4**	**3.6**
G5C1 - Environmental Quality	**3.81**	7.0%	9.0%	20.2%	23.9%	40.0%	**3.8**	**3.8**	**3.8**	**3.7**	**4.3**	**4.0**	**3.9**	**3.8**
G2C2 - Housing Job Location	**3.80**	6.3%	9.8%	21.5%	22.9%	39.6%	**3.9**	**3.8**	**3.8**	**3.7**	**3.8**	**4.0**	**4.1**	**3.4**
G5C2 - Open Space Development	**3.68**	8.1%	12.7%	19.8%	22.4%	37.1%	**3.7**	**3.7**	**3.7**	**3.6**	**4.1**	**3.7**	**3.5**	**3.6**
G6C2 - Travel Time Reliability	**3.62**	5.2%	13.7%	24.5%	26.9%	29.7%	**3.6**	**3.6**	**3.8**	**3.7**	**3.2**	**3.7**	**3.7**	**3.5**
G1C3 - Inadequate Bus Service	**3.53**	7.2%	12.4%	28.7%	23.2%	28.5%	**3.5**	**3.5**	**3.6**	**3.4**	**3.4**	**3.9**	**3.2**	**3.8**
G1C4 - Unsafe Walking and Biking	**3.52**	10.1%	12.1%	24.9%	21.7%	31.3%	**3.3**	**3.6**	**3.5**	**3.5**	**3.4**	**3.6**	**4.1**	**3.5**
G4C2 - Pedestrian and Bicyclist Safety	**3.27**	8.9%	16.2%	34.2%	20.9%	19.9%	**3.3**	**3.3**	**3.2**	**3.2**	**3.2**	**3.4**	**4.0**	**3.1**
G2C1 - Development Around Metro	**3.26**	9.9%	15.2%	33.2%	22.9%	18.8%	**3.3**	**3.3**	**3.2**	**3.2**	**3.3**	**3.3**	**3.6**	**3.4**

BOLD RED numbers indicate four most significant challenges in each category

BOLD RED UNDERLINED numbers indicate the most significant challenge for each category

Strategies

For each near-term, on-going, and long-term strategy, respondents were asked whether or not they supported the strategy, and if they supported it, how they would pay for it. For the question of support, respondents could choose from strongly oppose, oppose, neutral, support, and strongly support. For the question on funding, respondents were given the options of "additional dedicated funding," "compete for existing funds," or "don't fund/support."

NOTE: *The observed number of respondents for carpool, walk/bike, and other transportation mode users is very low. Information that is reported for each of these modes is meant to be illustrative.*

Findings:

- Each of the near term, on-gong, and long-term strategies were supported by a majority of the survey respondents. Total support (the sum of those who support and strongly support a strategy) ranged from 61% to 91%.

- The top four supported strategies region-wide were, in order, **Metro Maintenance**, **Highway Maintenance**, **Alleviate Bottlenecks**, **Improve Transit Access**, and **Roadway Management**.
    - Though the top four supported strategies varied by geography, residents of the regional core, inner suburbs, and outer suburbs all identified **Metro Maintenance** and **Highway Maintenance** in their top for supported strategies.
    - In addition, users of all modes also identified **Metro Maintenance** and **Highway Maintenance** in their top four supported strategies.

- The strategies with the lowest overall support were **Bus Priority**, **Scenario A**, **Update Traffic Regulations**, **Alternative Fuel Vehicles**, and **Bicycle Infrastructure**.
    - Even though these were the lowest on the list, they still were supported by 61% or more of survey respondents.

- Support for additional dedicated funding varied by strategy
    - Support for additional dedicated funding was highly correlated with overall support – usually, the greater overall support for a strategy, the greater support there was for identifying additional funding
    - 60% of all respondents said that they would support identifying an additional dedicated funding source for **Metro Maintenance**
        - This is substantially higher than those who would support additional funding for highway maintenance – 44% – even though the overall support for both strategies is quite similar.
    - The smallest portion of respondents supported additional funding for updating traffic regulations.

- All of the long-term strategies overall had support from 65% or more of the respondents.
    - Of the three long term scenarios, **Scenario A + B** had the most support, followed by **Scenario B** and finally **Scenario A**
- Support for the long-term strategies varied by geography
    - In the core jurisdictions **Scenario B** was the most supported
    - In the Inner suburbs **Scenario A + B**

    - In the outer suburbs **Scenario A**
    - Overall, the long term strategies we all were least supported in the outer suburbs

- There was substantially less willingness to identify a new, dedicated funding source for **Scenario A** than for the other two long term strategies
    - Only 28% of survey respondents supported additional dedicated funding, compared to 41% for **Scenario B** and **Scenario A + B**

Figure 4: Near-Term, Ongoing, and Long-Term Strategies
Regional Support and Opposition

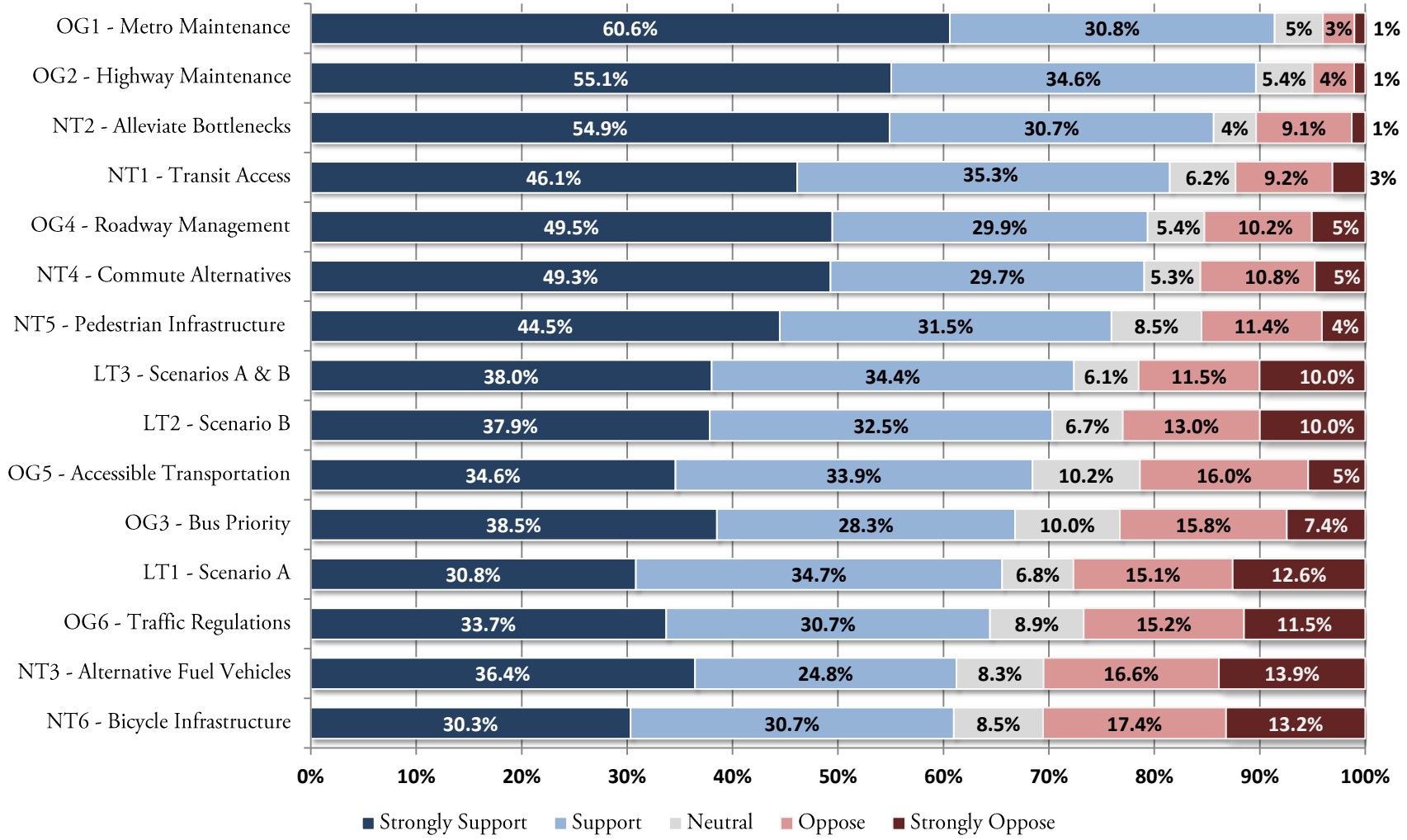


Figure 5: Near-Term, Ongoing, and Long-Term Strategies
% Respondents Who Support Additional Dedicated Funding

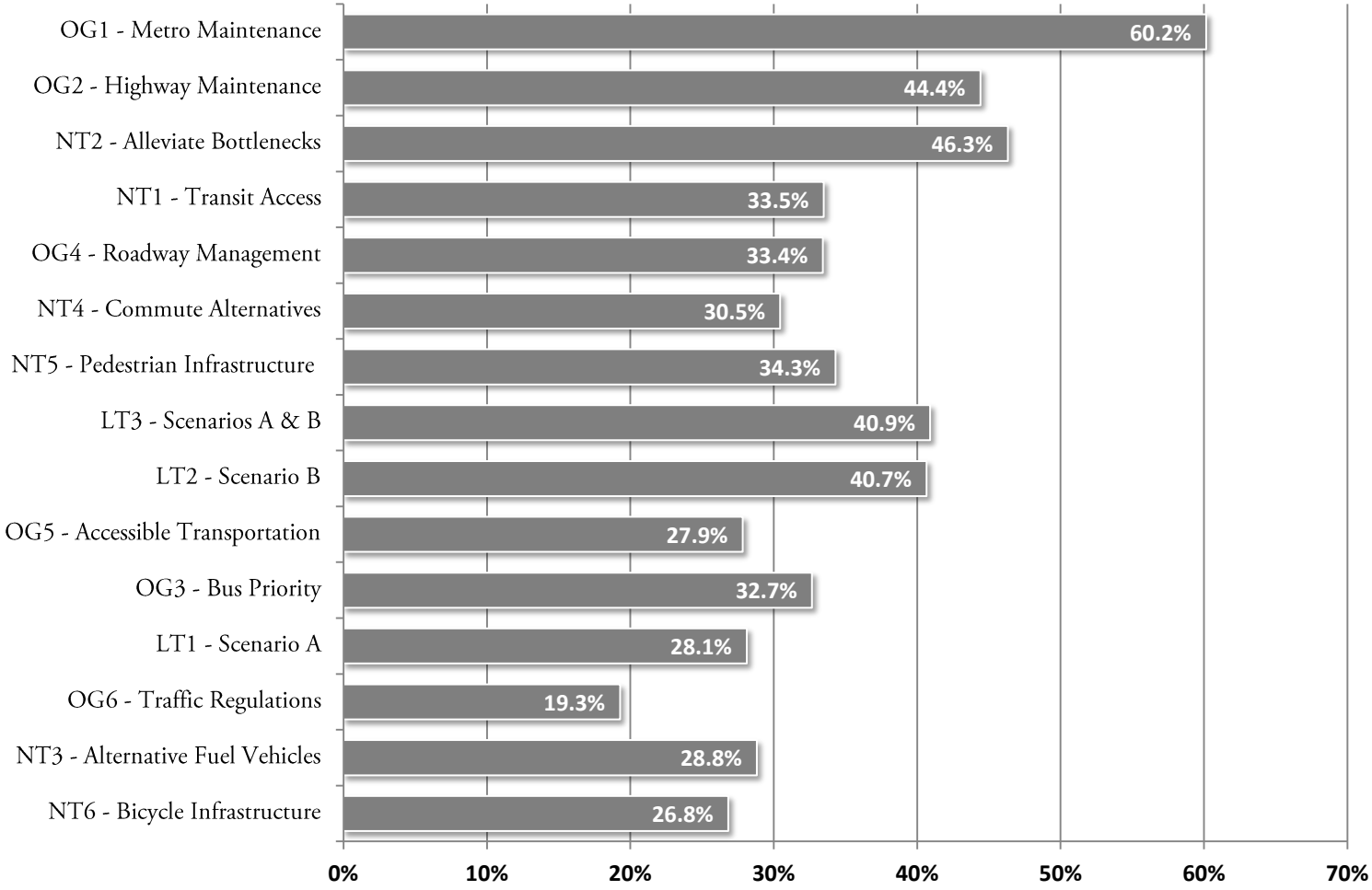


Table 10: Support and Opposition for Near Term, On-Going, and Long Term Strategies

(Question asked: Do you support this strategy?)

		Regional Support/Opposition							Total Support by Sub-Regional Area			Total Support by Primary Commute Mode				
	Strategy:	**Total Oppose**	*Strongly Oppose*	*Oppose*	**Neutral**	*Support*	*Strongly Support*	**Total Support**	**Core**	**Inner**	**Outer**	**Drive Alone**	**Carpool**	**Transit**	**Walk bike**	**Other**
High Support	OG1 - Metro Maintenance	**4.0%**	*1.0%*	*3.0%*	**4.6%**	*30.8%*	*60.6%*	**91.4%**	**96%**	**92%**	**84%**	**88%**	**85%**	**98%**	**90%**	**99%**
	OG2 - Highway Maintenance	**5.0%**	*1.0%*	*4.0%*	**5.4%**	*34.6%*	*55.1%*	**89.6%**	**86%**	**91%**	**91%**	**91%**	**92%**	**86%**	81%	**100%**
	NT2 - Alleviate Bottlenecks	**10.4%**	*1.3%*	*9.1%*	**4.0%**	*30.7%*	*54.9%*	**85.6%**	76%	**88%**	**91%**	**89%**	82%	82%	70%	77%
	NT1 - Transit Access	**12.3%**	*3.1%*	*9.2%*	**6.2%**	*35.3%*	*46.1%*	**81.5%**	80%	**85%**	73%	**77%**	**83%**	**90%**	80%	**79%**
	OG4 - Roadway Management	**15.2%**	*5.1%*	*10.2%*	**5.4%**	*29.9%*	*49.5%*	**79.4%**	**80%**	78%	**82%**	**78%**	**88%**	79%	78%	**92%**
Middle Support	NT4 - Commute Alternatives	**15.6%**	*4.8%*	*10.8%*	**5.3%**	*29.7%*	*49.3%*	**79.0%**	78%	**79%**	**79%**	73%	**86%**	**85%**	**85%**	**94%**
	NT5 - Pedestrian Infrastructure	**15.5%**	*4.1%*	*11.4%*	**8.5%**	*31.5%*	*44.5%*	**76.0%**	**82%**	78%	62%	69%	62%	**89%**	**92%**	75%
	LT3 - Scenarios A & B	**21.5%**	*10.0%*	*11.5%*	**6.1%**	*34.4%*	*38.0%*	**72.4%**	76%	74%	63%	68%	66%	77%	**87%**	77%
	LT2 - Scenario B	**23.0%**	*10.0%*	*13.0%*	**6.7%**	*32.5%*	*37.9%*	**70.3%**	**80%**	69%	62%	62%	63%	**83%**	**93%**	72%
	OG5 - Accessible Transportation	**21.4%**	*5.4%*	*16.0%*	**10.2%**	*33.9%*	*34.6%*	**68.4%**	70%	69%	66%	63%	73%	77%	59%	68%
Lower Support	OG3 - Bus Priority	**23.3%**	*7.4%*	*15.8%*	**10.0%**	*28.3%*	*38.5%*	**66.8%**	71%	66%	65%	60%	59%	80%	63%	70%
	LT1 - Scenario A	**27.7%**	*12.6%*	*15.1%*	**6.8%**	*34.7%*	*30.8%*	**65.6%**	62%	68%	64%	65%	60%	60%	65%	68%
	OG6 - Traffic Regulations	**26.7%**	*11.5%*	*15.2%*	**8.9%**	*30.7%*	*33.7%*	**64.4%**	65%	66%	60%	62%	62%	71%	64%	55%
	NT3 - Alternative Fuel Vehicles	**30.5%**	*13.9%*	*16.6%*	**8.3%**	*24.8%*	*36.4%*	**61.2%**	66%	59%	61%	59%	54%	68%	71%	56%
	NT6 - Bicycle Infrastructure	**30.6%**	*13.2%*	*17.4%*	**8.5%**	*30.7%*	*30.3%*	**61.0%**	66%	62%	51%	57%	75%	66%	77%	60%

BOLD RED numbers indicate top five supported strategies for each category

BOLD RED UNDERLINED numbers indicate the top supported strategy for each category

Table 11: Funding for Near-Term, Ongoing Strategies, and Long-Term Strategies:

(Question asked: If you support this strategy, how would you fund it?)

	Strategy	Respondents	Identify Add 'l Funds	Compete For Existing Funds	Don't Fund
High Support	OG1 - Metro Maintenance	644	60.2%	36.9%	3.0%
	OG2 - Highway Maintenance	636	44.4%	52.2%	3.4%
	NT2 - Alleviate Bottlenecks	624	46.3%	44.9%	8.7%
	NT1 - Transit Access	633	33.5%	55.4%	11.2%
	OG4 - Roadway Management	634	33.4%	50.2%	16.4%
Middle Support	NT4 - Commute Alternatives	633	30.5%	49.6%	19.9%
	NT5 - Pedestrian Infrastructure	632	40.9%	35.6%	23.5%
	LT3 - Scenarios A & B	633	40.7%	38.5%	20.9%
	LT2 - Scenario B	623	34.3%	48.4%	17.3%
	OG5 - Accessible Transportation	638	27.9%	54.9%	17.2%
Lower Support	OG3 - Bus Priority	641	32.7%	46.4%	20.9%
	LT1 - Scenario A	638	28.1%	45.1%	26.8%
	OG6 - Traffic Regulations	646	19.3%	52.0%	28.7%
	NT3 - Alternative Fuel Vehicles	624	28.8%	35.4%	35.7%
	NT6 - Bicycle Infrastructure	639	26.8%	42.3%	30.9%

Additional Polling Questions

Survey respondents were asked to answer three additional polling questions on topics that did not fit nicely into the discrete strategies that were presented in the survey. Each question had a unique set of possible responses that can be found in the tables below.

1. Confidence in Transportation Agencies

In order to pay for future construction and maintenance of the region's highway and transit systems, state and local governments are developing ways to increase government revenue, including increasing gas taxes or sales taxes, and building toll lanes.

How confident are you that the transportation agencies serving the region will make good use of the resources available to them?

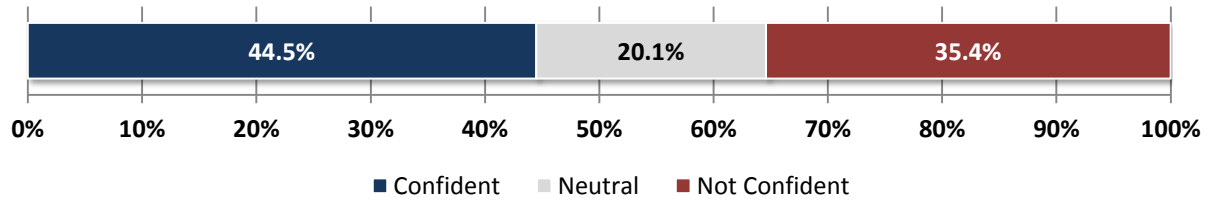
- 45% of respondents were confident that transportation agencies would make good use of resources, 35% were either not confident or not confident at all, and 20% were neutral on the issue.
- By comparison, annual Gallup surveys about general confidence in government show that from 2005 through 2012:
    - Confidence in state governments to handle state problems ranged from 51% to 67%
    - Confidence in local governments to handle local problems ranged from 68% to 74%
    - Confidence that government in Washington would do what is right just about always or most of the time ranged from 19% to 32%

Table 12: Confidence in Transportation Agencies

(Question: How confident are you that the transportation agencies serving the region will make good use of the resources available to them?)

Reponses	Frequency
Not confident at all	13.6%
Somewhat Not Confident	21.9%
Neutral	20.1%
Somewhat Confident	34.7%
Very Confident	9.8%

Figure 6: Confidence in Transportation Agencies



2. Public Information Campaigns

Public information campaigns can help raise the public's awareness about key transportation issues, such as safety and transportation funding.

How important do you think public information campaigns are?
And, ***What topics would you like to see more campaigns on?*** (options: bicycle safety, pedestrian safety, funding for transportation, alternative commutes, and suggest your own)

- 75% of survey respondents answered that they believe public information campaigns were either somewhat or very important, and only 9% said that they are either not important or not important at all
- Of the topic areas that were suggested, information campaigns on alternative commuting (61%) and transportation funding (59%) were the most popular. Bicycle and pedestrian safety information campaigns were much less supported.
-

Table 13: Public Information Campaigns

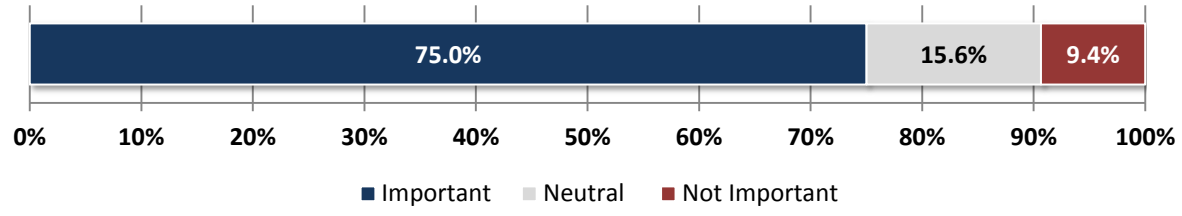
(Question: How important do you think public information campaigns are?)

Response	Frequency
Not Important At All	2.9%
Not Important	6.5%
Neutral	15.6%
Somewhat Important	35.0%
Very Important	40.0%

(Follow-up Question: What topics would you like to see more campaigns on?)

Topic	Answered "yes"
Bicycle Safety	29.1%
Pedestrian Safety	35.3%
Transportation Funding	59.3%
Alternative Commuting	60.9%

Figure 7: Public Information Campaigns



3. Opposition to Higher Density Development

Two of the long-term strategies we've presented propose more development near transit stations throughout the region.

Do you think opposition from current residents and business owners would be an obstacle to increasing development in these areas?

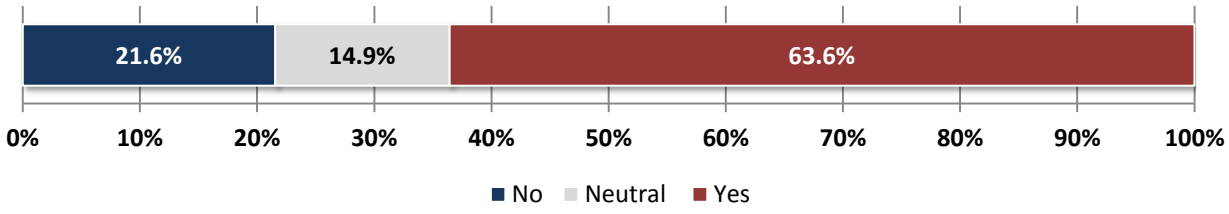
- 64% of respondents said that opposition from current residents and business owners would either probably or definitely be an obstacle toward increasing development.
- 22% said that opposition would probably or definitely not be an obstacle, and 15% were undecided on the issue

Table 14: Opposition to High Density Development

(Question: Do you think opposition from current residents and business owners would be an obstacle to increasing development in these areas?)

Reponses	Frequency
Definitely Not	1.9%
Probably Not	19.7%
Neutral	14.9%
Probably	42.3%
Definitely	21.3%

Figure 8: Opposition to Development



CHAPTER 5
RECOMMENDATIONS

The Regional Transportation Priorities Plan (RTPP) process conducted over the past two years has been designed to define the key challenges the Washington region is facing with respect to achieving the six major policy goals articulated in the TPB Vision, and to identify regional strategies that the public can support that offer the greatest potential contributions toward addressing those challenges. The six policy goals are:

- Provide a comprehensive range of transportation options for everyone
- Promote a strong regional economy, including a healthy regional core and dynamic Regional Activity Centers
- Ensure adequate maintenance, preservation, and safety of the existing system
- Maximize operational effectiveness and safety of the existing system
- Enhance environmental quality, and protect natural and cultural resources
- Support international and inter-regional travel and commerce

The region's Financially-Constrained Long-Range Transportation Plan (CLRP) identifies regionally significant transportation projects and programs planned in the Washington metropolitan area through 2040. When coupled with accompanying forecasts of land use patterns through 2040, the CLRP provides a baseline of information that can be used to assess the challenges our region continues to face in achieving our adopted regional goals. Chapter 2 of this document reviews each of the six TPB Vision goals in turn, summarizing "where we are now and where we are headed" under the assumptions and forecasts contained in the CLRP, and characterizing the most significant challenges the region faces in achieving each of the six goals.

Chapter 3 of the report outlines a set of regional strategies, each designed to address one or more of the challenges. The strategies are presented in three distinct categories corresponding to the time frame over which they would be implemented: near term (could be completed in one to five years), ongoing (should be conducted on a continuing basis), and long-term (would take several years to accomplish). Chapter 3 briefly describes each strategy ("what we should do"), and presents the case for pursuing the strategy ("why we should do it") in terms of the potential benefits relative to the costs.

The list of challenges characterized in Chapter 2, fourteen in all, and the list of strategies outlined in Chapter 3, fifteen in all, are shown in matrix form in Table 5.1, along with indications as to which strategies can be expected to contribute significantly to addressing which challenges. For convenience in reading the table and referencing sections in earlier chapters, each challenge is labeled with a simple identifier code including the goal number and challenge number: the code G3C2 refers to goal 3, challenge 2, for example. Similarly, each strategy is labeled with an identifier code including the time frame category and strategy number: the code OG3 refers to ongoing strategy number 3, for example.

A major focus of the RTPP work effort over the past year has been on communicating the goals, challenges and strategies to representative groups of the public in the region, and seeking their comments and responses. As described in Chapter 1, a citizens forum was held on June 2, 2012, in which the non-profit public outreach organization America Speaks facilitated an in-person discussion of

Table 15: Relationship Between Challenges and Strategies

Challenges \ Strategies	NT1 - Transit Access	NT2 - Alleviate Bottlenecks	NT3 - Electric Vehicles	NT4 - Commute Alternatives	NT5 - Pedestrian Infrastructure	NT6 - Bicycle Infrastructure	OG1 - Metro Maintenance	OG2 - Highway Maintenance	OG3 - Bus Priority	OG4 - Roadway Management	OG5 - Accessible Transportation	OG6 - Traffic Regulations	LT1 - Scenario A	LT2 - Scenario B	LT3 - Scenarios A & B
G1C1 - Roadway Congestion		X		X				X		X		X	X		X
G1C2 - Transit Crowding				X			X							X	X
G1C3 - Inadequate Bus Service									X		X		X		X
G1C4 - Unsafe Walking and Biking					X	X								X	X
G2C1 - Development Around Metro	X													X	X
G2C2 - Housing Job Location	X													X	X
G3C1 - Metro Repair Needs							X								
G3C2 - Roadway Repair Needs								X							
G4C1 - Incidents										X					
G4C2 - Pedestrian and Bicyclist Safety					X	X					X	X		X	X
G5C1 - Environmental Quality			X	X	X	X								X	X
G5C2 - Open Space Development														X	X
G6C1 - Bottlenecks		X								X			X		X
G6C2 - Travel Time Reliability		X					X	X	X	X		X	X		X

the goals, challenges, and strategies. The discussion was conducted with 41 people selected to constitute a fairly representative sample of the region in terms of home jurisdiction, race and ethnicity, gender, and other important characteristics. Based on the information obtained at this citizens forum, a web-based survey was designed to solicit input on the goals, challenges, and strategies from a representative sample of 660 people from throughout the region using Metro Quest public engagement software. The survey was designed to be visually engaging and educational, and was conducted between April and July of 2013. Findings from this survey are described in Chapter 4 of this document.

Setting Regional Priorities

The results of the web-based survey reported in Chapter 4 provide a valuable starting point for assessing the challenges facing the region and prioritizing the strategies that offer the greatest potential for addressing them. Public response to pilot testing of the web-based survey and to the full regional survey of 660 residents suggested that members of the public understood the descriptions of goals, challenges, and strategies presented to them, and provided meaningful responses to the questions asked. The survey results describe how a representative sample of the region's residents rank the relative importance of the challenges and strategies presented.

As reported in Chapter 4 of this document, the four challenges that were identified by survey respondents as the most significant region-wide were, in order: transit crowding, Metro repair needs, roadway congestion, and roadway repair needs. Perhaps the most striking finding was that transit crowding was identified as the most significant regional challenge overall among respondents in all three sub-regional areas (regional core, inner suburbs, and outer suburbs) and across users of all modes of transportation (except that transit users identified roadway congestion as slightly more significant). Further, Metro repair needs was identified as a top challenge by residents throughout the region and by users of all modes. The top strategies identified by survey respondents were Metro maintenance and highway maintenance, alleviate bottlenecks, improve transit access, and roadway management. The Metro maintenance and highway maintenance strategies were strongly supported by residents throughout the region and by users of all transportation modes.

A review of the goals and challenges described in Chapter 2, the strategies described in Chapter 3, and the results of the web-based public opinion survey reported in Chapter 4 of this document suggests that the strategies can be grouped into three priority categories, as follows:

Priority One: Strategies that Address Metro and Highway Repair Needs

Priority Two: Strategies that Address Transit Crowding and Roadway Congestion

Priority Three: Strategies that Address Other Significant Challenges

Priority One: Strategies that Address Metro and Highway Repair Needs

The mapping between regional challenges and strategies illustrated in Figure 5.1 shows that Metro and highway repair needs are addressed by just two specific strategies: Metro maintenance and highway maintenance. Implementation of these strategies is the responsibility of the transportation agencies that own and operate the region's transit and highway facilities, and are accomplished through adequate funding of and management by those agencies.

A new focus on "state of good repair" of transit and highway facilities was signed into law on July 6 of 2012 in the form of a two-year reauthorization of the federal surface transportation program entitled "Moving Ahead for Progress in the 21st Century (MAP-21)." State transportation agencies, federally assisted transit agencies, and metropolitan planning organizations (MPOs) like the TPB will be required under this new law to adopt a performance-based planning and programming approach to addressing state of good repair of transit and highway facilities, including establishment of performance measures by the Secretary of the US Department of Transportation (USDOT), setting of performance targets by states, transit agencies, and MPOs, and regular reporting on progress in achieving targets. The US Department of Transportation is expected to provide proposed performance measures for transit and highway state of good repair, along with other goals like safety and system reliability, toward the end of 2013.

The new MAP-21 performance based planning and programming requirements currently under development by the USDOT provide an excellent opportunity for the TPB, the state transportation agencies, and the region's transit agencies to significantly increase the region's focus and attention on this first category of strategies dealing with Metro and highway repair needs. As work begins throughout the region to develop a major four-year update to the CLRP in 2014, Metro and highway maintenance should be given the highest priority in program development and allocation of funding.

Priority Two: Strategies that Address Transit Crowding and Roadway Congestion

The mapping between regional challenges and strategies illustrated in Figure 5.1 shows that transit crowding and roadway congestion are addressed by a number of different strategies that can and should be applied in combination. Some of these strategies are concerned with the supply side of the transit and roadway systems: Metro and highway maintenance as discussed under Priority One; near-term roadway improvements to alleviate bottlenecks; ongoing roadway management and efficiency programs to smooth traffic flow and minimize delays; and long-term investments in increased capacity of the rail and bus network, including eight-car Metro trains, station enhancements, and bus rapid transit on express toll lanes. Other strategies are concerned with the demand side: near-term commute alternative programs and long-term concentration of more growth in mixed-use activity centers that can be served efficiently by high capacity rail and bus transit and that will promote more bicycling and walking in place of vehicle trips.

Respondents to the web-based survey indicated strong support for both supply and demand side strategies, including them all in the top eight ranked strategies. It is notable that of the three long-term strategies presented in the survey, integration of the concentrated land use, transit, toll lanes and bus rapid transit in strategy LT3 received the strongest support, and the express toll lanes with bus rapid transit in strategy LT1, which did not include greater concentration of land use, received the lowest support.

Review of the goals and challenges described in Chapter 2, the strategies described in Chapter 3, and the results of the web-based survey presented in Chapter 4 suggest that an integrated approach incorporating both supply and demand side strategies needs to be taken to addressing the twin challenges of transit crowding and roadway congestion. Neither supply side nor demand side strategies should be adopted in isolation; only the effective integration of both supply and demand side strategies can produce significant long-term improvements in travel conditions throughout the region. And on the supply side, a multi-modal approach is essential. The top ranking ascribed to the transit crowding challenge by respondents across the region and by users of all transportation modes, many of whom are

probably infrequent users of the transit system, demonstrates that the public recognizes and appreciates the inter-connected nature of the roadway, transit, pedestrian, and bikeway systems. For the system to function well overall, all of the component parts must function well.

Priority Three: Strategies that Address Other Significant Challenges

The web-based survey results reported in Chapter 4 rated all of the regional challenges identified in the survey as being significant issues standing in the way of achieving our regional goals. The top four challenges of transit crowding, Metro repair needs, roadway congestion, and roadway repair needs and the strategies that address them have been grouped and address above as Priority One and Priority Two recommendations for the Regional Transportation Priorities Plan. The other challenges and the strategies that address them are presented as Priority Three recommendations: significant issues and drawing strong support, but receiving lower levels of support than the Priority One and Priority Two categories.

The relatively lower levels of support for strategies in this category may reflect the fact that they tend to be focused on challenges that are less apparent to the regional community as a whole. Nevertheless, meeting the mobility needs of people with disabilities, providing bus priority, expanding bicycle infrastructure, encouraging alternative fuel vehicles, and updating and enforcing traffic laws to make roadways safer for all users all received significant support in the survey, and all deserve continuing attention in the regional transportation planning process.

Other Considerations Addressed in the Web-based Survey

The web-based survey included three additional polling questions designed to assess the public's views about the following topics: confidence in transportation agencies; the importance of public information campaigns; and potential opposition to higher density development near transit stations. The responses to these questions are reported in Chapter 4, and suggest that implementation of the priority strategies discussed above should: provide sufficient transparency to inspire confidence in the actions of the implementing agencies; make maximum use of public information campaigns; and provide opportunities for involvement of all affected parties when high density development is being considered.

Next Steps

The Regional Transportation Priorities Plan (RTPP) is designed to highlight challenges that the Washington region continues to face in achieving its regional transportation goals. The timing of this RTPP document provides an opportunity for the region's decision-makers to consider the three categories of priorities as part of the next four year update of the TPB's Constrained Long Range Plan (CLRP), due at the end of calendar year 2014.

Strategies that address Metro and highway repair needs deserve the highest priority in program development and allocation of funding. An integrated package of demand and supply side strategies that address transit crowding and highway congestion should also be considered a high priority, including alternative commute programs; more concentrated land use in mixed use activity centers that support bicycling and walking; increased capacity of the bus and rail network; roadway capacity and management improvements; and bus rapid transit on express toll lanes. Ongoing strategies to improve transportation for limited mobility groups, provide buses with priority treatments on roadways, and

update traffic laws also need to be addressed, as well as near-term incentives for alternative fuel vehicles and improvements in bicycle infrastructure.

Finally, some key process strategies are recommended: provide sufficient transparency to inspire confidence that agencies are making good use of the resources available to them; make maximum use of public information campaigns to raise public awareness about key transportation issues; and provide opportunities for involvement of all affected parties when high density development is being considered near transit stations throughout the region.