

Technical Inputs Solicitation

for the Constrained Element and Air Quality Conformity Analysis
of the Visualize 2045 Long-Range Transportation Plan
for the National Capital Region

Submission Guide for Implementing Agencies

Inputs are due November 15, 2017



visualize2045
A LONG-RANGE TRANSPORTATION PLAN FOR THE NATIONAL CAPITAL REGION

VISUALIZE 2045 TECHNICAL INPUTS SOLICITATION

Submission Guide for Implementing Agencies

Approved October 18, 2017

ABOUT THE TPB

The National Capital Region Transportation Planning Board (TPB) is the federally designated metropolitan planning organization (MPO) for metropolitan Washington. It is responsible for developing and carrying out a continuing, cooperative, and comprehensive transportation planning process in the metropolitan area. Members of the TPB include representatives of the transportation agencies of the states of Maryland and Virginia and the District of Columbia, 24 local governments, the Washington Metropolitan Area Transit Authority, the Maryland and Virginia General Assemblies, and nonvoting members from the Metropolitan Washington Airports Authority and federal agencies. The TPB is staffed by the Department of Transportation Planning at the Metropolitan Washington Council of Governments (COG).

CREDITS

Editor: Benjamin Hampton

Contributing Editors: Andrew Austin, Jane Posey, Lyn Erickson

Design: Remline Corp.

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INTRODUCTION

About Visualize 2045

Visualize 2045 is the federally required four-year update of the National Capital Region's long-range transportation plan. It will identify all regionally significant transportation investments planned through 2045 and provide detailed analyses to help decision makers and the public "visualize" the region's future under current plans.

Visualize 2045 will include both a "Constrained Element" and an "Unconstrained Element." The Constrained Element will identify the investments agencies expect to be able to afford between now and 2045, while the Unconstrained Element will identify projects that appear in local, state, and regional plans but for which funding has not yet been identified. The Constrained Element is the portion of the plan that was previously known as the Constrained Long-Range Transportation Plan (CLRP). The most recent CLRP was adopted by the TPB in 2014 and amended in 2016.

Like the CLRP had in the past, the Constrained Element of Visualize 2045 will undergo federally required analyses to ensure that it supports the region's air-quality improvement goals (this is known as Air Quality Conformity) and that sufficient financial resources will be available to implement the projects and programs in it (this is known as Constraint). The TPB will also analyze the future performance of the planned system and assess how well it supports or advances regional goals and priorities.

Technical Inputs Solicitation

The Technical Inputs Solicitation is a formal call for area transportation agencies to submit many of the technical elements that will make up Visualize 2045, including those necessary to perform the required air quality and financial analyses of the Constrained Element. The inputs will also be used to assess the future performance of the planned transportation system.

These analyses take several months to complete. **Therefore, the technical inputs must be submitted by November 15, 2017 to ensure that the analyses can be completed and the plan adopted by October 2018.**

What's Required

To properly analyze the Constrained Element of Visualize 2045, the TPB must know what regionally significant projects, programs, and policies agencies are planning to implement between now and 2045. Agencies must undertake the following as part of the Technical Inputs Solicitation:

1. **Review and update existing projects, programs, and policies**
2. **Add new projects, programs, and policies**
3. **Submit updated revenue and expenditure estimates**

The following broad categories of inputs are anticipated as part of this Technical Inputs Solicitation:

- **Capacity expansion projects**
- **Operations and maintenance programs**
- **Transit service and fare assumptions**

For each submission, agencies must provide certain project details, including project descriptions, cost and revenue estimates in year of expenditure dollars, and completion dates. Agencies must also identify and describe what federal and regional policy considerations the investments address.

In addition to the transportation projects, programs, and policies called for in this solicitation, the TPB will also be gathering other technical inputs necessary for the analyses, such as updated population, household, and job growth forecasts, and information about the region's fleet of passenger and commercial vehicles. These inputs are also essential to forecast future travel patterns and vehicle-based emissions under the plan.

SOLICITATION SCHEDULE

The technical analyses of Visualize 2045 will take several months to complete. To ensure that the analyses are finished in time for the full plan to be adopted by the TPB in October 2018, agencies must submit these technical inputs by November 15, 2017.

A 30-day comment period will provide an opportunity for TPB members, stakeholders, and the public to comment on the projects, programs, policies, and technical assumptions submitted for use in the technical analyses of the plan.

Summer 2017	Staff development of solicitation; initial request for project/program and financial information underway
September 2017	Committee and board review of draft solicitation
October 18, 2017	Solicitation opens, pending board approval
November 15, 2017	Solicitation closes; all inputs are due
December 2017	Committee and board review of draft technical inputs
December 14, 2017 - January 13, 2018	30-day comment period on draft technical inputs
January 17, 2018	Board approval of technical inputs
March 2, 2018	Congestion Management Documentation and FY 2019-2024 TIP Inputs are due
May 10, 2018	Public Forum on the FY 2019-2024 TIP
June/July	Staff completes draft Visualize 2045 plan, containing all elements for committee review
September 2018	Committee and board review of Visualize 2045 plan, TIP, and analyses
September 13 - October 13, 2018	30 day comment period on projects, Visualize 2045 plan, TIP, and analyses
October 17, 2018	TPB reviews comments and responses, presented with draft Visualize 2045 plan, Conformity Analysis, and TIP for approval.

RESPONSIBLE AGENCIES

Any municipal, county, state, regional, or federal agency with the fiscal authority to fund transportation projects

is responsible for providing required project, program, and policy inputs for the Constrained Element of Visualize 2045. Inputs must be submitted by one of the TPB member jurisdictions or agencies listed below.

District of Columbia

District Department of Transportation (DDOT)

Suburban Maryland

Maryland Department of Transportation (MDOT)

State Highway Administration (MDOT SHA)

Maryland Transit Administration (MTA)

Maryland Transportation Authority (MDTA)

Charles County Department of Public Works

Frederick County Department of Public Works

Montgomery County Department of Transportation

Prince George's County Department of Public Works and Transportation

Maryland-National Capital Park and Planning Commission (M-NNCPPC)

City of Frederick Planning Department

Gaithersburg Public Works Department

Rockville Public Works Department

Takoma Park Public Works Department

Northern Virginia

Virginia Department of Transportation (VDOT)

Virginia Department of Rail and Public Transportation (VDRPT)

Virginia Railway Express (VRE)

Potomac and Rappahannock Transportation Commission (PRTC)

Northern Virginia Transportation Authority (NVTA)

Northern Virginia Transportation Commission (NVTC)

Arlington County Department of Environmental Services*

Fairfax County Department of Transportation*

Fauquier County Department of Community Development*

Loudoun County Department of Transportation and Capital Infrastructure*

Prince William County Department of Transportation*

City of Alexandria Department of Transportation and Environmental Services*

City of Fairfax Department of Public Works*

City of Falls Church Department of Public Works*

City of Manassas Public Works Department*

City of Manassas Park Public Works Department*

**Virginia local jurisdictions submit through VDOT but are still responsible for providing required information*

Regional

Washington Metropolitan Area Transit Authority (WMATA)

Eastern Federal Lands Highway Division

Metropolitan Washington Airports Authority (MWAA)

PROJECT, PROGRAM, AND POLICY INPUTS

To properly analyze the Constrained Element of Visualize 2045, the TPB must know what projects, programs, and policies agencies are planning to implement between now and 2045. Agencies must undertake the following activities as part of the Technical Inputs Solicitation:

- **Review and update existing projects, programs, and policies:**
Agencies must review all projects, programs, and policies in the most recently adopted CLRP and update all project information, including project costs.
- **Add new projects, programs, and policies:**
Agencies must submit any project, program, or policy not already in the plan that is deemed “regionally significant” as outlined below.
- **Submit updated revenue and expenditure estimates:**
Agencies must submit updated revenue forecasts and estimated expenditure information for the years 2019-2045 to enable the fiscal constraint analysis to be performed.

The following broad categories of inputs are required as part of this Technical Inputs Solicitation:

- **Capacity expansion projects:** Projects that add or remove capacity on the existing highway or transit system
- **Operations and maintenance programs:** New or updated operations and maintenance programs or updated cost figures for such programs
- **Transit service and fare assumptions:** New or updated route, frequency, and fare information for existing or planned transit services

For each submission, agencies must provide certain project details, including project descriptions, cost and revenue estimates in year of expenditure dollars, and completion dates. Agencies must also identify and describe what federal and regional policy considerations the investments address.

FINANCIAL INPUTS

Federal metropolitan planning regulations require MPOs to develop a financial plan that demonstrates how the adopted long-range transportation plan could be implemented given revenues that are “reasonably expected to be available.” “Financial constraint” or “fiscal constraint” is the analysis performed to demonstrate that the forecast revenues which are reasonably expected to be available through 2045 are able to cover the estimated costs of adequately maintaining, operating, and expanding the highway and transit system in the region through that same timeframe. This analysis will be included in the Financial Element of Visualize 2045.

Currently, an interim financial analysis is being prepared to provide a baseline of anticipated revenues and existing planned expenditures. That analysis is based on projects and programs in the adopted FY2017-2022 Transportation Improvement Program (TIP), the 2016 Constrained Long-Range Transportation Plan (CLRP), and the existing Air Quality Conformity Inputs table for both the CLRP and TIP. The inputs provided by the implementing agencies in response to this Technical Inputs Solicitation and for conformity should start from this baseline and adjust their revenues and expenditures to then enable staff to determine financial constraint. The Financial Element will then be finalized as part of the Visualize 2045 long-range plan when submitted for approval by the TPB in October 2018.

Technical Conformity Input Categories

Visualize 2045 can include any kind of project or program. However, some projects and programs must be included. Per federal requirements, any project that adds roadway or transit capacity—and could therefore affect air quality—must be included, as must any project or program slated to receive federal funding. The plan must also identify the maintenance and operations programs and funding required to keep the system in a state of good repair. Plan inputs typically fall into one of the following categories:

Roadway Projects

- **System Expansion:** Increasing system capacity by increasing the number of lane-miles of roadway
- **System Preservation/State of Good Repair:** Major rehabilitation or complete replacement of aging roadways, bridges, technology and communications systems, and other infrastructure as it nears the end of its useful lifespan
- **Study:** Any project that does not have funding identified for right-of-way acquisition or construction. The study may include multiple design alternatives. Funding in the TIP is permitted for project planning or preliminary engineering only

Transit Projects

- **System Expansion:** Increasing system capacity by building new transit lines or adding service to existing lines
- **System Preservation/State of Good Repair:** Major rehabilitation or complete replacement of aging railcars, buses, rail track, stops and stations, and other infrastructure as it nears the end of its useful lifespan
- **Study:** Any project that does not have funding identified for right-of-way acquisition or construction. The study may include multiple design alternatives. Funding in the TIP is permitted for project planning or preliminary engineering only

Bicycle or Pedestrian Projects

- **Local Circulation:** Projects that support local circulation within Activity Centers. These can include streetscaping, traffic calming, bikeshare, bicycle lanes, sidewalks, and multi-use paths
- **Regional Facilities:** Multi-jurisdictional projects, projects that improve transit station access, and/or projects that are part of the National Capital Trail network

Operations and Maintenance Programs

- **Day-to-Day Operations and Maintenance:** This can include activities like repaving roadways, inspecting and maintaining bridges, clearing snow and debris, servicing transit vehicles, maintaining and operating traffic signals, and paying train and bus operators
- **Regional programs:** This can include programs like regional ridesharing and traveler information programs

Transit Service and Fare Assumptions

- **Bus transit:** New or updated routes, frequencies, and/or fare policies
- **Rail transit:** New or updated routes, frequencies, and/or fare policies
- **HOV/HOT:** New or updated lane restrictions and/or hours of operation

ADDITIONAL INPUTS

Other inputs that are required in order to perform the Air Quality Conformity Analysis include the following, which are gathered by staff with help from local, state, and other agencies and are not directly required as part of this solicitation:

- **Baltimore area project inputs:** Projects in the Baltimore Regional Transportation Board (BRTB) long-range transportation plan that are in jurisdictions in the TPB Modeled Area.
- **Fredericksburg area project inputs:** Projects in the Fredericksburg Area Metropolitan Planning Organization (FAMPO) long-range transportation plan that are in jurisdictions in the TPB Modeled Area.
- **Calvert-St. Mary's area project inputs:** Projects in the Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO) long-range transportation plan that are in jurisdictions in the TPB Modeled Area.
- **Land-use forecasts for neighboring areas:** Population and employment forecasts for jurisdictions outside the TPB Planning Area but within the TPB Modeled Area, including the Baltimore, Fredericksburg, and Calvert-St. Mary's metropolitan areas and Charles County (MD), Clark and Fauquier counties (VA), and Jefferson County (WV).
- **Census-adjusted employment forecasts:** Employment forecasts provided by COG are modified to reflect the latest Census estimates.
- **Other specialized trips:** Estimates of external trips, through trips, and specialty-generator trips (e.g., for major sporting events).
- **Vehicle registration information:** Make, model, and year of all registered vehicles, used to calculate the average fuel efficiency of the region's vehicle fleet.
- **Non-travel related emissions model inputs:** Air temperature and humidity, fuel formulation, and inspection and maintenance program and requirement information.
- **Base-year transit assumptions:** Route and schedule information for existing train and bus systems.
- **Toll and fare updates:** Existing toll and fare policies and usage, including toll collection methods, facility use by vehicle type, and hours of operation and enforcement.

REGIONAL POLICY CONSIDERATIONS AND EVALUATION

Visualize 2045 should strive and aspire to meet the goals and reflect the priorities developed and agreed to by the TPB and its member jurisdictions. To that end, the TPB asks agencies and jurisdictions to “think regionally” as they “act locally” to develop transportation projects, programs, and policies for implementation. This means considering the needs of neighboring jurisdictions and the region as a whole when identifying investment priorities—recognizing that decisions made in one jurisdiction can affect travelers and transportation systems and services elsewhere in the region.

The region's leaders have come together around a shared vision for the region's transportation future. That vision focuses on multimodal transportation solutions that give people greater choice in finding the travel mode that works best for them. It also emphasizes the important role of land-use, especially strengthening the region's Activity Centers by providing high-quality connections between centers and improving non-auto travel options within them. System maintenance is also paramount, recognizing that our existing roadways and transit systems must be in a state of good repair to be safe, efficient, and reliable.

When agencies submit new projects or programs for inclusion in Visualize 2045, they will be asked to document how the initiative supports or advances regional goals and priorities. This information will be shared with the TPB, its committees and subcommittees, and the general public for review and discussion at key points in the plan development process.

Note for agencies: *The Visualize 2045 Project Description Form asks for information about how project submissions support or advance regional goals and priorities. These questions must be completed for all new submissions.*

Shared Regional Goals and Priorities

The six goals below were outlined in the *Regional Transportation Priorities Plan*, adopted by the TPB in 2014. The goals are rooted in the *TPB Vision*, which was adopted by the TPB in 1998 and serves as the official policy element of *Visualize 2045*. When agencies submit new projects or programs for inclusion in *Visualize 2045*, they will be asked to document how the initiatives support or advance these regional goals.

<p>Provide a Comprehensive Range of Travel Options</p>	<ul style="list-style-type: none"> • Identify all travel mode options that this project provides, enhances, supports or promotes • Does this project improve accessibility for historically transportation-disadvantaged individuals (i.e., persons with disabilities, low incomes, and/or limited English proficiency)?
<p>Promote Regional Activity Centers</p>	<ul style="list-style-type: none"> • Does this project begin or end in an Activity Center? • Does this project connect two or more Activity Centers? • Does this project promote non-auto travel within one or more Activity Centers?
<p>Ensure System Maintenance, Preservation, and Safety</p>	<ul style="list-style-type: none"> • Does this project contribute to enhanced system maintenance, preservation, or safety?
<p>Maximize Operational Effectiveness and Safety</p>	<ul style="list-style-type: none"> • Is this project primarily designed to reduce travel time on highways and/or transit without building new capacity (e.g., ITS, bus priority treatments, etc.)? • Does this project enhance safety for motorists, transit users, pedestrians, and/or bicyclists?
<p>Protect and Enhance the Natural Environment</p>	<ul style="list-style-type: none"> • Is this project expected to contribute to reductions in emissions of criteria pollutants? • Is this project expected to contribute to reductions in emissions of greenhouse gases?
<p>Support Interregional and International Travel and Commerce</p>	<ul style="list-style-type: none"> • Does this project enhance, support, or promote the following freight carrier modes: long-haul truck, local delivery, rail, or air freight carrier modes? • Does this project enhance, support, or promote the following passenger carrier modes: air, Amtrak intercity passenger rail, intercity bus?

Note: Several TPB and COG policy documents together articulate the region's shared vision for the future. Refer to the **Resources and Maps** section for links to these resources online.

FEDERAL REQUIREMENTS AND POLICY CONSIDERATIONS

Visualize 2045 must satisfy a number of federal requirements in order to receive federal approval and for federal funding to flow to transportation projects in our region. The two main requirements are that the plan must:

- **Identify all regionally significant projects and programs for which funding is reasonably expected to be available between now and 2045.** Regionally significant projects and programs are those that add or remove capacity on the existing transportation system.
- **Demonstrate that these projects and programs together support regional air-quality improvement goals.** An official Air Quality Conformity Analysis carried out by the TPB must show that forecast vehicle-related emissions under the plan will not exceed approved regional limits.

Under federal law, the plan must also address eight federal planning factors, as identified by the U.S. Department of Transportation (USDOT). (See sidebar) *The Constrained Element of Visualize 2045 must meet a number of other federal requirements as well, including non-discrimination and equity, congestion management documentation, public participation, and others. For a full listing of these requirements, refer to the **Resources and Maps** section of this document.*

Performance-Based Planning and Programming

The Fixing America's Surface Transportation (FAST) Act put forth seven National Goals for Performance-Based Planning and Programming:

1. Safety
2. Infrastructure Condition
3. Congestion Reduction
4. System Reliability
5. Freight Movement and Economic Vitality
6. Environmental Sustainability
7. Reduced Project Delivery Delays

These goals mirror the goals in the TPB Vision and other regional policy documents. The FY 2019-2024 TIP will be used as a tool to monitor and review the region's performance relative to these goals.

Project and program submissions must:

- **Include sufficient detail to be analyzed for air quality impacts and fiscal constraint:** The Project Description Form notes all required project details and descriptions.
- **Address one or more federal planning factors:** Agencies will be asked in the Project Submission Form to note which federal planning factors the project or program addresses.

Federal Planning Factors

Federal law also identifies a list of planning factors meant to guide metropolitan transportation planning. Collectively, the projects, programs, and policies in Visualize 2045 must address these factors. Agencies will therefore be asked to identify which of the federal planning factors their submissions address.

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for all motorized and non-motorized users;
3. Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation (New under the FAST Act); and
10. Enhance travel and tourism. (New under the FAST Act)

REVIEW, COMMENT, AND APPROVAL PROCESS

The draft technical inputs will undergo a process of review, comment, and approval before they are used in the federally required Air Quality Conformity Analysis and other analyses of the plan. The steps of this process are outlined below.

Staff Review November 2017	Staff will review the draft inputs and work with submitting agencies to ensure that all provided information is complete and accurate.
Committee and Board Review December 2017	The TPB and the TPB Technical Committee will review the draft inputs at their December meetings. Other committees and sub-committees may request a briefing on the draft inputs.
Comment Period December 2017 - January 2018	A 30-day comment period will provide an official opportunity for TPB members, stakeholders, and the public to comment on the draft inputs. Comments must be provided through official channels described at mwcog.org/TPBcomment .
Review of Comments and Board Approval January 2018	The TPB and TPB Technical Committee will review comments on the draft inputs. The board will vote at its January meeting to approve the inputs for use in the federally required Air Quality Conformity and other analyses of the plan.

Purpose of Committee and Board Review

It is TPB's responsibility to approve project, program, and policy submissions for inclusion in the long-range plan. These initiatives have typically undergone extensive local development and review, however, the TPB and its committees play an important review role. Their tasks are to:

- Become acquainted with project and program details
- Ensure key questions are answered and details are provided
- Ensure consistency with locally adopted plans and priorities
- Ensure that sufficient local input from the public and local officials has been provided
- Discuss whether and how submissions support regional policy goals and priorities

The TPB will vote on aspects of Visualize 2045 at two key points in the plan development process. The first will come in January 2018, when the board will be asked to approve the technical inputs. The board will vote again in October 2018 on final adoption of the full plan.

BASIC SUBMISSION INSTRUCTIONS FOR CONFORMITY INPUTS

An online database application is used to gather project and program information from each agency. Staff from implementing agencies will be assigned an account with a user name and password. There are two levels of access to the database: editors and reviewers. Each agency should decide which person on their staff should assume these roles. Once logged into the application users will have access to the most recent version of the plan and TIP information that was approved by the TPB. TPB staff will offer training sessions to assist staff with the application as needed.

Appendix A provides details instructions for project and program submissions.

RESOURCES AND MAPS

The following resources and maps may be helpful for agencies and jurisdictions as they report on how their technical submissions support or advance regional goals and priorities.

TPB Vision

www.mwcog.org/TPBvision

Regional Transportation Priorities Plan

www.mwcog.org/RTPP

Activity Centers map and list

www.mwcog.org/ActivityCenters

Equity Emphasis Areas map

www.mwcog.org/EquityEmphasisAreas

Region Forward

www.mwcog.org/RegionForward

Financial Analysis (2014 CLRP)

www1.mwcog.org/clrp/elements/financial/default.asp

Federal requirements

www1.mwcog.org/clrp/process/federalrequirements.asp

CONTACT INFORMATION

Technical questions and assistance with submissions:	Andrew Austin aaustin@mwkog.org (202) 962-3353
Questions about transit assumptions and air quality conformity:	Jane Posey jposey@mwkog.org (202) 962-3331
All other questions about Visualize 2045:	Lyn Erickson lerickson@mwkog.org (202) 962-3319

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National Capital Region
Transportation Planning Board

Visualize 2045 is being developed by the National Capital Region Transportation Planning Board, the federally designated metropolitan planning organization for metropolitan Washington.