

Chapter VII

2045 Performance- Based Process

In this chapter, the reader will find:

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2045 Performance-Based Process

A Candidate Project List acted as a starting point for the 2045 evaluation and scoring process that resulted in a ranked list of long range project recommendations. The Project Evaluation Tool described in [Chapter VI](#), structured around the 2045 Goals and Performance Measures, determined the most cost-effective investments for meeting the travel needs of the Danville-Pittsylvania region.

Overview of the Performance-Based Process

The 2045 project evaluation process featured elements new to D-MPO. Project prioritization centered on finding the most cost-effective transportation solutions for the MPO area. The process, structured around state funding processes, also helped to prepare potential projects for state funding applications. Other features included:

- **Updated performance measures** Accounting for the FAST Act and SMART SCALE Planning Factors, D-MPO adopted a new set of LRTP performance measures described in [Chapter VI](#).
- **Multiple Phases of Evaluation** Project selection entailed multiple rounds of evaluation allowing the MPO to adjust project descriptions and costs to better prepare for SMART SCALE and Other Funding Sources. In each round, consultants finetuned project descriptions and costs. As a result, the Visioning List presents greater detail and guidance than the typical LRTPs.
- **Screening step** D-MPO started the selection process with a Candidate List of Projects, which consisted of all known transportation recommendations in the region. A screening

FEDERAL CODE ON PERFORMANCE-BASED APPROACH

(a) To accomplish the objectives in § 450.300 and § 450.306(b), metropolitan planning organizations designated under § 450.310, in cooperation with the State and public transportation operators, shall develop long-range transportation plans and TIPs through a performance-driven, outcome-based approach to planning for metropolitan areas of the State.

(d) Performance-based approach.

1. The metropolitan transportation planning process shall provide for the establishment and use of a performance-based approach to transportation decision-making to support the national goals described in 23 U.S.C. 150(b) and the general purposes described in 49 U.S.C. 5301(c).
2. Establishment of performance targets by metropolitan planning organizations.

§ 450.306 Scope of the metropolitan transportation planning process.

phase filtered any projects that failed to address an identified need or that was otherwise inconsistent with certain standards described below.

- **Scenario of Projects** The region's transportation system is connected, where each LRTP project can influence other recommendations on the list. As a result, the selection process evaluated projects as a set, rather than as individual, independent recommendations.
- **Project Categories** Project evaluations occurred within categories, based on mode and project type. This allowed for an apples-to-apples comparison of projects and ensured that certain travel modes would be included in the Constrained List.

Project Evaluation Steps

Project evaluation consisted of six phases, from pre-evaluation to approval of the 2045 projects.

Phase I: Pre-Evaluation

A constellation of factors influenced the 2045 project evaluation process. Before project scoring began in earnest, the following steps laid the groundwork for subsequent efforts. At this stage of the process, D-MPO's consultants identified transportation deficiencies, developed goals and performance measures, created the Project Evaluation Tool, and assembled the initial Candidate List of Projects.

- **Step 1: Deficiencies** EPR, p.c. identified existing ([Chapter III](#)) and future ([Chapter V](#)) transportation deficiencies that should be addressed, according to D-MPO's priority areas. Consultants

overlapped known deficiencies with existing transportation recommendations. Any deficiencies not addressed by an existing study are listed in the Visioning List for further study.

- **Step 2: Goals and Performance Measures** D-MPO adopted five goals and 15 performance measures that would form the Project Evaluation Tool and its scoring sheets, described in [Chapter VI](#).
- **Step 3: Project Evaluation Tool** Consultants developed the Project Evaluation Tool with 15 data inputs that calculate results for the approved performance measures. Appendix F documents the scoring sheets and results.
- **Step 4: Candidate List of Projects** Consultants reviewed local, regional, state, and federal documents to identify all known transportation recommendations for the D-MPO region. Public comments also helped identify potential projects, which were recorded mostly in the Visioning List.

Screening Phase

Not all transportation projects qualify for inclusion in the Long Range Plan. Projects may not meet defined needs or may not be defined as regional in nature. Projects that were "screened out" of the evaluation process automatically populated the Visioning List of Projects for consideration in later updates of the LRTP. Thus, screened out projects were not scored in this process. Screening involved the following standards:

- **Regional Nature:** Local streets are not considered to be part of the regional network and do not qualify for federal transportation funds. Any local facilities, per the functional classification system, moved directly into the Visioning List for documentation. Collectors could be screened to the Visioning List if not tied to a regional need.
- **Environmental Justice:** Any projects that present a clear and unresolvable environmental justice issue would be screened out and even excluded from the plan entirely. No identified projects presented environmental justice concerns.

SOURCE OF PROJECTS



- 2040 LRTP Constrained and Visioning Lists
- 2019 WPEDD CEDS
- WPPD Park and Ride Facilities Report
- US Route 29 Access Management Plan
- Route 58 West Access Management Study and Plan
- US Route 58 (Riverside Dr) Corridor Access Management Plan
- Riverside Drive (US 58 Business) Corridor Improvement Study
- SoVA Mega Site at Berry Hill Transportation Update
- Moorefield Bridge Road, Planning Level Study
- Kentuck Road, Planning Level Study
- Mount Cross Road Corridor Analysis
- US 58 /Berry Hill Rd (Route 311) Interchange Phasing Analysis

- **Identified Need:** The process aimed to screen out any project recommendations that were not tied to an identified need. Commonly, projects from existing plans and reports addressed a predetermined need.
- **Project Concepts:** Virginia’s transportation funding processes require detailed project descriptions and reliable cost estimates. Any projects that lacked these requirements were not scored. These projects may be ideal for the VDOT STARS program or some other transportation study.

Round One Project Evaluation Steps

With the Candidate List of Projects in hand, D-MPO’s consultants (EPR, p.c.) conducted a detailed examination of existing project recommendations. This task was the most time-intensive effort in the evaluation process, as engineers and planners examined over 70 projects. Steps included:

- **Step 1: Project Descriptions and Cost Estimates**
Consultants examined every project from the Candidate List to confirm descriptions and cost estimates. Engineers revised any costs that appeared to be inaccurate or too general. Planners determined if any recommendations contradicted or overlapped each other.
- **Step 2: Review by VDOT and MPO Staff** Staff from the VDOT Lynchburg District and D-MPO office reviewed the initial list of remaining projects. Staff identified any projects that required further review or reexamining.
- **Step 3: Entry into the Project Evaluation Tool** After vetting the Candidate List of Projects, EPR, p.c. entered those recommendations into the Project Evaluation Tool’s scoring sheets (Figure 57). This step involved entry of nearly 1,000 data inputs and subsequent quality assurance/quality control efforts.

Round Two Project Evaluation Steps

The second round of project evaluation involved a calculation of Benefit Scores. Data inputs from the 15 performance measures resulted in a Benefit Score from 0 to 100 that represents the total benefit to the regional transportation system according to the approved 2045 Goals. Consultants ranked all scored projects by Benefit Score.

- **Step 1: Calculate the Project Benefit Scores** After entering project data into the scoring sheets, EPR, p.c. calculated and ranked projects by Benefit Score. The top 30 projects received additional attention and review by engineers and planners.
- **Step 2: Additional Updates to Descriptions and Costs** Consultants continued to vet projects on the Candidate List, focusing on the top 30. Any projects with limited descriptions and unreliable cost estimates moved out of the scoring projects.
- **Step 3: Review by VDOT and MPO Staff** Staff conducted a review of Benefit Scores to verify results and ranking.

Round Three Project Evaluation Steps

The third round resulted in a review of Benefit-Cost scores, the main determining factor for assigning projects to future funding applications. The MPO Technical Committee and Policy Board examined results, focusing on the top 30 projects.

- **Step 1: Calculate the Project Benefit-Cost Scores** With detailed project descriptions and reliable cost estimates, EPR, p.c. calculated Benefit-Cost scores (Benefit Score divided by estimated cost).
- **Step 2: Additional Updates to Descriptions and Costs** Consultants continued to vet projects on the Candidate List, focusing on the top 30, by Benefit-Cost. Any projects with limited descriptions and unreliable cost estimates moved to the Visioning List.
- **Step 3: Review by VDOT and MPO Staff** Staff conducted additional review of Benefit-Cost scores to verify results and ranking.

- **Step 4: MPO Committee Review** In June 2020, the MPO Technical Committee and Policy Board reviewed the Benefit-Cost scores, highlighting any high priority projects that received unexpectedly low scores.
- **Step 5: Reevaluation of Projects** EPR, p.c. noted any projects flagged by the MPO or VDOT staff for reevaluation. Consultants redefined any highly desired projects that received a low score.

Round Four Project Evaluation Steps

In the final round of evaluation, the MPO made additional tweaks to the Candidate List of Projects. VDOT determined the Constrained Budget – the amount of transportation funding that the MPO can anticipate by 2045. EPR, p.c. assembled different scenarios of projects lists, creating a schedule for SMART SCALE and other funding applications for the ensuing years.

Step 1: MPO Review

The MPO Technical Committee and Policy Board examined revisions to the ranked list of projects, identifying further tweaks to project descriptions.

Step 2: Constrained Budget

VDOT used historic funding trends and recent budget decisions to determine how much funding D-MPO can expect to receive by 2045. VDOT eventually determined that the Constrained List of Projects would only include funded projects that are already in the SYIP.

Step 3: Public Review

D-MPO held a virtual Town Hall event on July 7th, 2020. An online presentation directed the public to a project website to provide feedback on project selection.

Step 4: Scenario Lists

Using public feedback, consultants assembled various options for funding a high-priority projects. Different scenarios of projects explored how projects may influence the overall system and each other.

Step 5: Final Adoption

EPR, p.c. coordinated with MPO officials to finalize a set of project recommendations for the Constrained and Visioning Lists.

Candidate List of Projects

The 2045 Candidate List began with 71 projects from existing plans and studies. Most projects arose from the 2040 LRTP. Initial project descriptions were less defined, with more general cost estimates.