

# CHAPTER VII

# 2045 PERFORMANCE-BASED PROCESS

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A Candidate Project List acted as a starting point for the 2045 evaluation and scoring process that resulted in the Constrained List of Projects and Visioning List. 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 Central Virginia region.

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# OVERVIEW OF THE PERFORMANCE-BASED PROCESS

The 2045 project evaluation process updated and refined the tools used previously by the CVTPO. Project selection centered on finding the most cost-effective transportation solutions for the TPO 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, CVTPO adopted an updated set of LRTP performance measures described in [Chapter VI](#).

## Multiple Phases of Evaluation

Project selection entailed multiple rounds of evaluation allowing the TPO to adjust projects 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 Constrained List of Projects and Visioning List presents greater detail and guidance than the typical LRTP.

## Screening step

CVTPO started the selection process with a Candidate List of Projects, which consisted of all known transportation recommendations in the region. A screening phase filtered any projects that failed to address an identified need or that was otherwise inconsistent with certain standards described in the pre-evaluation phase.

## Scenario of Projects

The region's transportation system is connected, so that 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 Constrained and Visioning List of 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, CVTPO's consultants identified transportation deficiencies, evaluated goals and performance measures, updated the Project Evaluation Tool, and assembled the initial Candidate List of Projects.

### Step 1: Deficiencies

EPR, P.C. identified existing and future transportation deficiencies that should be addressed according to CVTPO'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

CVTPO adopted five goals and 16 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 16 data inputs that calculate results for the approved performance measures. Appendix H 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 CVTPO 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. The Visioning List also stored non-LRTP projects to document the screening 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 & Equity

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income. When this is accomplished, the development, construction, operation and maintenance of transportation projects should reflect an equitable distribution of benefits and burdens. Equity is defined as just and fair inclusion into a society in which all can participate, prosper, and reach their full potential. Equitable transportation projects ensure that the project impact does not have a disproportionately negative impact on communities of color, low-income communities, or those communities which are otherwise disenfranchised.

Any projects that present a clear and unresolvable environmental justice or equity issue would be screened out and even excluded from the plan entirely. No identified projects presented irreconcilable environmental justice or equity concerns. The CVTPO commits to actively pursuing social equity and community engagement in all its projects and programs.



## 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 moved to the Visioning List to be studied further. 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, CVTPO'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. 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. Any projects that lacked enough detail moved to the Visioning List for further study.

### Step 2: Review by VDOT and TPO Staff

Staff from the VDOT Lynchburg District and CVTPO 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. This step involved over 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 16 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 to the Visioning List.

### Step 3: Review by VDOT and TPO 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 the Constrained and Visioning Lists. The TPO 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 TPO Staff**

Staff conducted additional review of Benefit-Cost scores to verify results and ranking.

### **Step 4: TPO Committee Review**

In June 2020, the TPO 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 TPO 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 TPO made additional tweaks to the Candidate List of Projects. VDOT determined the Constrained Budget – the amount of transportation funding that the TPO can anticipate by 2045. EPR, P.C.

### **Step 1: TPO Review**

The TPO 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 CVTPO can expect to receive by 2045. Consultants applied this budget to the Candidate List of Projects to develop the draft Constrained Long Range Plan (CLRP).

### **Step 3: Public Review**

CVTPO held a virtual Town Hall event in early July. 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 Constrained Project List. Different scenarios of projects explored how projects may influence the overall system and each other.

### **Step 5: Final Adoption**

EPR, P.C. coordinated with TPO officials to finalize a set of project recommendations for the Constrained and Visioning Lists.



## CANDIDATE LIST OF PROJECTS

The 2045 Candidate List began with projects from existing plans, studies, the TTC, public comments and deficiency analysis. Most projects arose from the 2040 LRTP. Initial project descriptions were less defined, with more general cost estimates. LRTP projects that fall within the first six years of the plan are part of the VDOT's six-year improvement program (SYIP) and represent the TPO's greatest transportation improvement needs. These projects were chosen prior to the CVLRTP planning process and thus were not analyzed using its evaluation program.

The projects included in the current FY 2021 SYIP will not all be completed at the end of this six-year period in 2026. The outstanding balance of these projects beyond 2026 is expected to be approximately \$54,354,138. This amount effectively utilizes all funding that is projected to be available for construction projects in the TPO through year 2045. As such, given the current funding situation the CVTPO is unable to add any projects to its Constrained List beyond those identified on the FY 2021 SYIP.

## HIGH-RANKING VISION PROJECTS

With several unknowns with state transportation funds, **Chapter VIII** lists Vision Projects with the highest benefit-cost scores from the 2045 process. Detailed project profiles guide TPO officials with rolling high-ranking projects into the CLRP once anticipated funds are known.

