APPENDIX G. PROJECT EVALUATION PROCESS

CONNECT CENTRAL VIRGINIA 2045

Purpose:

The Central Virginia MPO is currently updating its Long Range Transportation Plan (LRTP), referred to as Connect Central Virginia 2045. With five months remaining in this planning process, this paper explains the 2045 project evaluation process, the LRTP projects lists, the project evaluation, and next steps in the process. **The objective of this document is to serve as a guide for MPO officials who may have questions about the scoring of projects.**

Background:

In January 2020, the MPO Policy Board approved the 2045 Goals and Performance Measures. The MPO goals were consistent with those from the previous version of the plan (2040 LRTP). An updated set of sixteen performance measures address federal, state, and regional changes that occurred since adoption of the preceding LRTP. These changes included:

- A new Federal Transportation Act (the FAST ACT),
- Virginia's adoption of Smart Scale as a data-driven means for evaluating transportation funding decisions, and
- New regional transportation targets set by the MPO.

At their January meeting, the MPO's Transportation Technical Committee (TTC) and Policy Board heard a presentation on how those goals and performance measures would form the basis for the Scoring Sheets used to evaluate and prioritize projects. The Commonwealth Transportation Board utilizes a data-driven evaluation process to inform funding decisions. The CVMPO's process will result in a similar approach for informing Policy Board decisions on the Constrained List of Projects.

Purpose of a Performance-Driven a Process

There are multiple reasons for adopting a performance- or data-driven process.

1. The Federal Code calls for MPOs to adopt a performance-driven process (23 U.S. Code § 134c1).
2. Goals and performance measures that are consistent with the Smart Scale scoring process will help to identify which projects are most likely to receive funding.
3. Using a process that is consistent with the state's funding approach will help the MPO alter or enhance their high-priority projects, ensuring funding for the MPO's future Smart Scale applications.

Approved 2045 Goals and Performance Measures

The approved scoring framework for the 2045 process includes five goals and sixteen performance measures. The TTC recommended a weighting system for the goals and performance measures that the MPO Policy Board adopted. These weighted scores determined the scoring formulas used in the scoring sheets. For example, **GOALS 1: MOBILITY AND ACCESSIBILITY** accounts for 20% of a project's *Benefits Score*. Under that goal, the five supporting performance measures are weighted to account for a percentage of the goal weight. A maximum Benefit Score is 100. *The following indicated the point value of each performance measure.*

Goal 1: Mobility and Accessibility *(20 Percent of the Total Benefit Score)*
Provide a transportation system that facilitates the efficient movement of people and goods.

Existing Congestion (20 Percent of Goal 1 Score | 4 of 100 points)

Volume to Capacity Ratio (VC) measures the number of vehicles a road segment carries compared to how many vehicles it could carry based on its design. VC is expressed as a ratio. For example, a road with a VC of 1.0 would be a road that carries as many vehicles as it is designed to carry.

Future Congestion (20 Percent of Goal 1 Score | 4 of 100 points)

This is the same metric used in the Existing Congestion measure, but the data represents a projection to 2045.

Existing Traffic Volume (20 Percent of Goal 1 Score | 4 of 100 points)

Weighted Traffic Flow measures the number of vehicles per lane per hour on a given road segment.

Future Traffic Volume (20 Percent of Goal 1 Score | 4 of 100 points)

This is the same metric used in the Existing Traffic Volume measure, but the data represents a projection to 2045.

Alternative Transportation Facilities (20 Percent of Goal 1 Score | 4 of 100 points)

This measure estimates the number of non-automotive modes that would be improved by the proposed project.

Goal 2: Safety *(25 Percent of the Total Benefit Score)*

Provide a safe and secure transportation system.

Fatal and Injury Traffic Crash Rate (50 Percent of Goal 2 Score | 12.5 of 100 points)

The crash rate of fatal and injury crashes per 1,000,000 vehicle miles traveled (VMT) within the extent of the project will be used for this measure.

PSI Locations (50 Percent of Goal 2 Score | 12.5 of 100 points)

The number and ranking of Potential Safety Improvement (PSI) locations improved by the proposed project will be used for this measure. PSI locations are ranked by the state by VDOT construction districts. These are critical considerations for the state's funding decisions, officially identifying and ranking locations with safety concerns.

Goal 3: Economy *(25 Percent of the Total Benefit Score)*

Retain and increase business and employment opportunities.

Placemaking (25 Percent of Goal 3 Score | 6.25 of 100 points)

Placemaking is about enhancing our neighborhoods, downtowns, and other activity centers so that they become the focus of social and economic activity. Successful placemaking combines both programmatic initiatives and physical infrastructure.

CEDS Consistency (25 Percent of Goal 3 Score | 6.25 of 100 points)
Consistency with the recommendations from the Comprehensive Economic Development Strategy (CEDS), a central economic development guide for the region.

Surrounding Employment Density (25 Percent of Goal 3 Score | 6.25 of 100 points)
The number of jobs per acre is used for this measure.

Freight Volume (25 Percent of Goal 3 Score | 6.25 of 100 points)
This measure is the percentage of the vehicle volume on a road segment that is made up of heavy vehicles.

Goal 4: Community and Nature *(15 Percent of the Total Benefit Score)*
Improve the quality of life and protect the environment.

Social Resources (50 Percent of Goal 4 Score | 7.5 of 100 points)
The proposed project's impact on cultural and historic sites identified by localities will be used in this measure.

Environmental Resources (50 Percent of Goal 4 Score | 7.5 of 100 points)
The proposed project's impact on environmental resources will be used in this measure.

Goal 5: Operational Efficiency *(15 Percent of the Total Benefit Score)*
Preserve the existing transportation system and promote efficient system management.

Right of Way Sufficiency (33 Percent of Goal 5 Score | 5 of 100 points)
This measure estimates whether the proposed project will require the acquisition of additional right-of-way.

Plan Coordination (33 Percent of Goal 5 Score | 5 of 100 points)
This measure considers how many existing (previously conducted) plans have identified the proposed project as a need.

Distribution of Benefit (33 Percent of Goal 5 Score | 5 of 100 points)
This measure estimates the geographic extent of the benefits provided by the proposed projects.

2045 Project Lists
The LRTP includes two project lists: **THE CONSTRAINED LIST OF PROJECTS** and the **VISIONING LIST**. In the LRTP process, VDOT determines how much funding it anticipates for MPO projects over the ensuing twenty-five years. This "constrained budget" arises from an analysis of past and current funding, providing a best guess for what resources will be available in the future.

The Constrained List of Projects
With this forecast of funding, the MPO creates its Constrained List of Projects, or Constrained Long Range Plan (CLRP). Each project includes a planning level cost estimate. The Constrained List of Projects

cannot exceed the amount of funding that is anticipated in the Constrained Budget. Most Constrained Projects arise from other studies where recommendations are refined and assigned estimated costs. The CVMPO's Constrained List of Projects will include categories based on mode.

Constrained List of Roadway Projects
This category of roadway projects includes any safety or capacity-building improvements to local highways.

Constrained List of Bike and Pedestrian Projects
Some portion of the Constrained Budget is dedicated to bike and pedestrian improvements, scored through the ActiveTrans prioritization tool.

Constrained Transit List
Another portion of the Constrained Budget is dedicated to transit service that is consistent with the Transit Development Plan.

The Visioning List
Any projects that cannot fit into the Constrained Budget are sent to the Visioning List. This list may or may not include cost estimates as there is no assigned budget. An MPO may use the Visioning List as an inventory of future Constrained Projects once those from the CLRP are completed. MPOs may also store transportation projects in the Visioning List until those recommendations can be further studied and "ripen" as viable CLRP projects. MPOs may also use the Visioning List to store any transportation projects that are deemed important to the region but may not be viable MPO projects. The CVMPO's Visioning List will include the following categories of projects:

Scored Projects
These projects are evaluated with the Scoring Sheets but are excluded from the Constrained List of Projects. These projects may be priorities but lack an adequate Benefit/Cost score to be placed under the Constrained Budget. Some projects may score relatively well but are moved to this list because of results from the Travel Demand Model or economic evaluations.

Deficiency Areas
During the LRTP process, transportation consultants identified several deficiency areas (congestion, safety, etc.) that lacked a transportation project for addressing the identified issues. The LRTP process may offer preliminary recommendations and costs but further study is needed. The MPO and VDOT should refer to this list annually to determine potential study locations. Consultants conducted a simplified scoring of these deficiency areas to prioritize future studies.

Rural Projects
Connect Central Virginia includes the Rural Long Rang Plan (RLRP), adopted in 2017. Incorporating the RLRP into the MPO area long range transportation plan provides a holistic view of the regional transportation network. Since the Rural Program Area is outside the MPO boundaries, projects are not eligible for the Constrained List, although they are inherently tied to the MPO transportation network.

Other Screened Projects

In an initial step for the evaluation process, staff screened out several projects including those that may not be deemed regional in nature, are not yet ready for serious consideration because they lack essential detail, may have environmental justice issues or other impacts, and may not address an identified need.

Project Evaluation Process

The process begins with a candidate list of projects collected from various sources and ends with the Constrained List of Projects and Visioning List.

Pre-Evaluation Phase

In this phase, consultants develops a Candidate List of projects, including:

- Remaining projects from the 2040 LRTP Constrained List
- The 2040 LRTP Visioning List
- Recommendations from Existing Plans and Studies
- Other Projects Identified by the TTC
- Identified Deficiencies Revealed in the LRTP Process

Screening Phase

Not all transportation projects qualify for inclusion in the Constrained List. Projects that are screened out enter the OTHER SCREENED PROJECTS grouping under the Visioning List for reasons described in the *Other Screened Projects* section of this document.

Cost Estimates

With the remaining Candidate Projects, consultants work with VDOT to develop updated cost estimates. Scoring Sheets evaluate projects with a Benefit/Cost score based on current dollars. The scoring sheet uses current dollars as it is impossible to predict when a project might be funded.

2045 Project Evaluation

The consultants scored over 90 Candidate Projects in the Central Virginia MPO area. In March 2020, the TTC assisted with screening of projects and identified additional projects for consideration. In late March and April, staff updated the project cost estimates. The consultants also entered all applicable information into the Project Scoring Sheets for the evaluation.

The Project Sheets include a Benefit Score determined by the weighted performance measures. The more important figure is the Benefit/Cost score, used to rank and prioritize the projects.

Next Steps

TTC members will review the scored list of projects and provide feedback on the results. Specifically, the TTC will determine if the ranking of projects is consistent with their understanding of the region's transportation needs. The TTC should indicate any high priority projects that received a relatively low Benefit/Cost score. Staff will reevaluate those projects, altering those recommendations in ways that will improve the Benefit Score and/or reduce cost. The TTC can recommend other adjustments, such as splitting, merging, or amending projects. Staff will receive those comments and begin amendments for

the evaluation, developing an initial draft of the Constrained List. While comments should be forward to MPO staff, other questions can be directed to Will Cockrell at w.cockrell@epr-pc.com.