

2045 DANVILLE MPO LONG RANGE TRANSPORTATION PLAN

Danville MPO 2045 Long Range Transportation Plan



SHAPING OUR REGION'S FUTURE,
TOGETHER



August 20, 2020

DANVILLE-PITTSYLVANIA URBANIZED AREA METROPOLITAN PLANNING ORGANIZATION

Adoption of the Danville-Pittsylvania MPO 2045 Long Range Transportation Plan (LRPT)

August 20, 2020

Resolution 2020-8

At a meeting of the Danville-Pittsylvania Urbanized Area Metropolitan Planning Organization (MPO) held on August 20, 2020, the following Resolution was adopted:

WHEREAS, it is mandatory in accordance with federal and state transportation requirements for the Danville-Pittsylvania MPO to update its long range transportation plan every five years to facilitate prudent planning practices, incorporate priority projects for future funding consideration from federal and state sources and maintain the MPO in good standing with FHWA and VDOT to continue receiving funding for MPO planning activities; and,

WHEREAS, in 2019 the MPO enlisted the services of EPR, a transportation planning consultant, to update its LRPT to the planning horizon of 2045 and said document was prepared consistent with federal transportation requirements including Fixing America's Surface Transportation (FAST) Act and other applicable federal and state policy requirements; and

WHEREAS, the Danville MPO observed a public participation process in preparing the 2045 LRPT and observed its Public Involvement Participation Plan and Notification Procedures Manual in performing stakeholder outreach including specific efforts to reach underserved and disadvantaged persons by providing multiple opportunities for public input and comments.

NOW THEREFORE BE IT RESOLVED that the Danville-Pittsylvania MPO hereby adopts the 2045 Long Range Transportation Plan as prepared by EPR in coordination with VDOT/FHWA/DRPT and authorizes staff to submit the document to its planning partners.

Certification

The undersigned duly qualified and acting as an officer of the Danville Urbanized Area MPO certifies the foregoing as a true and correct copy of a resolution, adopted at a legally convened meeting of the Policy Board of the Danville MPO held on August 20, 2020.

Signed	
Printed	J. Lee Vogler
Title	MPO Chairman
Date	August 20, 2020

Acknowledgements

The 2045 Transportation Planning Process spanned eighteen months, from spring 2019 to summer of 2020. During that time, numerous local and regional officials, state agencies, stakeholders and members of the public were involved in this process. The Danville Metropolitan Planning Organization expresses its gratitude to those who guided, staffed and influenced the development of this 2045 Long Range Transportation Plan.

MPO Staff

David Hoback, Executive Director
Leah Manning, Deputy Director
Joe Bonanno, Regional Planner

MPO Policy Board

Voting Members

Lee Vogler, Chairman, *Danville*
Joe Davis, Vice-Chairman, *Pittsylvania County*
James B. Buckner, *Danville*
Ken Larking, *Danville*
Charles Miller, *Pittsylvania County*
Ron Searce, *Pittsylvania County*
Chris Winstead, VDOT, *Lynchburg*

Alternative Members

Rick Youngblood, VDOT, *Lynchburg*
Grant Sparks, VDRPT, *Richmond*
Robert Warren, *Pittsylvania County*
Emily Ragsdale, *Pittsylvania County*
Richard Drazenovich, *Danville*
Ken Gillie, *Danville*
Brian Dunevant, *Danville*

Non-Voting Members

Kevin Jones, FHWA, *Richmond*
Taylor Jenkins, VDRPT, *Richmond*
Marc Adelman, *Danville*
David Cook, VDOT, *Lynchburg*
Sharon White, VDOT, *Lynchburg*
P. Clifford Burnette, VDOA, *Richmond*

Consultant Team

EPR, p.c.

Bill Wuensch, Principal
Will Cockrell, Project Manager
Phil White, Deputy Project Manager
Marissa Sperry, Project Staff

Kimley-Horn

Tim Padgett, Travel Demand Modeler

Disclaimer

This report has been prepared in cooperation with and financed in part by the U.S. Department of Transportation - Federal Highway Administration, the Federal Transit Administration, the Virginia Department of Transportation, and the Virginia Department of Rail and Public Transportation. The contents of this report reflect the views of the West Piedmont Planning District Commission (WPPDC) and Danville Metropolitan Planning Organization (DMPO), which are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Federal Highway Administration, Federal Transit Administration, the Virginia Department of Transportation, or the Virginia Department of Rail and Public Transportation.

This report is not a legal document, and does not constitute a standard, specification, or regulation. Although much care was taken to ensure the accuracy of information presented in this document, WPPDC does not guarantee the accuracy of this information.

Acceptance of this report as evidence of fulfillment of the objectives of this planning study does not constitute endorsement/approval of the need for any recommended improvement, nor does it constitute approval of their location and design or a commitment to fund any such improvements. Additional project level environmental impact assessments and/or studies of alternatives may be necessary.

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Additional copies of this document may be obtained by contacting:

Dave Hoback, Executive Director
1100 Madison Street
P.O. Box 5268
Martinsville, VA 24115
dhoback@wppdc.org

List of Acronyms

AADT: Annual Average Daily Traffic

ADA: Americans with Disabilities Act

ADAAG: Americans with Disabilities Act Accessibility Guidelines

CAC: Customer Advisory Committee

CEDS: Comprehensive Economic Development Strategy

CLRP: Constrained Long Range Plan

CLT: Charlotte Douglass International Airport

CoSS: Corridors of Statewide Significance

CTB: Commonwealth Transportation Board

DAN: Danville Regional Airport

DMPO: Danville Metropolitan Planning Organization

DRPT: Department of Rail and Public Transportation

DT: Danville Transit

FAA: Federal Aviation Administration

FAST Act: The Fixing America's Surface Transportation Act

FTA: Federal Transit Administration

LODES: Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics

LOS: Level of Service

LRTP: Long Range Transportation Plan

MPA: Metropolitan Planning Area

MPO: Metropolitan Planning Organization

OIPO: Office of Intermodal Planning and Investment

PSI: Potential for Safety Improvements

PTI: Piedmont Triad International Airport

RCEM: Regional Concept for Emerging Mobility

RLRTP: Rural Long Range Transportation Plan

RTP: Rural Transportation Program

SPS: Statewide Planning System

TAC: Transportation Advisory Committee

TDM: Travel Demand Management

TDM: Travel Demand Model

TDP: Transit Development Plan

TIP: Transportation Improvement Program

TRB: Transportation Research Board

VDOT: Virginia Department of Transportation

VMT: Vehicle Miles Traveled

VOC: Volume to Capacity Ratio

WPPDC: West Piedmont Planning District Commission

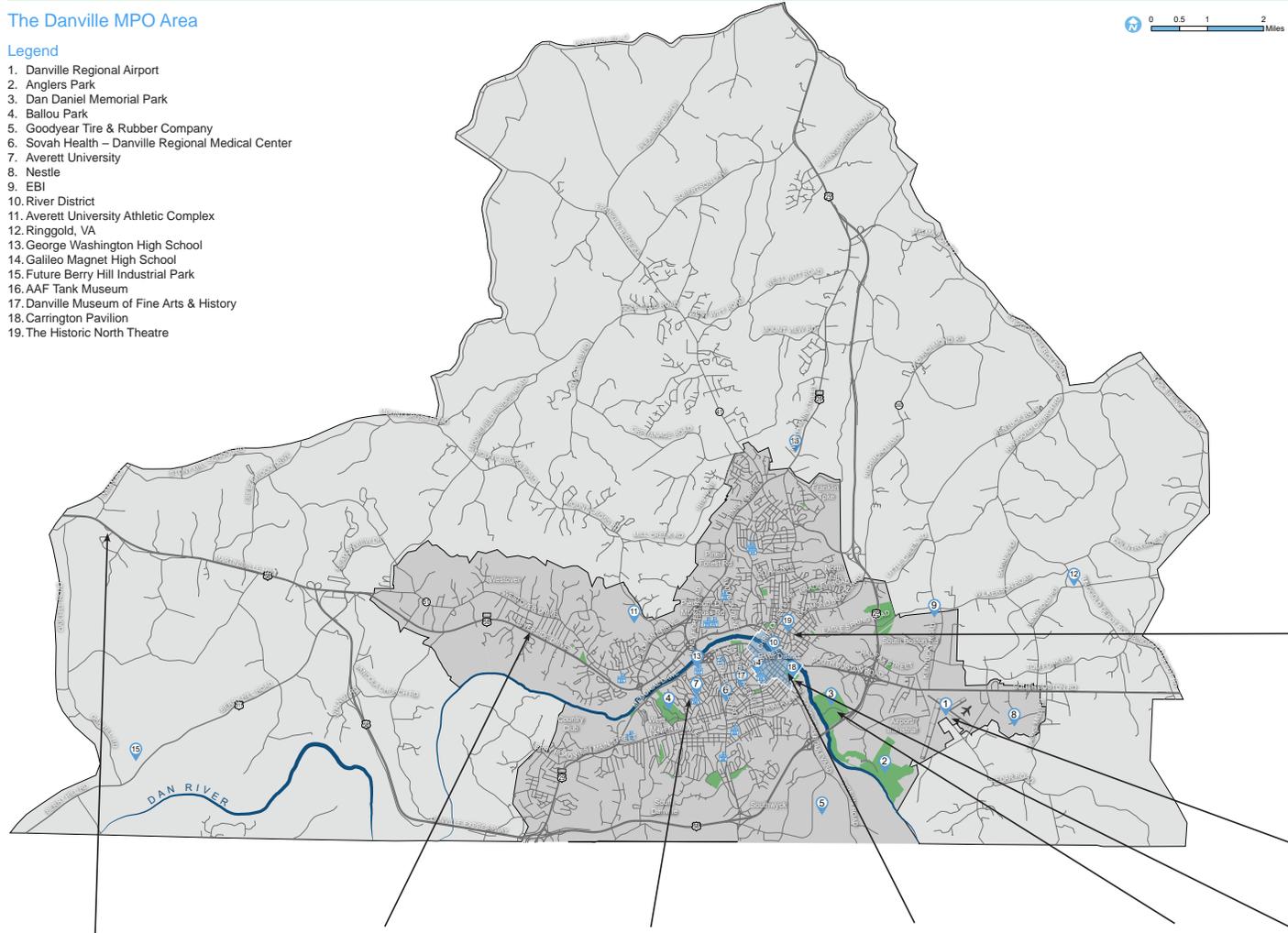
Regional Map

Danville MPO 2045 Long Range Transportation Plan

The Danville MPO Area

Legend

1. Danville Regional Airport
2. Anglers Park
3. Dan Daniel Memorial Park
4. Ballou Park
5. Goodyear Tire & Rubber Company
6. Sovah Health – Danville Regional Medical Center
7. Averett University
8. Nestle
9. EBI
10. River District
11. Averett University Athletic Complex
12. Ringgold, VA
13. George Washington High School
14. Galileo Magnet High School
15. Future Berry Hill Industrial Park
16. AAF Tank Museum
17. Danville Museum of Fine Arts & History
18. Carrington Pavilion
19. The Historic North Theatre



Regional Connections

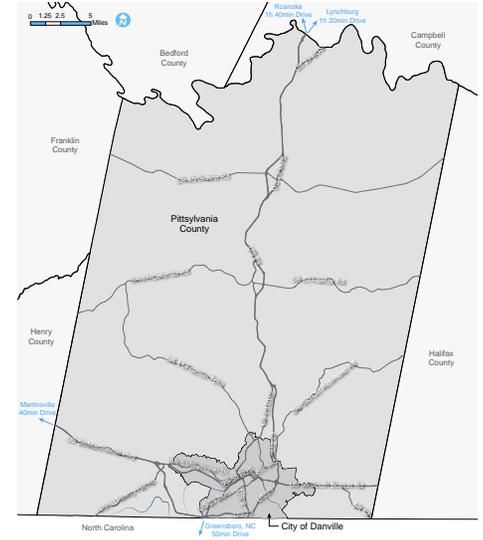
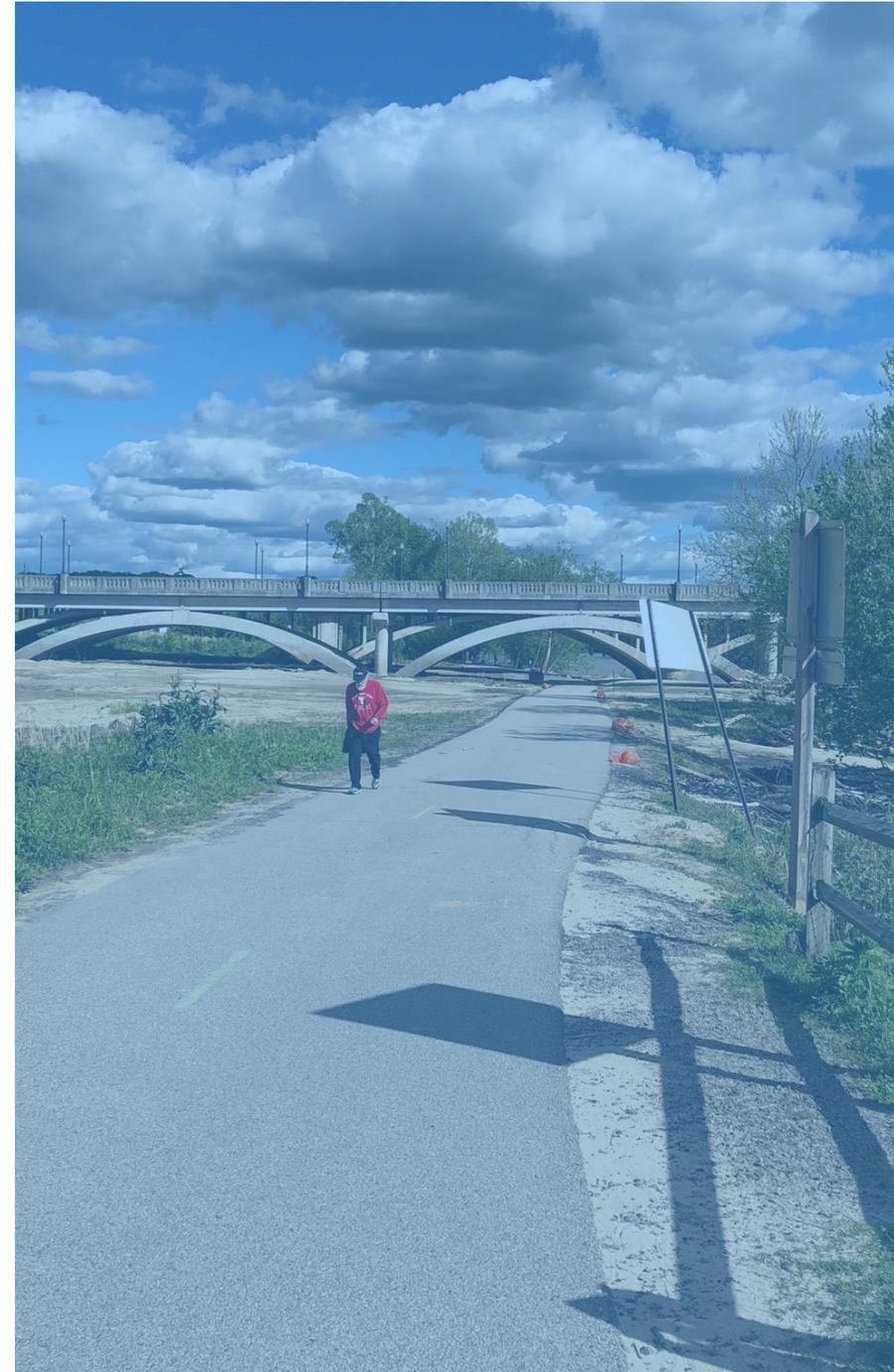


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Executive Summary

Long Range Transportation Plans or LRTPs, are regional transportation documents that are central functions of Metropolitan Planning Organizations. These plans examine transportation trends and concerns, providing a list of future construction projects that will address the region's movement of people, goods, and services. LRTPs may be amended at any time, based on changes in federal guidance or evolving transportation needs, as well as changes in federal, state, and local funding. The LRTP provides the framework and vision for an urbanized region's transportation program.

Danville MPO

The Danville Metropolitan Planning Organization (D-MPO) is the official transportation planning agency for the City of Danville and urbanized areas of Pittsylvania County – this boundary also encompasses areas that are anticipated to become urbanized in the coming decades. MPOs are required by federal law, guiding transportation decisions in urbanized areas of at least 50,000 residents. These organizations qualify transportation projects for federal funding on highways, transit, bike and pedestrian, and multimodal capital investments.

The West Piedmont Planning District Commission (WPPDC) houses D-MPO, staffing the MPO Policy Board, the policymaking body for the MPO. D-MPO is the forum for continuing, cooperative and comprehensive transportation planning, referred by the Federal Code as the 3-C's.

WHAT MPOS DO



Metropolitan planning organizations (MPOs) are responsible for development of regional long-range transportation plans for the regions they represent in accordance with federal regulation.

“Each such long-range plan shall include a fiscally constrained list of all multi-modal transportation projects, including those managed at the statewide level either by the Department of Transportation or the Department of Rail and Public Transportation. The purpose of the regional long-range transportation plan is to comply with federal regulations and provide the MPOs and the region a source of candidate projects for use by the MPOs in developing regional Transportation Improvement Programs (TIPs) and serving as an input to assist the Commonwealth with the development of the Statewide Transportation Plan (VTrans).”

Code of Virginia: § 33.2-3201. Transportation planning duties and responsibilities of Metropolitan planning organizations.

Long Range Transportation Plans

One of the recurrent responsibilities of D-MPO is maintenance of a Long Range Transportation Plan. This document is a federally mandated plan that outlines the region's priority transportation improvements for the ensuing decades. For the MPO area, also called the Metropolitan Planning Area (MPA), the LRTP is a fundamental and critical document that unlocks federal funding for the region's transportation investments. Without the LRTP, these federal funds would be unavailable, causing most transportation projects to be too expensive for local or even state coffers.

A Constrained Plan

The LRTP is a constrained plan, which means that the MPO anticipates how much transportation funding it may receive over the next two decades. The MPO calculates the cost of transportation improvements and lists those projects that fit within the budget of anticipated funding. Any projects that cannot fit in the long range budget are moved to an unconstrained Visioning List. Review **Chapter IX** for the constrained list of projects, referred to as the Constrained Long Range Plan (CLRP).

A Collective Transportation Vision

The LRTP sets a collective vision for the region's future transportation system, then identifies projects that are intended to achieve regional goals and objectives. Federal Code requires that the plan consider all modes of transportation, including private vehicles, public transit, bicycle and pedestrian improvements, and other modes. LRTPs can also address issues such as bridge maintenance and air travel. Per federal mandate, the LRTP must be updated every five years. This document is the five-year update for the horizon year 2045.

The 2040 LRTP

In the previous version of the LRTP, D-MPO approved the 2040 LRTP in October 2015 (**Figure 1**). This plan anticipated transportation needs through the year 2040. A performance-based project evaluation process was a core element that resulted in a Constrained List of ten roadway projects and a Visioning List of twenty-nine transportation projects. The plan also included typical roadway section, discussions on transit service, considerations for aviation service, and an evaluation of alternative transportation modes. In that plan, D-MPO organized projects and policies by the eight Federal Planning Factors listed under MAP-21 legislation, discussed more in **Chapter I**. A unique aspect of the 2040 plan was a performance-based process that considered funding programs. Virginia had recently established House Bill 2 (HB2), which set a data-driven process for selecting the most cost-effective transportation solutions across the Commonwealth. That program, now known as SMART SCALE, was a key consideration in the 2045 plan, as well.

Figure 1 The Danville MPO 2040 LRTP

October 2015

Final Technical Report

Danville-Pittsylvania Long Range Transportation Plan

Year 2040 Update

AECOM
277 Bendix Road, Suite 500
Virginia Beach, VA 23452
757-499-4224
AECOM.com

Prepared for:
West Piedmont
Planning District Commission
(Danville MPO)
Martinsville, Virginia

The 2045 Plan

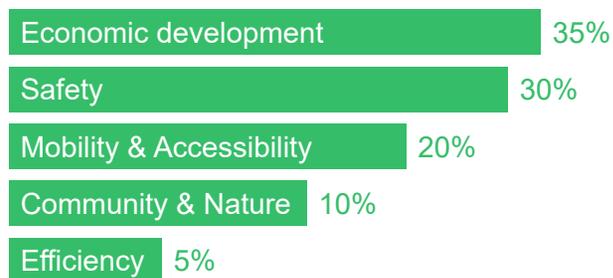
In the 2045 update of the LRTP, D-MPO has built on successful elements of the previous plan, then introduced various new features that are intended to address new challenges faced by the region and Commonwealth. In this process, the EPR, p.c. consulting team identified common shortfalls with LRTP documents, based on an analysis of all fifteen plans in Virginia (for the fifteen Virginia MPOs) and other MPOs across the country. The team designed new approaches to bring greater value to the MPO area and even the surrounding region. Below are some of the innovations found in the 2045 process and this document.

Note: D-MPO secured the consulting services of EPR, p.c. to develop the 2045 LRTP. Kimley-Horn was the subconsultant and provided modeling services with the Travel Demand Model (TDM). This document refers to the consulting firms by name or by simply denoting them as the “consultants.”

Goals and Enhanced Performance Measures

The 2040 LRTP included performance measures but lacked overarching goals that guided transportation decision-making. In this update, D-MPO approved five 2045 goals (**Figure 2**) supported by fifteen performance measures. The measures served as project scoring sheets that offered a more sophisticated project evaluation process that aligned with funding processes, federal guidelines, and local policies. With these tools, the MPO determined the degree to which various transportation improvements accomplished the region’s vision, goals, and objectives. Learn more about the goals, measures, and Project Evaluation Tool in **Chapter VI**.

Figure 2 2045 Goals and weights for scoring projects



A Focus on Implementation

There was a renewed focus on project implementation which grew out of the necessity to confront declines in state and federal transportation funds. Knowing that there will be increased competition for these scarce resources, EPR, p.c. developed a three-fold approach to increasing the success of securing transportation funds for the Danville/Pittsylvania region.

- 1. Project Evaluation:** The project evaluation phase included performance measures that mimicked state funding programs. This allowed the MPO to identify high-priority projects that needed further refining, serving as a “test run” for funding applications, such as SMART SCALE.
- 2. Funding Selection:** The 2045 LRTP took an unprecedented approach by pairing projects with potential funding sources, then detailing next steps for preparing projects for future applications.
- 3. Strategic Planning:** The plan incorporates an entirely new concept of a Short Range Transportation Plan (SRTP) or D-MPO Strategic Planning. While the project evaluation process scores projects, the plan sets a schedule for when projects will be submitted to various funding processes. The plan also includes information that MPO staff can enter directly into funding applications. If there are any missing elements to a potential funding submittal, the plan sets a schedule of next steps to prepare projects for application..

Detail and Guidance on Projects

LRTP project lists are traditionally vague. These plans consist of a list of deficiencies or improvements with general project costs assumed. Since Virginia’s funding programs now require more detailed project descriptions and accurate cost estimates, the 2045 plan includes extensive details for higher ranking projects. This resulted in a higher level of confidence with anticipated costs and greater clarity on project descriptions.

Functional Visioning Lists

Typically, the Visioning List is a catchall for all projects and concepts not included in the Constrained List (CLRP). Consequently, Visioning Lists are rarely organized in a meaningful way. These “runner up” projects also include unvetted concepts with varying degrees of feasibility. The 2045 Plan gave additional attention to the Visioning List, since those projects can qualify for funding under Virginia’s SMART SCALE process. The non-constrained projects are organized into meaningful categories. The non-constrained lists also offer guidance for MPO officials on next steps, maintenance of the plan, cost estimates, ties to the Unified Planning Work Program (UPWP) and other useful direction. Rather than an after-thought, the 2045 Visioning Lists are a central component to the plan. Refer to [Chapter IX](#).

Strategic Elements and Direction

A new element to the plan that is thought to be unique to this LRTP is a Short Range Transportation Plan (SRTP) that serves as a strategic plan for project implementation. The SRTP details strategies, timing, schedules, and guidance on how to advance projects through funding processes. This new element plans funding-related activities for a three-year period and should be updated annually. Refer to Appendix B.

Typical Road Sections and Modal Emphasis

Continuing from the 2040 LRTP, this update depicts typical road sections to help guide roadway design and modal split of key transportation corridors. The LRTP illustrates this information with an MPO-wide map that shows desired modal emphasis by corridor. Refer to [Chapter VIII](#).

Considerations Beyond MPO Boundaries

Another shortfall of LRTPs is a “tunnel vision” focus on the MPA. Most plans include a map of the MPO boundaries that ignores anything beyond the urbanized area, as if the metropolitan transportation network were a closed system. In reality, Rural Transportation Programs can greatly influence MPOs, as rural and metropolitan areas are intrinsically linked. In response, the 2045 LRTP incorporates elements of the recently approved Rural Long Range Transportation

Figure 3 The Rural Long Range Transportation Plan

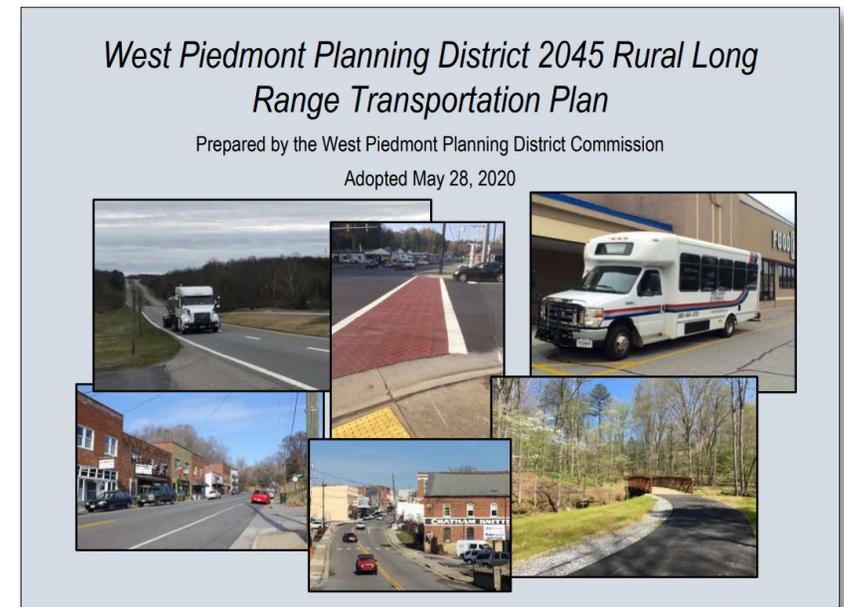
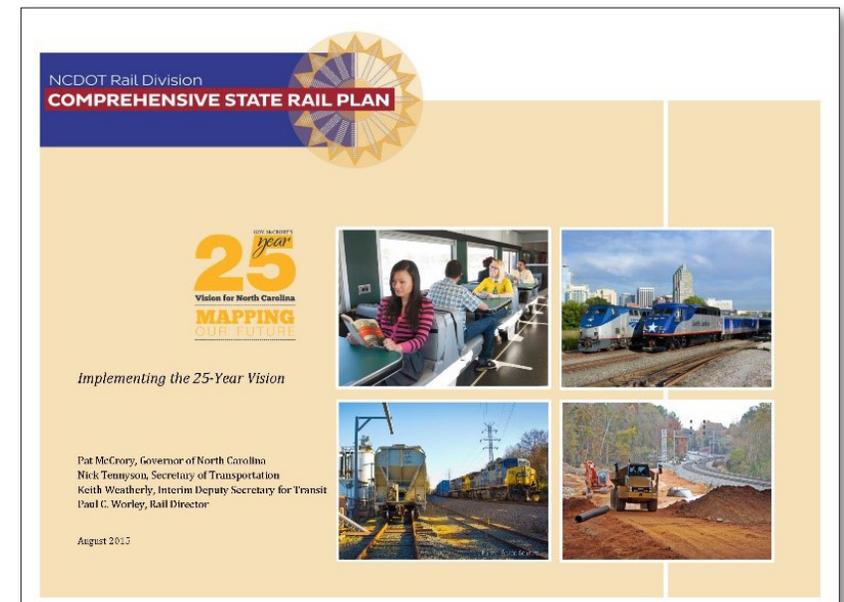


Figure 4 Considerations for transportation plans in North Carolina



Plan (2045 RL RTP) (Figure 3). Most notably, the Visioning List of projects includes a category of rural recommendations that could directly influence the MPO. The Visioning List also recommends joint rural-MPO studies. The LRTP also incorporates considerations from across the state line (Figure 4), since the region has strong ties to North Carolina.

Enhanced Economic Considerations

Callout boxes and sidebars reference the region’s Comprehensive Economic Development Strategies (CEDS) Plan. Recommendations from the CEDS are incorporated throughout this document, communicating the importance of economic development in this part of Virginia, and linking plans.

User-Friendly Format

The 2045 Plan embraces the way people use LRTPs. Rarely does anyone read a Long Range Transportation Plan from cover to cover. Also, as a public document that is critical to the region, the MPO emphasized that this plan should be easy to read and navigate. To accomplish this, the plan includes guidance on how to use this document as a resource. Callout boxes reference other documents and define important terms. Hyperlinks (for electronic versions) and page references direct readers to sections and chapters that would provide answers to their questions. The plan also limits jargon, as much as possible.

As part of the user-friendly format, color-coded callout boxes navigate readers through the plan. Each color and icon represent different topics that may be important to the reader (Figure 5).

Figure 5 Color-coded call out boxes

THE WEST PIEDMONT ECONOMIC DEVELOPMENT DISTRICT, COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGIES (2019)

“The Economic Development Administration Reform Act of 1998 identifies a CEDS as a requirement to apply for assistance under the EDA Public Works and Economic Adjustment Programs... The purpose of the CEDS is to establish a process that will help create jobs, foster more stable and diversified economies, and improve living conditions. It is a continuous planning process that addresses the economic problems and potentials of an area, providing a blueprint to strengthen economies through regional strategies which focus on economic and workforce development, quality of life, transportation and other vital infrastructure.”

CEDS Goals

Goal 2: Improve infrastructure needed to grow the regional economy... 2.4 Improve regional multimodal transportation infrastructure; provide adequate transportation services; preserve, promote, and enhance transit systems

INFORMATION BOXES

Blue information boxes provide detail to inform the reader. As there are various degrees of transportation knowledge for readers, these boxes help to keep the main text streamlined. The information icon denotes this content.

QUESTION BOXES

Gray question boxes answer Frequently Asked Questions that arise when reading an LRTP. The boxes may direct the reader to other documents, provide guidance to MPO officials, or provide hyperlinks/page references on where to find answers.

ECONOMIC DEVELOPMENT BOXES

Green boxes pull quotes and recommendations from the region’s Comprehensive Economic Development Strategies (CEDS) document. These boxes also include other economic development considerations throughout the plan.

A Streamlined Document

Most LRTPs include long narratives that can distract readers from important information. A central goal of the 2045 document was to remove any unnecessary information. This plan also attempts to better emphasize and detail the sections that readers typically use, the project list chapter. As a result, the LRTP narrative is shorter than is common and the information on projects is more extensive.

Public Engagement

Public engagement was a challenge in the 2040 Long Range Planning process. For 2045, the process included new approaches, such as public intercepts, comment postcards, and a MetroQuest survey. This public input played an important role in all aspects of the process, from validating the goals and performance measures to project selection. Refer to [Chapter II](#).

