2045 Long Range Transportation Plan Update

SCOPE OF WORK
Project Purpose and Overview

The previous Staunton-Augusta-Waynesboro Metropolitan Planning Organization (SAWMPO) Long Range Transportation Plan (LRTP) was approved in December 2015. The SAWMPO must now begin the process of updating the LRTP and Constrained Long Range Plan (CLRP) in order to fulfill the Federal Highway Administration (FHWA) planning requirements for Metropolitan Planning Organization (MPO) transportation plans in order to complete the 2045 update by December, 2020.

Federal and State Planning Requirements

Federal Requirements

MAP-21 transformed the Federal-aid highway program and the Federal transit program by requiring a transition to performance-driven, outcome-based approaches to key areas. With respect to planning, although MAP-21 leaves the basic framework of the planning process largely untouched, the statute introduced critical changes to the planning process by requiring States, MPOs, and operators of public transportation to link investment priorities to the achievement of performance targets that they would establish to address performance measures in key areas such as safety, infrastructure condition, congestion, system reliability, emissions, and freight movement.

Statewide and metropolitan transportation planning processes must provide for the use of a performance-based approach to decision making in support of the national goals described in 23 U.S.C. 150(b) and the general purposes described in 49 U.S.C. 5301. The final rule requires that States, MPOs, and operators of public transportation establish targets in key national performance areas to document expectations for future performance and that States, MPOs, and operators of public transportation must also coordinate the targets that they set for key areas. It further establishes that MPOs must reflect those targets in the LRTP, and that States must reflect those targets in their long-range statewide transportation plans.

In addition to the MAP-21 performance-based planning requirements, Section 134 (h) of Title 23 U.S.C of Federal Highway Administration, and the Federal Transit Administration section 5303 (h) of Title 49 U.S.C, still apply to the metropolitan planning process. The code lists eight planning factors that must be considered as part of the transportation planning process for all metropolitan areas. At a minimum, these factors shall be explicitly considered, analyzed as appropriated, and reflected in the production of planning documents. These factors, as listed below, are considered in prioritizing projects for inclusion in the Long Range Transportation Plan.

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 motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for 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.

**State Requirements**

[Title 33.2-214](#) of the Code of Virginia requires MPO LRTPs to be consistent with the statewide long range transportation plan, VTrans. The Office of Intermodal Planning and Investment will be developing the VTrans 2045 document concurrent with the SAWMPO process. SAWMPO will ensure that the goals of and projects included in the 2045 LRTP are consistent with VTrans 2045.
Task 1: MPO Coordination

Objective:
The objective of this task will be to ensure that the 2045 LRTP is developed in an effective and efficient manner. This will be accomplished by putting in place appropriate communication and coordination mechanisms at the outset of the project.

Methodology:
The update of the LRTP will be directed by a working group made up of SAWMPO staff and representatives of the Virginia Department of Transportation (VDOT) and the Virginia Department of Rail and Public Transit (DRPT), the three local government members of the MPO, and BRITE Transit. These entities will constitute a LRTP Working Group. Regular coordination with the Working Group will ensure that the LRTP is being developed in a timely manner and meets local, state, and federal needs. Major coordination milestones are identified in the meetings section below.

Deliverables:
SAWMPO staff will organize meetings and prepare presentation materials (handouts, displays, electronic format presentations) for presentations concerning the LRTP.

Coordination Meetings:

- **Scoping Meeting for the LRTP** – This will be a Working Group meeting to discuss the process and expected outcomes of the update process, the timeline, and data requests among working group members.

- **Existing Conditions Meeting** – Meetings of the Working Group, TAC and Policy Board will review an existing conditions report and data, including demographic information, performance of the current transportation network, and current network needs, including trends from the past five years, to evaluate how well the MPO is implementing the goals and projects in the LRTP.

- **2045 No-Build Scenarios Review and Network Needs** – The Working Group, TAC and Policy Board will review the 2045 No-Build scenarios and network performance information to identify future needs. Input on an initial list of project recommendations to address identified deficiencies for all modes will be sought from the Working Group.

- **Goals, Objectives, and Needs Review Meeting** – The TAC and Policy Board will review the Goals, Objectives, and complete list of current and future Needs to create a list of potential projects that will be presented in the Vision Plan.

- **Vision Plan** – The improvements recommended for inclusion in the Vision Plan will be reviewed by the TAC and Policy Board.
• **Project Evaluation Methodology**—The Working Group will meet to review and provide input on a proposed project evaluation methodology for projects on the Vision List.

• **Project Scoring and Constrained Long-Range Projects Meeting**: The draft Constrained Long-Range Transportation Projects list will be presented to the TAC and Policy Board for discussion.

• **Draft Transportation Plan Meeting**: The draft transportation plan will be reviewed and approved for release to the public by the TAC and Policy Board.

• **Final Transportation Plan Meeting**: The final transportation plan, which incorporates input from the general public and local governing bodies, will be reviewed and granted final approval by the TAC and Policy Board.

**Task 2: Public and Agency Involvement**

**Objective:**

Public and agency input will be sought at several milestones during the development of the 2045 LRTP.

**Methodology:**

The public and agency involvement effort for this study will consist of the following:

• **Kick Off Meeting with Stakeholders**: We will hold a kick off meeting with key stakeholders, the TAC, and Policy Board to review the existing conditions and understand multi-modal, multi-jurisdictional transportation needs.

• **Public Information Meetings**: Staff and the Working Group will host two rounds of public meetings. The first will occur after current year data and a 2045 No-Build scenario has been developed to illustrate current and future transportation needs. The purpose of the meetings will be to solicit input on preferred investments to meet these needs, as well as take comments on specific projects. The second round of public meetings would occur at the end of the process to share a draft Constrained Long Range Plan (CLRP) and Vision List with the public and solicit input on projects and the draft Plan. The Working Group will develop a format for meetings to be easily repeatable in different settings around the region to provide more opportunities for input.

• **Online Survey**: Staff will collaborate with the Working Group to develop an online survey to reach residents and stakeholders who could not attend the first round of public meetings.

• **Agency Coordination**: SAWMPO staff will maintain regular communication with state and federal agency stakeholders during the LRTP update process.
• **SAWMPO Website:** SAWMPO staff will maintain the LRTP page on the [www.sawmpo.org](http://www.sawmpo.org) website to describe the study, present draft recommendations, and provide a means for public comment to be directed to the study team.

**Task 3: Evaluate Existing Conditions**

**Objective:**

Existing plans, studies, and information regarding transportation needs, goods movement, bicycle and pedestrian needs, tourism, economic development, and land use are essential background information for the update of the 2045 LRTP. Staff will review all relevant plans and data that will provide essential background information on land use, development trends, economic development, tourism, and multi-modal transportation needs, including an update on demographic trends between 2013 and 2018 to compare actual growth versus what was projected in the 2040 LRTP.

**Methodology:**

SAWMPO staff will review and evaluate city, county, and regional planning and economic development documents; bicycle/pedestrian and recreation plans; any prior transportation studies pertaining to I-81 and I-64, goods movement, local transportation needs; and economic, demographic, and transportation-related data from sources including US Census, Virginia Employment Commission, Bureau of Economic Analysis, and local Chambers of Commerce. This data will contribute to an update of the highway, transit, bicycle & pedestrian, and transportation demand management overviews contained in the document.

**Deliverables:**

- Collection of evaluated data representing the regional transportation network and operations consisting of the following:
  - Socioeconomic characteristics (population, employment, etc.)
  - Land use and development patterns
  - Transportation system infrastructure and existing conditions
  - Multimodal facilities and current efforts
- Draft Existing Conditions Chapter discussing existing conditions relative to the plan

**Task 4: Develop 2045 Projections and Update Preferred Growth Scenario**

**Objective:**

This task will develop projections for population and job growth by 2045, and update the Preferred Growth Scenario with these projections.
Methodology:

This task will develop reasonable socioeconomic forecasts for the region on which to base the future transportation needs. This will involve analysis of trend lines in population, employment, and households to arrive at a 2045 projection for each factor. These regional projections, as well as trends in growth between 2013 and 2018 will be used to update the prior 2040 Preferred Growth Scenario to 2045 by assigning numbers of additional housing units by unit type, and jobs to the growth areas selected by the MPO for the 2040 Plan, which the MPO has concluded are still accurate for 2045.

Task 5: Evaluate Multi-Modal Transportation Needs

Objective:

The objectives of this task are to evaluate the gap between 2045 No-Build and Preferred Growth Scenario, and anticipate regional transportation network performance in the future.

The MPO planning requirements emphasize the importance of multi-modal transportation solutions. These solutions involve evaluating not only vehicle trips, but also bicycle and pedestrian, transit, and transportation demand management needs. The following subtasks will provide the analysis of transportation deficiencies and assessment of transportation needs that will 1) be communicated and discussed with the Working Group, TAC, Policy Board, and public, and 2) provide the basis for the development of the 2045 project recommendations. In evaluating the transportation needs of the region, the federal Performance-Based Planning and Programming requirements, federal coordination requirements, early environmental mitigation, and environmental justice planning will be considered.

ROADWAY DEFICIENCIES

Objective:

One element of the multimodal long range plan is an assessment of the capacity, safety, and geometric deficiencies of the roadway network. The objective of this task is to forecast travel demand, conduct capacity analysis, review crash data, and review geometric characteristics to provide a comprehensive assessment of roadway deficiencies.

Methodology:

Base year (2018) operating conditions will be assessed based on data collected, including identification of existing deficient roadways through base year Average Daily Traffic (ADT) and Volume to Capacity Ratios (V/C). These data points will be represented through mapping and tables within the LRTP.

Travel demand forecasts for 2045 will be developed by the Working Group. The forecasted growth rates will be used with the traffic count data for roadway segments and intersections for capacity analysis using the statewide
travel demand model and Statewide Planning System (SPS). Conditions will be expressed through future year traffic volumes maps displaying ADT and V/C.

The statewide Potential Safety Improvement (PSI) data will be reviewed to be used to identify high crash locations and safety concerns related to roadway characteristics. Specific needs for roadway structures (bridges) or railroad crossing improvements will be identified after analysis of bridge deficiency and railroad databases from VDOT and VDRPT. Public input and input from the TAC and Working Group regarding perceived safety, congestion, and mobility problems will also be considered in this analysis.

CONGESTION MANAGEMENT

Objective:
The objective of this task will be to provide a systemic, multi-modal approach to addressing current or future congestion and bottlenecks in the SAWMPO Region, including an evaluation of current transportation demand management strategies.

Methodology:
In developing the baseline conditions and future conditions presentations, using traffic data previously developed in this process, congestion-based transportation deficiencies will be examined separately from other types of deficiencies. Staff will evaluate current transportation services such as ridesharing, transit, and other transportation demand management options to make recommendations on how these may more effectively address congestion problems.

PEDESTRIAN AND BICYCLE PLANNING

Objective:
This task is meant to identify the needs and opportunities for active modes of travel. Staff will work with the study team to consider potential pedestrian and bicycle improvements identified in the Staunton and Waynesboro Bicycle and Pedestrian Plans, as well as Augusta County needs identified in Area Plans, to address the identified transportation deficiencies.

Methodology:
SAWMPO staff and the working group will review bicycle and pedestrian needs and recommendations from the cities’ Bicycle and Pedestrian Plans, and County Area Plans. These recommendations will be incorporated into the LRTP and prioritized along with the other multi-modal recommendations.

TRANSIT
**Objective:**
This task will identify the needs and opportunities for transit service and receive input from BRITE Transit in assessing transit deficiencies and developing transit plan recommendations.

**Methodology:**
SAWMPO staff and the working group will work with BRITE Transit to evaluate potential transit alternatives to address any identified transportation deficiencies in the region, especially as they relate to accessibility of jobs and services in the region. The evaluation will be based on needs identified in BRITE’s Transit Development Plan (TDP).

**GOODS MOVEMENT**

**Objective:**
The I-81 and I-64 corridors and the regional industrial and commercial base have unique goods movement needs and capabilities that must be addressed in the LRTP. The goal of this task is to develop an understanding of goods movement needs and trends in the SAWMPO region, and address these needs through specific recommendations in the LRTP.

**Methodology:**
SAWMPO staff will update information which was presented in the 2040 LRTP. Likely elements of the plan to update include: identifying locations of shipping/delivery facilities; assessing truck traffic percentage on I-81, I-64, and other major corridors, identifying the associated routes for goods movements to these commercial establishments; reviewing existing rail freight service and any planned improvements based upon information available from DRPT; including improvements to the I-81 corridor from the I-81 Corridor Improvement Plan; and contacting freight carriers regarding intermodal needs.

Potential improvement strategies to accommodate goods movement serving the two interstates could include the recommendation of railroad crossings, signing modifications/installation, truck route designations, mobility improvements, and access improvements to existing intermodal facilities and/or recommended new intermodal facilities. Based on the findings of this research and discussions at the working group meetings, the Plan will include an assessment of freight movement issues and needs that the SAWMPO will begin working to address through the LRTP.

**Deliverables:**
- Evaluation of the network performance of 2045 No-Build and Preferred Growth Scenario
- Mapping analysis of crash and bridge sufficiency data
- Summary of transit, bicycle and pedestrian needs
- Summary of goods movement needs and potential improvement strategies for the Plan document
Task 6: Update Goals, Objectives, and Screening Criteria

Objective:
Review and update regional Goals and Objectives and develop screening criteria to prioritize projects for the 2045 Constrained Long Range Plan (CLRP) that align with VTrans 2045 and MAP-21 Performance Based Planning requirements.

Methodology:
The previous Goals and Objectives from the 2045 LRTP will be revisited with the SAWMPO members to insure that these still represent the desires of the regional entities. These Goals and Objectives will be updated to align with the statewide VTrans process so that recommended projects will be able to compete for funding under the SMART SCALE program. Further, the goals will reflect the federal requirements of a MPO LRTP. A range of screening criteria or performance measures will be developed and applied to the projects identified in the Vision Plan to enable prioritization or screening. The MPO will combine these factors to create a screening matrix to be used by the Working Group and TAC to develop the draft Constrained 2045 Transportation Plan. Meetings will be held with the SAWMPO groups to develop the Goals, Objectives and Screening Criteria.

Deliverable:
- Updated Goals, Objectives and Screening Criteria to inform Task 7.

Task 7: Update Year 2045 Vision Plan Recommendations

Vision recommendations help define the full range of projects that will be necessary to eliminate or reduce deficiencies, provide better community services, and compliment the goals of other planning activities. Vision recommendations are important for the development of future plan updates and as a source for projects that may later be adopted as part of the constrained plan if additional funding becomes available.

VISION PLAN RECOMMENDATIONS

Objective:
The findings of the roadway, bicycle, pedestrian, transit, congestion management, and goods movement analyses from Task 5 form the basis for identifying improvements to incorporate in the 2045 Vision Plan. The 2045 Vision Plan recommendations will be developed to accommodate travel demand, safety concerns, geometric deficiencies,
and multi-modal transportation needs. We will follow the 2040 methodology and limit the total number of projects on the Vision list to between 50 and 60.

**Methodology:**

SAWMPO staff, in consultation with the Working Group, TAC, Policy Board, and locality representatives, will prepare a list of transportation recommendations based on the identification of needs conducted in Task 5. The result will be a list of 2045 Vision Plan projects.

**Update Cost Estimates**

**Objective:**

Cost estimates developed by SAWMPO staff and VDOT will be included in the screening and prioritization necessary to create a Constrained 2045 Transportation Plan. Planning level (unit-based) cost estimates will be updated for each vision plan recommendation developed.

**Methodology:**

Working with existing unit-based cost factors developed by VDOT, SAWMPO staff will create cost estimates for each Vision plan recommendation. The Working Group will review the cost estimates and adjust them based upon additional consideration of local factors. The cost estimates will be presented to the TAC for their review. No engineering will be conducted to create the cost estimates, and they will remain at a preliminary, or sketch level of refinement.

**Environmental Review**

**Objective:**

The objective of this subtask is to integrate broad environmental issues into the transportation planning process at an early stage.

**Methodology:**

A cursory environmental review will be conducted at a system level to identify environmental features that may be impacted by Vision Plan recommendations that encompass new location or widening projects involving two lanes or more. Agricultural districts, forestal districts, hazardous material sites, historic properties, wetlands, stream crossings, trout stream crossings, Virginia Byway locations, open space easements, park and recreation sites, and general range of business and residential displacements will be identified in the overview.

The overview will identify the above resources based upon secondary data provided by VDOT or readily secured through Internet database searches. No primary data or field investigative data will be secured. Historic property data will be secured through existing files at the offices of the Virginia Department of Historic Resources.
Assessments of impacts or effects, determinations of eligibility, conclusions on the extent of impact area, qualitative evaluations of the resources and environmental mitigation (including costs) will not be provided. The overview will recognize the existence of the resources based upon the availability of secondary data sources provided.

The environmental overview will be provided as an input to the screening criteria for prioritization of plan recommendations. Appropriate agencies will be consulted with for review of the environmental evaluation.

**Environment Mitigation Activities**

The LRTP will include a discussion of potential environmental mitigation activities. These activities will address issues from a policy or strategic level rather than from a project-specific level. This discussion will be developed in consultation with federal, state wildlife, land management, and regulatory agencies. In addition, the MPO will allow reasonable opportunities for these agencies to perform their consultation duties, as appropriate.

Federal regulation requires that the MPO, as a part of the consultation process, must provide a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. These activities should also be developed in consultation with federal, state, and tribal wildlife, land management, and regulatory agencies.

**Deliverables:**

- Vision List of Projects with cost estimates
- Assemblage of environmental data for project evaluation
- Record of consultation process with state and federal agencies

**Task 8: Update Fiscally Constrained 2045 Transportation Plan**

**Objective:**

MPO transportation planning requirements state that the Transportation Plan must demonstrate that the proposed transportation investments are consistent with available and projected sources of revenue. The Transportation Plan must also demonstrate that fiscal resources are available for the preservation and maintenance of the existing transportation system. Environmental justice analysis of the constrained plan is also required by FHWA.

An estimate of future revenues will be developed and projects will be prioritized to insure the 2040 Transportation Plan demonstrates a consistency between recommendations, system maintenance, and reasonably projected funding.
Methodology:

- **Develop 2045 Projected Revenues by System** (interstate, primary, secondary, urban, bicycle and pedestrian, transit) SAWMPO staff will obtain a listing of all sources of transportation funding in the SAWMPO region, including local governments, private parties, VDOT and DRPT. SAWMPO staff will review the estimates of available funding and the initial project prioritization resulting from the TAC’s work. SAWMPO staff will then develop a draft of the fiscal constraint outlook for the Transportation Plan.

- **Project Screening and Prioritization.** The Vision Plan Projects will be prioritized through the screening criteria and performance measurements developed in Task 6. These prioritization rankings will be used to assist in the development of the constrained project list. The recommendations will be further assessed through the TDM process.

- **Environmental Justice Review.** SAWMPO staff will use 2010 Census data and more recent ACS estimates to identify low income and minority concentrations using county averages as benchmarks. The linkages between these residential areas and employment concentrations will be examined by mode. This analysis will be done using GIS. The constrained long-range plan will be evaluated for potential disproportionate impacts, either in terms of having focused impacts in the identified environmental justice communities, or in terms of having a lower level of transportation investments planned to serve these communities. The findings of this analysis will be incorporated in the plan via a Benefits and Burdens analysis.

Deliverables:

- Projected Revenue Spreadsheet and Methodology Technical Memorandum
- Project Screening and Prioritization Spreadsheet
- Environmental Justice Benefits and Burdens Analysis

Task 9: 2040 Regional Transportation Plan Document

Objective:

The information developed in Tasks 3 through 8 will be refined based on MPO, Working Group, and public input, and a 2040 Constrained Long Range Plan will be developed to address all federal MPO transportation planning requirements.

Methodology:

SAWMPO staff will prepare a Plan document that meets all state and federal requirements for an MPO area plan.