



Adopted June 25, 2021



SEDA-COG Metropolitan Planning Organization

Long-Range Transportation Plan 2021–2045



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EXECUTIVE SUMMARY

Why do we need a long-range transportation plan?

A long-range transportation plan (LRTP) is a prerequisite for federal and state transportation funding. The LRTP ensures that the region has considered its needs and potential funding levels over a long-range (25-year) planning horizon and is pursuing projects that align with the region's vision and goals as well as federal and state requirements. LRTPs are updated every five years to reflect changes in regulations, regional demographics and travel patterns, and the priorities of residents and other stakeholders.

Who was involved?

The SEDA-Council of Governments (SEDA-COG) Metropolitan Planning Organization (MPO) is responsible for transportation planning in an eight-county region that encompasses Clinton, Columbia, Juniata, Mifflin, Montour, Northumberland, Snyder, and Union counties.

The SEDA-COG MPO comprises representatives of each county and other federal, state, and local entities, as described in Section 1.1. An LRTP Steering Committee—which included members of the MPO representing counties and partner agencies—was formed to guide development of this 2021 LRTP. The public and other stakeholders were invited to participate in the planning process as described in Section 6.

What vision and goals guided plan development?

The LRTP vision remains consistent from the previous (2016) LRTP update:

To create and maintain an integrated intermodal transportation system that facilitates the efficient and safe movement of people and goods while maintaining the region's character, enhancing the quality of life, and strengthening economic vitality.

Supporting goals are detailed in Section 2.2. They were drawn from federal planning priorities as well as the SEDA-COG MPO Strategic Plan. The goals address the following areas:

- Economy
- Safety
- Security
- Accessibility
- Mobility
- Environment
- Connectivity
- Efficiency
- Preservation
- Resiliency
- Reliability
- Travel and tourism
- Land use
- Jobs and workforce
- Regional character
- Technology

What is new for this LRTP update cycle?

Federal Emphasis on Performance Management and Asset Management – Federal guidance is transitioning transportation planning to be more data-driven and performance-based. Performance measures reflect the condition and function of aspects of the transportation system, such as pavement smoothness and delays due to highway congestion. State departments of transportation are required to establish performance targets for various measures on the federally funded transportation system, as described in Section 5. Statewide goals are achieved through the combined work of each region in Pennsylvania. Regional LRTPs therefore must prioritize projects—such as bridge replacements and highway reconstructions—that will help achieve performance targets.

Asset management goes hand-in-hand with performance management. Asset management refers to making timely repairs to extend the life of transportation assets (such as roads and bridges) while minimizing costs over their lifespan—similar to how regular oil changes delay or prevent the need for costlier engine work.

In order to achieve performance targets amid the reality of tight budgets, an asset management approach is used for project prioritization. The Pennsylvania Department of Transportation (PennDOT) identifies which projects on the federally funded system must be undertaken in each region to meet statewide targets. Strict federal requirements for the National Highway System pavement and bridge conditions mean there is limited funding remaining to undertake other local and regional priorities.



Corridors of Opportunity – The SEDA-COG MPO developed this planning approach in an effort to achieve required performance targets with the greatest possible efficiency and yield meaningful results for the region. The approach is woven throughout the plan and discussed in Section 5.5.2 and following. It involved using available data sources to identify roadway segments most likely to be susceptible to issues related to safety/infrastructure condition, traffic congestion, resiliency (vulnerability to extreme weather events), and freight activity. Corridors were identified using extensive data analysis and validated through public and stakeholder outreach. Focused improvements in these problem areas are expected to yield substantial improvement in terms of the federal and state performance measures—while making travel safer and more convenient for area residents. The identified corridors (many of which overlap) are listed below.

SAFETY	CONGESTION	RESILIENCY	FREIGHT
<ul style="list-style-type: none"> • US 11/15 from Mall Drive to Mill Road in Shamokin Dam • US 11 (Main Street) / East Street/ and PA 487 in Bloomsburg • US 11 (Front Street) / Market Street in Berwick • Electric Avenue and Portions of Fourth Street in Lewistown • Duke Street in Northumberland • I-80 East of Exit 185 near Rauchtown Road • US 11 (Walnut Street) / PA 54 in Danville • US 15 in Lewisburg • US 22 / PA 522 in Mount Union • Reagan Street in Sunbury • PA 150 (High Street) in Lock Haven 	<ul style="list-style-type: none"> • PA 54 (Mill Street) in Danville (including approaches from US 11 Northumberland St. and PA 54 Elysburg Road) • US 11/15 to PA 61 in Shamokin Dam • US 11/PA 147 Intersection in Northumberland • US 15 in Lewisburg • PA 487 Bloomsburg (Light Street) • PA 254 in Milton (Broad Street) • PA 150 (High Street) in Lock Haven 	<ul style="list-style-type: none"> • I-80 at Toby Run Creek near Danville • PA 61 (Market Street) between Shamokin Creek and Little Shamokin Creek in Sunbury • US 11 (Columbia Blvd) east of Wolf Hollow Road (east of Bloomsburg) • PA 522 (Main Street) at Middle Creek in Middleburg • PA 147 (Bridge Avenue) in Northumberland • PA 120 in Clinton County 	<ul style="list-style-type: none"> • I-80 • I-180 • US 11 from Northumberland to Danville • US 15 • US 220 • US 322 • PA 54 from Elysburg to I-80

Project Evaluation and Rating Factors – The SEDA-COG MPO developed a more rigorous, data-intensive method of evaluating proposed projects for inclusion in this LRTP. In addition to addressing performance management requirements, the process was aimed at selecting projects that had the best prospects of actually being advanced from planning through design and construction. The MPO identified success factors that characterized the projects that have been successfully implemented in recent years, and used those as part of a viability analysis that was completed for each proposed LRTP project. Various factors contributed to the score assigned for each project (Table 45), which was used in the project assessment.

Delivering Data into the Planning Process – The SEDA-COG MPO used the LRTP update as a platform to make more data available to stakeholders in the transportation planning process. Data from available, but previously unutilized, sources was layered with previously used data to facilitate the Corridors of Opportunity concept and viability analysis. MPO staff will continue to use this as a way to bring the information and resulting insights into the planning process. The GIS Hub site will be used to continue to make this information available to other stakeholders for use in their planning process.

Implementing the MPO Strategic Plan – Before the LRTP update began, the SEDA-COG MPO developed a strategic plan to identify key transportation issues in the region. The priorities identified by the MPO members in the strategic plan guided the data included in the Corridors of Opportunity approach and

project viability analysis. The priorities and perspectives shared helped to establish some of the major areas of discussion and implementation efforts for the plan. The LRTP itself serves partly as implementation of the strategic plan.

What projects are planned for the region?

Section 9.3 (Appendix C) presents the projects determined to be priorities for our region over the next 25 years. The projects are grouped into two categories:

- **Asset Management Projects** (Table 49) are major projects emerging from the PennDOT asset management process that must be undertaken to meet performance targets. As required, this list is fiscally constrained, meaning estimated costs do not exceed forecasted funding.
- **Discretionary Projects** (Table 50) are other projects that are a high priority for the region. This list is not fiscally constrained, and projects will only advance if funding becomes available.

What about the CSVT project?

The Central Susquehanna Valley Transportation (CSVT) project has been a regional priority for decades. Construction is well underway and the Northern Section (from the US 15 interchange south of Winfield to PA 147 south of Montandon) is expected to open in 2022. The Southern Section encountered delays due to geotechnical conditions, but is back on track and slated for opening in 2027. That stretch will extend the highway south to the US 11/15 and US 522 Interchange north of Selinsgrove. The LRTP also supports land use studies for communities along the CSVT corridor and especially at its interchanges to help guide growth in a way that balances economic, environmental, and community livability concerns.



CSVT project under construction, July 2020.

Looking south at the River Bridge with Shamokin Dam and Selinsgrove in the background.

Source: CSVT.com



1. INTRODUCTION

1.1 SEDA-COG Overview

SEDA-COG is a multi-faceted public development organization serving 11 counties in Central Pennsylvania to address economic development, community life, and public services. The SEDA-COG member counties are Centre, Clinton, Columbia, Juniata, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder, and Union (Figure 1).

The SEDA-COG MPO is the official transportation planning entity for eight of the 11 SEDA-COG counties—Clinton, Columbia, Juniata, Mifflin, Montour, Northumberland, Snyder, and Union (Figure 1, shaded counties). The SEDA-COG MPO supports transportation planning for the eight-county MPO area, which covers 3,450 square miles and has a U.S. Census estimated 2018 population of 371,140.¹

The SEDA-COG MPO initiated the development of this Long-Range Transportation Plan (LRTP) to:

- Identify the major transportation projects, programs, and policies needed for the next 25 years; and
- Establish the vision and goals that will guide public decisions affecting transportation facilities, infrastructure, and services in the region.

Consistent with its bylaws, the SEDA-COG MPO's governing body consists of 17 voting members:

- One representative from each of the eight member counties (typically the county planning

¹ Source: U.S. Census Bureau: American Community Survey (2015-2019) 5-Year Estimate

director);

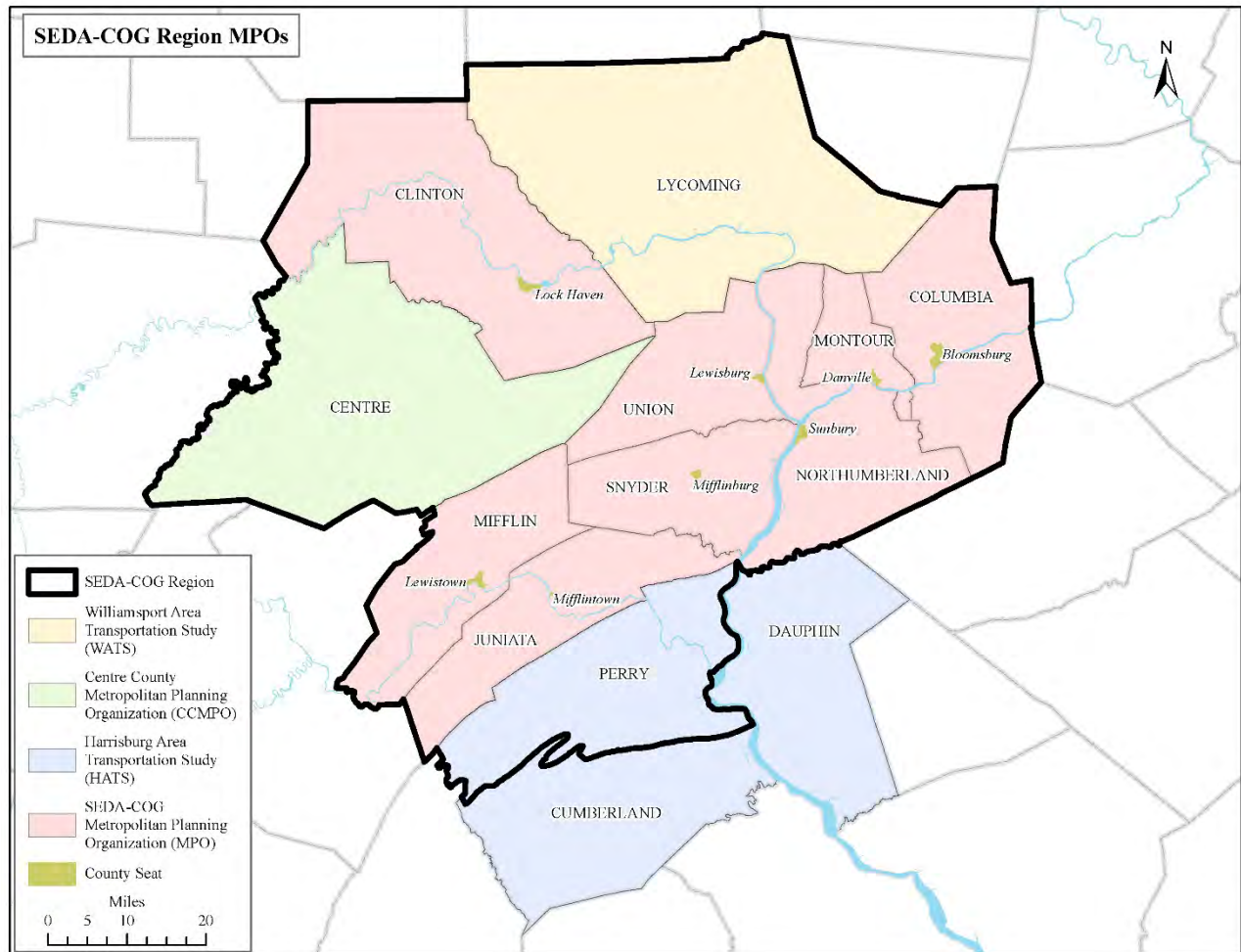
- Three representatives from the Pennsylvania Department of Transportation (PennDOT) (Engineering District 2-0, Engineering District 3-0, and Central Office);
- One representative from transit;
- One representative from multi-modal interests;
- One representative from the SEDA-COG Board;
- One representative from SEDA-COG's Transportation Program;
- One representative from the largest municipality (by population) in the Bloomsburg–Berwick UZA (Bloomsburg); and
- One representative from the 2nd largest municipality (by population) in the Bloomsburg–Berwick UZA (Berwick).



In addition to the 17 voting members, the MPO includes non-voting members. Such non-voting members receive MPO reports and agendas and may participate in MPO discussions. Non-voting members include, among others:

- Lycoming County officials;
- Centre County officials;
- Luzerne County officials;
- Federal Highway Administration (FHWA) officials;
- Federal Transit Administration officials;
- SEDA-COG staff;
- Geisinger staff;
- Other state and federal resource agencies; and
- Private citizens with an interest in transportation and economic development throughout the region.

Figure 1. The SEDA-COG MPO Planning Area



The SEDA-COG MPO operates via an agreement with PennDOT to approve studies and capital improvements for highways, bridges, transit, railroads, bicycle/pedestrian facilities, and other transportation concerns. Four primary documents are developed and approved by the MPO: the region's LRTP, Transportation Improvement Program (TIP), Public Participation Plan (PPP), and annual Unified Planning Work Program (UPWP). In executing its work, the MPO aims to provide a balanced transportation system for the maximum benefit of people, businesses, and communities.

The previous LRTP for the SEDA-COG MPO was adopted on July 15, 2016, and covered a period from 2016 to 2040. In 2019, the MPO initiated this update to the LRTP, addressing the period from 2021 to 2045.



1.2 LRTP Purpose and Process

The LRTP is used to guide the development, maintenance, and management of an adequate, safe, accessible, environmentally sound, multimodal transportation system. The transportation system is intended to support communities and provide for the efficient movement of people and goods within and through the SEDA-COG MPO region.

An LRTP is developed as a long-range planning strategy and capital improvement program (prioritized list of projects). The LRTP spans a period of more than 20 years (through the year 2045) and is the SEDA-COG MPO's strategy for identifying and realistically addressing transportation needs according to the region's unique set of goals and resources. The plan fulfills federal and state requirements for metropolitan planning while ensuring that future investments align with federal and state priorities.

The LRTP identifies the location, size, function, and type of planned new or upgraded transportation infrastructure. The plan takes a multimodal approach to transportation planning and includes projects to improve highways, streets, sidewalks, trails, rail, airports, and various modes of public transportation.

Federal law requires the SEDA-COG MPO to update its LRTP every five years. The update process entails a broad inventory of the regional context and current conditions of the transportation infrastructure. Forward-looking trends and issues are analyzed, and their implications are discussed in collaboration with an LRTP Steering Committee comprised of regional representatives. During this process, outreach and feedback are solicited, and public meetings are held to receive community input on transportation needs and priorities. The costs of needed transportation projects are then estimated and compared with funding forecasts to develop a list of fiscally constrained projects considered to be the highest priority in the region.

The LRTP recognizes the interconnection between transportation and land use. The SEDA-COG MPO works with local governments in the region on land use planning issues; however, under Pennsylvania law, implementation of land use policy is the responsibility of local governments. Additionally, this LRTP does not address issues concerning police enforcement of traffic laws or security issues, because other government agencies are properly assigned to these issues. Finally, the plan is not an advocacy document for special interests. The plan focuses on practical solutions to problems of transportation safety, maintenance, congestion, and mobility.

The LRTP focuses on practical solutions to problems of transportation safety, maintenance, congestion, and mobility.



2. STRATEGIC DIRECTIONS

2.1 LRTP Vision

The vision for the transportation system in the SEDA-COG MPO region was articulated in the 2011 LRTP based on a review of resources at the statewide, regional, county, and local levels. For the 2016 LRTP, that vision was maintained and developed through input from the LRTP Steering Committee to include economic development, as follows:

To create and maintain an integrated intermodal transportation system that facilitates the efficient and safe movement of people and goods while maintaining the region's character, enhancing the quality of life, and strengthening economic vitality.

For the 2021-2045 LRTP, the Steering Committee reaffirmed this vision statement and used it to guide development of this plan update.

2.2 LRTP Goals

Goal statements help translate the LRTP vision into practical direction-setting that considers the array of transportation system users and needs within the SEDA-COG MPO region. Goals were specifically based on federal requirements in 23 C.F.R. § 450.306 (a) that originated with the previous transportation funding act, MAP-21, as well as new planning factors from the Fixing America's Surface Transportation (FAST) Act and one local MPO goal:



- Federal Planning Factors (MAP-21):
 - Support the economic vitality of the region, especially by enabling global competitiveness, productivity, and efficiency.
 - Increase the safety of the transportation system for motorized and non-motorized users.
 - Increase the security of the transportation system for motorized and non-motorized users.
 - Increase the accessibility and mobility of people and for freight.
 - Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.
 - Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
 - Promote efficient transportation system management and operations.
 - Emphasize the preservation of the existing system.
- Federal Planning Factors added by the FAST Act:
 - Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation.
 - Enhance travel and tourism.
- SEDA-COG MPO Local Goal:
 - Foster compatibility between land use and transportation facilities to yield orderly growth and development.

In addition to these goals, SEDA-COG is currently updating its 5-Year Comprehensive Economic Development Strategy (CEDS) plan, which contains strategic goals that relate to and complement those of the MPO program. These strategic goals are:

- Encourage the protection, modernization, and expansion of existing businesses and job opportunities, and, where appropriate, encourage entrepreneurship and the recruitment of new business and industry consistent with the character of the region.
- Aggressively encourage the deployment of technology and widespread accessibility to broadband services and capabilities.
- Encourage the upgrading of skills and talents for the region's workforce and the creation of family-sustaining wages.
- Encourage the prudent utilization of the area's natural resources in an environmentally sustainable manner (including land, water, natural gas, and lumber).
- Improve and expand infrastructure, flood resiliency, and conservation/greening efforts to enhance the older and rural centers throughout the area for business and economic development.
- Encourage the promotion of the region as a destination for travel, recreation, and tourism.



2.3 LRTP Themes – Transition and Adaptation

This update to the SEDA-COG MPO LRTP builds on the document adopted in July 2016. Like the 2016 LRTP, this document explores trends in funding, maintenance costs, travel demand, regional characteristics, travel patterns, safety, and other areas. As with the 2016 update, one of the clearest trends continues to be change. The MPO region has seen changes in demographics, legislation, programming philosophies, and economic conditions. A few examples are highlighted below, with some of the information drawn from SEDA-COG’s 5-Year Comprehensive Economic Development Strategy document, updated in 2020.

2.3.1 Demographics

Due to consistent population growth, Bloomsburg–Berwick was identified as a new urbanized area (UZA) in census data released in 2012. This led to the designation of the SEDA-COG MPO in 2013. The MPO covers the same eight-county planning area as the former SEDA-COG Rural Planning Organization (RPO), but the MPO includes additional voting members—officials from municipalities located within the urbanized area. Recent census estimates indicate that six of the MPO counties have held steady or decreased in population since 2010, and most of the population centers within the MPO have decreased in population. Results of the 2020 U.S. Census will provide a clearer indication of whether the regional population continues to decline, or has resumed the previous trend toward growth.

2.3.2 Legislation

The federal Fixing America’s Surface Transportation (FAST) Act, signed into law in December 2015, resulted in more emphasis on performance-based planning, introduced new planning factors and federal priorities, and changed the balance and administration of federal programs through which funding is available. Legislation currently in effect at the state level includes Act 89 of 2013, which has brought significant new resources to bear, and Act 13 of 2012, making dedicated funding available for locally owned, at-risk bridges at the county level. The FAST Act was set to expire on September 30, 2020, but was extended for one year at 2020 funding levels, with additional funds included to keep the Highway Trust Fund solvent. When a permanent federal transportation bill is passed, funding levels may remain flat. While the FAST Act is nearing the end of its term, the changes introduced by the FAST Act, and MAP-21 before it, have driven changes in the regional planning process that will have enduring impacts.

2.3.3 Performance-Based Planning

Performance-based planning encourages agencies to set goals across a wide variety of programming areas, measure progress toward those goals, and employ a continuing process to program projects that improve the conditions measured. Supporting these efforts has led the MPO to explore the use of various data sources to provide the necessary data to measure progress. Performance-based measures, targets, and data are discussed in Section 5 of this report.

2.3.4 Programming Philosophies

A transportation “program” is a prioritized list of projects for which funding is expected to be available. The TIP is a four-year program that is updated every two years, and the first four years of the Twelve-Year Program (TYP).



An overall shortfall of funding required to maintain the local transportation network has continued since the 2016 LRTP update. With funding available under Act 89, and the shift to performance-based planning, a limited number of new projects have been programmed through the biennial TIP process, including the highest priority project under development—the Central Susquehanna Valley Transportation (CSVT) project. The funding needed to maintain the current system is still significant, and the current programming philosophy is focused on asset management measures as specified by the federal government (emphasizing timely maintenance to reduce overall infrastructure costs). Bridge programming efforts, for example, increasingly employ preservation techniques to extend the life of bridges and delay the need for costlier rehabilitation or replacement projects. In addition, recent efforts have considered removal of closed bridges (as opposed to replacements) and bundling of local bridge projects for cost savings.

This 2021 LRTP update reflects this shift in programming philosophy. A fiscally constrained Asset Management Project List (Table 49) was developed to identify high-cost investments in the backbone of the transportation network. A separate Discretionary Project List (Table 50) was also developed. These projects were drawn from the 2016 LRTP, State Transportation Commission Surveys, and other plans completed in the region since the 2016 update, rather than the asset management process. The projects are not fiscally constrained (in other words, the total cost of the projects exceeds available funding). The projects were subjected to a more rigorous “viability-based” evaluation to help establish which of the projects should be established as regional priorities and considered for future funding rounds and updates.

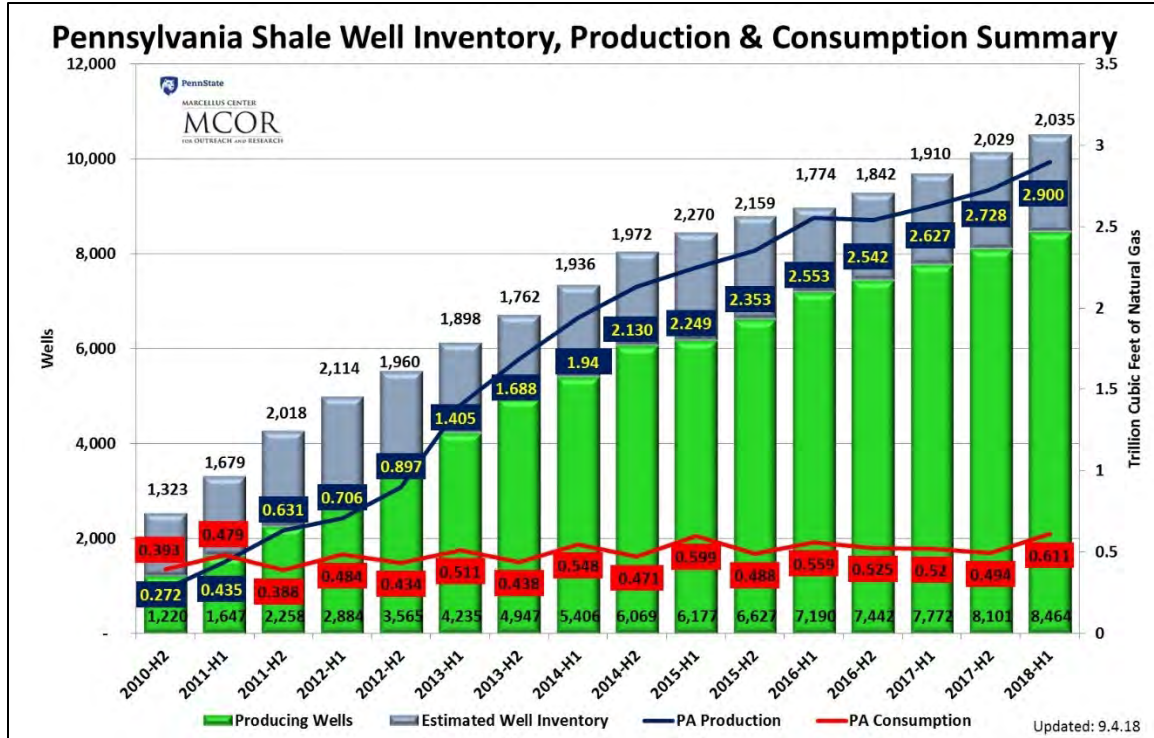
Updating the LRTP also provided the opportunity to carry out implementation steps identified in the 2019 SEDA-COG MPO Strategic Plan. Tools to incorporate consideration of resiliency operations and technology goals identified in the strategic plan were developed through the completion of this plan. These initiatives will also be explored in later sections.

The planning process included developing tools to help achieve resiliency and technology objectives.

2.3.5 Economic Conditions

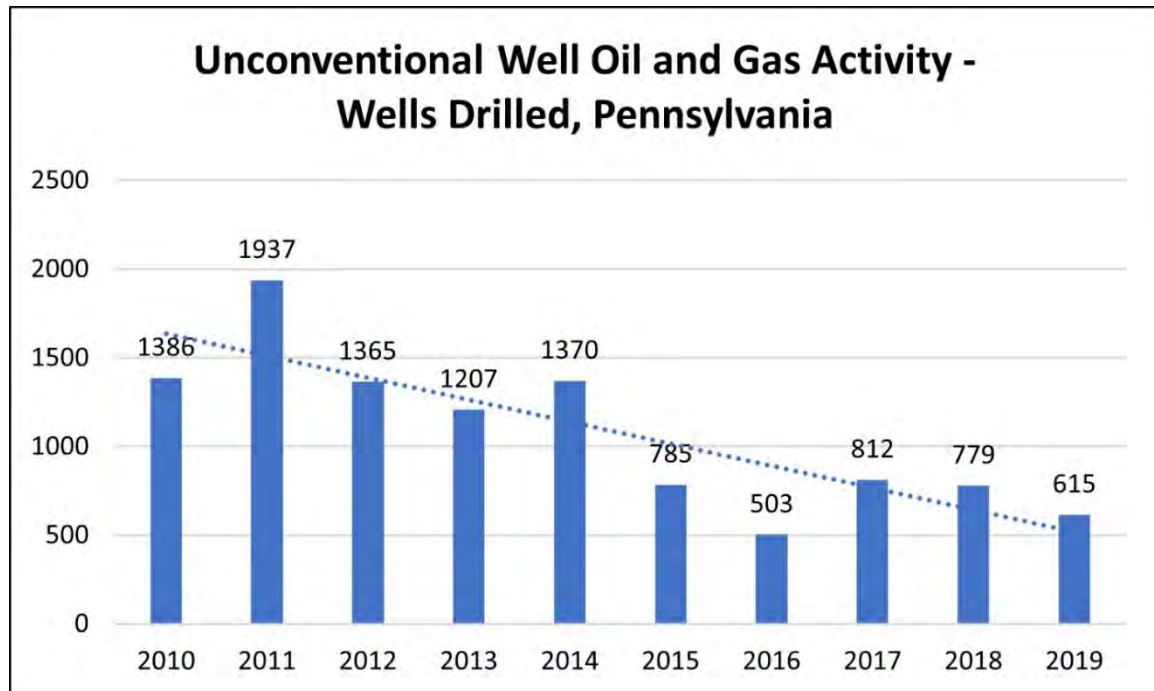
Continuing a trend noted in the 2016 LRTP update, some natural gas extraction activities that affect the MPO region’s transportation network have decreased, but others have increased. The number of new wells drilled per year in the region has steadily declined, but output from producing wells has increased. Even though natural-gas-related traffic has decreased, there is still a substantial amount of natural-gas-related vehicular activity. The increased natural gas production has occurred in large part because of technical advances and efficiencies that have been developed for extracting gas, including being able to drill deeper and horizontally (Figure 2 and Figure 3).

Figure 2. Pennsylvania Shale Well Inventory, Production & Consumption Summary, 2010-2018



Source: Marcellus Center for Outreach and Research,
<http://www.marcellus.psu.edu/resources/images/well-inventory-prod-and-consumption-2018-09.jpg>

Figure 3. Unconventional Well Oil and Gas Activity - Wells Drilled, Pennsylvania, 2010-2019



Source: Pennsylvania Department of Environmental Protection, Oil and Gas Reports,
<https://www.dep.pa.gov/DataandTools/Reports/Oil%20and%20Gas%20Reports/Pages/default.aspx>

Marcellus Shale gas production has driven down energy costs, which makes the region more attractive to manufacturers and also provides an inexpensive feedstock alternative for plastics manufacturers. The COVID-19 pandemic has caused oil and gas usage to drop dramatically, however, leading to lower prices. As the pandemic recovery progresses, those prices are expected to increase again, making natural gas a cheaper energy alternative.

The natural gas market has proven to be volatile—prices and activity could conceivably pick up again at any time.

Current economic trends are affecting local transportation patterns, leading to a significant shift away from “traditional” transportation modes to alternatives such as hybrid/electric vehicles, including for freight hauling and trucking. Many of these vehicles are eligible for federal and state subsidies. Connected and automated vehicle (CAV) options continue to move slowly from the research and testing phases toward market implementation. Other developing personal transportation options include E-bicycles. Progress has been made in planning for and developing alternative infrastructure to support personal transportation options, such as multiuse paths, bike lanes, and similar initiatives.

Many of these developments will have lasting, far-reaching effects on transportation funding amounts and approaches that will affect local MPO operations.

Finally, the ongoing economic impacts of the COVID-19 pandemic will have long-lasting consequences for the nation’s transportation industry and infrastructure, many of which cannot be predicted with certainty at this time.

2.3.6 Changing Tools

Transportation planning, following federal and state guidance, is transitioning from the traditional practice based on consultation and needs identification to being more data-driven and performance-based. This involves new types of data collection and advanced analysis tools.

PennDOT and the State Transportation Commission have continued the approach used to collect data and project information for the Twelve-Year Plan updates, in part through Web-based survey tools to solicit input, and have made the results available to Planning Partners (MPOs and RPOs) and PennDOT Districts. At the MPO level, SEDA-COG has continued to develop tools to build

on this process and to help provide regional prioritization of bridge projects based on local land use, employment, and zoning data. Implementation steps from the previous LTRPs included the development of regional layers for park-and-ride lots and intermodal facilities, and these efforts were supplemented by data on major employers and freight generators.

PennDOT has also consolidated or made more accessible many of its online reporting tools/data in a new public OneMap interface, which uses ArcGIS Online as the primary map viewing interface. Data on incidents was retrieved from PennDOT’s Road Condition Reporting System (RCRS) and accident data was extracted from the Pennsylvania Crash Information Tool (PCIT). New tools including PennDOT’s Bridge Asset Management System (BAMS) and Pavement Asset Management System (PAMS) are in development but are not fully implemented or available to inform this LRTP update.

Perhaps the most significant PennDOT data initiative in 2020 has been establishment of a Transportation

Transportation planning is increasingly data-driven and performance-based.



Planning Data Advisory Group. PennDOT's Center for Program Development is working to develop a standalone data repository to support LRTP work and Planning Partners (MPOs and RPOs) across the state. The data repository will present a central point of contact and the best available data sources that can be developed, captured, shared, and managed, and updated on a regular schedule. This group is tasked with identifying various disparate data sources and developing a strategy to better document and integrate them. Although the data repository is being developed under the statewide LRTP umbrella, PennDOT envisions it as an evolving process that will continue to be enhanced and expanded over the next several years. The goal is not just to share raw data sources, but to create products that save partner agency time and provide valuable resources for planning efforts.

External data sources utilized in this report include RITIS, the Regional Integrated Transportation Information System, which was developed at the University of Maryland's Center for Advanced Transportation Technology Laboratory. RITIS compiles and integrates near real-time transportation data from many government agencies, including PennDOT, and provides a common operating picture for transportation networks.² (RITIS capabilities and products are discussed in more detail in Section 5 of this report.)

Finally, SEDA-COG has updated its list and location of major employers that was initially compiled as part of the 2016 LRTP update. These data have been incorporated into the process of locating major freight generators and understanding the magnitude of their operations for analysis.

New and emerging technologies continue to be supported through PennDOT initiatives, such as the Transportation Systems Management & Operations (TSMO) environment, designed as "a set of integrated strategies to optimize the performance of operations on existing infrastructure through implementation of multimodal, cross-jurisdictional systems, services, and projects designed to preserve capacity and improve security, safety, and reliability of a transportation system."³ PennDOT's TSMO system incorporates more advanced management tools that are integrated and accessible through OneMap. PennDOT completed an Intelligent Transportation Systems (ITS) project in District 3-0 that included installation of ITS monitoring devices that provide traveler information at the I-80/US 11 interchange (Exit 241). PennDOT also has on its TSMO long-term project list implementation of improvements for integrated corridor management projects on Interstate 80 between Exits 173 and 195 near Lamar and Exits 232 and 241 near Bloomsburg. PennDOT's Central Region Regional Operations Plan (ROP), which covers Districts 2, 3, and 9, provides details on these proposed projects along with further information on needs and proposed ITS-related projects to address congestion, safety concerns, and provide traveler information in real-time. Note that PennDOT has no dedicated funding source at this time for maintaining ITS infrastructure.

Social media is being increasingly utilized by SEDA-COG and the MPO for online communications and dissemination and collection of transportation-related information. This trend has been accelerated by COVID-19 conditions that have required virtual public and stakeholder involvement in lieu of in-person meetings.

² For more detail on RITIS, see <https://www.ritis.org/intro> and <https://www.cattlab.umd.edu/ritis-book>.

³ "Transportation Systems Management & Operations (TSMO)", <https://www.penndot.gov/ProjectAndPrograms/operations/Pages/default.aspx>, accessed 7/21/2020.



3. PLANNING CONTEXT

3.1 Recent SEDA-COG MPO Planning Activities

3.1.1 Strategic Plan (2019-2023)

In 2019, the SEDA-COG MPO adopted a new Strategic Plan (which updated the initial 2015-2019 plan) to help shape future work programs and the direction of transportation planning efforts. The strategic planning process provided MPO members an opportunity to assess the current planning program and identify issues demanding attention, as well as corresponding short-term priorities and recommended actions, including outreach to various audiences that will support the region's overall community-economic development direction.

The primary component of the document is an action plan that aligns with priorities identified by the MPO Board. Each priority includes a range of strategic actions that can be considered for implementation as conditions and resources warrant.

Through the strategic planning process, MPO Board members identified additional ideas for improving their contribution to the MPO, including:

- An orientation to what it means to be on the Board;
- Opportunities to champion actions of greatest interest and experience; and
- Brief information updates to help them interface with their communities.

It was also noted that the Board would benefit from information about and education on topics including:

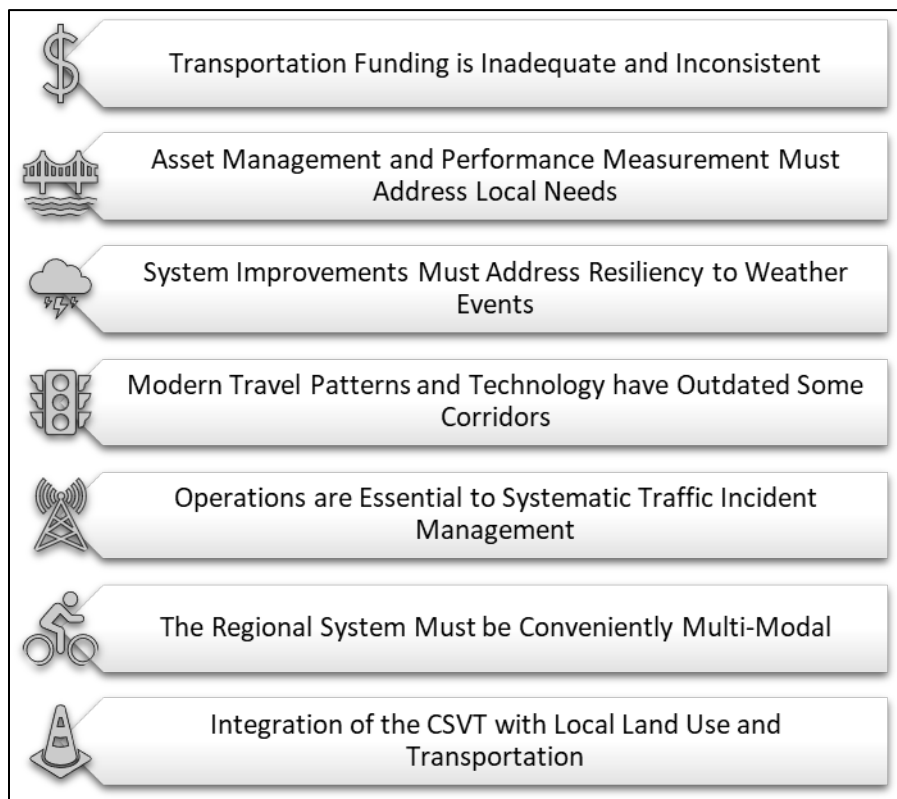
- Proposed and recent legislation that impacts transportation (system and planning);
- Funding, e.g., changes in programs, best practices in project development and application;
- Freight and its relationship to transportation planning and local land use; and
- Resiliency as a principle for transportation and community planning and development.

Six selected strategic issues were identified that must be proactively addressed to shape the SEDA-COG MPO's transportation system in support of the region's community and economic goals. These were analyzed to yield a listing of strategic actions and implementation mechanisms for each.

As listed below and shown in Figure 4, the strategic issues included:

- Issue 1: Transportation funding is inadequate and inconsistent.
- Issue 2: Asset management and performance measurement must address local needs.
- Issue 3: System improvements must address resiliency to weather events.
- Issue 4: Modern travel patterns and technology have outdated some corridors.
- Issue 5: Operations are essential to systematic traffic incident management.
- Issue 6: Our region's system must be conveniently multimodal and service-supported.
- Localized Priority: Integration of the CSVT with local land use and transportation.

Figure 4. SEDA-COG MPO Strategic Issues



To monitor progress being made in addressing these issues, the Strategic Plan process developed two tools:

1. An Annual Implementation Progress Tracker spreadsheet which lists all the strategic actions in abbreviated form and indicates either “Ongoing” or “Q# (Quarter#)/Annually” or “Q# (Quarter#)/Year” as a prompt for annual prioritization or selection of actions. Additional space is provided to mark completion of milestones or other activities of note. An example of a portion of the spreadsheet is shown in Figure 5.

Figure 5. Example from SEDA-COG MPO Strategic Plan Annual Implementation Progress Tracker Spreadsheet

ACTIONS FOR FUNDING	Prioritization / Estimated Completion	Progress; Completion			Notes/Comments (Optional)
A1. Local leadership response.	Example Q2 2019	<input type="checkbox"/> “Script”			
A2. Project prioritization criteria and process. (+C9)	Q#/Year	<input type="checkbox"/> Review	<input type="checkbox"/> Update	<input type="checkbox"/> Publish	
A3. Work internally to match ED projects to funding sources and to navigate HOP.	Ongoing	Activity of note:			
A4. Share information/ best practices re: the fee for local use.	Q#/Annually				
A5. Guide municipalities to use all programs to keep the transportation system open.	Ongoing	Activity:			
B1. Current programs list; share.	Q#/Year	<input type="checkbox"/> Prepare	<input type="checkbox"/> Publish		
B2. Assist municipalities in project development.	Ongoing	Activity of note:			

2. A Quarterly Activity Review. This two-page document can be used during the MPO’s quarterly meetings to prompt verbal comments on recent Board member and staff activity and/or upcoming opportunities for outreach to stakeholders. Notes on Quarterly Activity Reviews could be compiled as an annual report or used to populate the Annual Implementation Progress Tracker as an annual summary of progress.

In addition to the seven issues identified in the strategic plan, important issues relating to the nature and effectiveness of SEDA-COG MPO’s transportation system are discussed in Section 7, “Issues and Implications.” Some of these are related to recent developments occurring because of the COVID-19 situation.

3.1.2 Public Participation Plan (2014)

The SEDA-COG MPO communicates with and engages all interested parties in the transportation planning process to ensure that it is representative of and responsive to the needs of the entire SEDA-COG MPO region. For this reason, the MPO encourages the public to participate in the development of transportation plans, programs, and projects.

The Public Participation Plan (PPP)⁴ documents the MPO’s approach for conducting public involvement activities so that they are effective and comply with the applicable regulations and guidelines. The PPP includes regional overview information and a framework of goals, objectives, and techniques for obtaining effective public participation as part of the SEDA-COG MPO’s transportation planning efforts. The PPP identifies current outreach techniques and outlines steps for future improvement to increase and enhance public participation.

⁴ <http://www.seda-cog.org/departments/transportation/Public-Participation-Plan>



An update of the PPP was adopted by the MPO in December 2014. Concurrence from PennDOT's Bureau of Equal Opportunity and FHWA was received in 2016. At this time, the existing PPP as applicable to the SEDA-COG MPO remains in effect and is reviewed periodically. Effects from the COVID-19 pandemic are having an impact on how the SEDA-COG MPO conducts its public coordination and outreach activities, so the PPP may need to be updated accordingly in the near future.

3.1.3 Limited English Proficiency Plan (2014)

During the course of public involvement activities, persons with Limited English Proficiency (LEP) may engage with the planning process. An LEP person is any individual for whom English is not his or her primary language and who has a limited ability to read, write, speak, or understand English. It is the duty of the MPO, as a recipient of federal funds, to provide meaningful access for LEP persons to the programs and activities normally provided in English.

In coordination with the PPP update, an LEP Plan was created to comply with federal requirements for identifying the LEP populations in the MPO service area and developing a cost-effective and meaningful plan for providing appropriate language assistance services. The plan was reviewed by the MPO along with the PPP in December 2014 and finalized in August 2015. Concurrence from PennDOT's Bureau of Equal Opportunity and FHWA was received in 2016. At this time, the existing LEP Plan as applicable to the SEDA-COG MPO is still valid and remains in effect and is reviewed periodically.

3.1.4 Title VI Policy Update (2015)

Title VI is a reference to the Civil Rights Act of 1964, which states:

No person in the United States shall, on the basis of race, color or national origin, be excluded from participation in, be denied the benefits of or be subjected to discrimination under any program receiving federal financial assistance...

The SEDA-COG MPO is committed to a policy of non-discrimination in its business practices. As a recipient of federal funds, the MPO has adopted a written Title VI Policy to document goals, objectives, and activities that will be sustained in this effort. The policy includes a formal complaint procedure, in compliance with specific federal requirements.

The Title VI Policy was reviewed, updated in 2014, and finalized in March 2015. Concurrence from PennDOT's Bureau of Equal Opportunity and FHWA was received in 2016. At this time, the existing Title VI Policy as applicable to the SEDA-COG MPO is still valid and remains in effect and is reviewed periodically.

3.1.5 Coordinated Public Transit–Human Services Transportation Plan (2019)

The updated Coordinated Public Transit–Human Services Transportation Plan⁵ for the SEDA-COG and Williamsport Area MPOs was developed through the efforts of a Public Transit–Human Services Transportation Coordinating Committee. The committee included representatives from local municipalities, human service agencies, nursing homes, area agencies on aging, senior living facilities, taxi companies, and transit operators. The updated plan, prepared jointly for the SEDA-COG MPO and Williamsport MPO, was adopted by the SEDA-COG MPO in 2019. The plan primarily assesses and

⁵ https://seda-cog.org/wp-content/uploads/SEDA-COG_WATS_Coordinated_Plan_Final_Report_September_2019.pdf



establishes implementation priorities for meeting the transportation needs of seniors, individuals with disabilities, and low-income residents. The plan also considers the needs of the general population and proposes innovative solutions for improved public transportation.

3.1.6 Middle Susquehanna Bicycle and Pedestrian Plan (2019)

In collaboration with the Susquehanna Greenway Partnership, the SEDA-COG and Williamsport MPOs developed a regional bicycle-pedestrian plan⁶ for the counties along the Susquehanna River, including Clinton, Columbia, Lycoming, Montour, Northumberland, Snyder, and Union counties.

The plan was designed to:

- Promote the regional bicycle and pedestrian network for its varied benefits: safety, health, mobility, environment, and economy.
- Identify “missing links” in the regional bicycle and pedestrian network where future projects would help interconnect communities, including linkages to transit.
- Identify priority projects, actions, and initiatives to improve and promote use of the network.
- Include tools and strategies for cost-effective local improvements to make walking and riding a bicycle safer and more convenient.

After completion of the plan SEDA-COG formed the Middle Susquehanna Active Transportation Committee (MSATC) in 2019 to implement recommended actions. The committee includes representatives from the seven counties, local municipalities, walking and bicycling clubs, and the SEDA-COG and Williamsport MPOs. Committee responsibilities include county-level data collection; assistance with public and stakeholder outreach; and development of a vision, goals, and a replicable update process. The plan will be implemented by the partnering agencies and progress will be tracked regularly. Recommendations from the plan and the MSATC have been considered in updating the LRTP.

3.1.7 Planning Process Review (2019)

In response to the FAST Act’s mandate for federal and state agencies to continue their stewardship role in the metropolitan planning process, the FHWA Pennsylvania Division and PennDOT conducted joint planning process reviews for all of Pennsylvania’s medium- and small-sized MPOs and RPOs. The SEDA-COG MPO review was conducted in 2019. FHWA and PennDOT found that the planning process in the SEDA-COG MPO fully complies with the intent of metropolitan transportation planning laws and regulations, and is in compliance with 23 U.S.C. § 134. The review team found that no corrective actions were needed. It identified five strengths and 13 recommendations that warrant consideration and/or follow-up to further enhance the MPO planning process. Recommendations that relate to the LRTP process included:

1. The review agencies recommend that the SEDA-COG MPO include guidance and documentation of the PennDOT Connects process in its next LRTP update.
2. The review agencies recommend that the LRTP utilize performance measures to drive the selection of projects and move the needle in the right direction for project selection to meet the

⁶ https://seda-cog.org/wp-content/uploads/MidSusq_BikePed-6-19-2019-LowRes.pdf



SEDA-COG MPO goals and targets.

3. The review agencies recommend that the SEDA-COG MPO environmental mitigation processes be a part of the main document for the next LRTP update.
4. The review agencies recommend that the SEDA-COG MPO have better discussion of intermodal linkages for the next LRTP update.
5. The review agencies strongly encourage the SEDA-COG MPO to continue to educate their new MPO members on the LRTP purpose.

These recommendations were incorporated into the LRTP process and are recognized in sections of this document relating to:

- Incorporation of PennDOT Connects in the project evaluation and development process, including environmental factors;
- The importance of tracking and meeting performance measures and using them to identify and assign priority to potential projects;
- Increased emphasis on identifying and including multimodal projects in the LRTP process, including active transportation- and freight-related projects; and
- A higher level of involvement of MPO members in the project identification, review, evaluation, and prioritization process.

3.1.8 Danville Area Traffic Study (2020)

In partnership with PennDOT and local stakeholders, the SEDA-COG MPO undertook a study to assess existing transportation conditions in the Greater Danville Area and identify issues to be addressed as part of future project development. The project was completed through the PennDOT Connects program, and supports the principles of PennDOT Connects—coordination, collaboration, and early consideration of multimodal context issues.

Future condition profiles were developed, and a range of potential solutions was identified for each of the listed problems and concerns. An implementation strategy was developed that included prioritization of the solutions and developing a “playbook” to guide sponsors in the first steps of planning and identifying funding to advance the solutions.

3.2 Pennsylvania’s Statewide LRTP and Comprehensive Freight Movement Plan

The first Pennsylvania statewide LRTP to incorporate a Comprehensive Freight Movement Plan (CFMP) was completed in 2016 (PA On Track).⁷ Together these performance-based plans provide a strategic vision that will guide, direct, and integrate multimodal system investments through 2040. The CFMP, in particular, allows PennDOT to tap into new freight-specific funding designated through the FAST Act. An update to PennDOT’s LRTP and CFMP is currently in process.

The 2016 CFMP is reflective of PennDOT’s increasing emphasis on promoting efficient freight movement in Pennsylvania to meet the requirements of the FAST Act. That increased emphasis has been reflected in this SEDA-COG LRTP update through additional analysis mechanisms and in the project development process.

⁷ <https://www.penndot.gov/ProjectAndPrograms/Planning/Documents/PennDOT-CFMP%20-%20FINAL%20August%202016.pdf>

3.3 Fixing America's Surface Transportation (FAST) Act

The Fixing America's Surface Transportation (FAST) Act of 2015⁸ authorized \$305 billion during 2016 through 2020 for highway, bridge, roadway and vehicle safety, public transportation, motor carrier safety, hazardous materials safety, railroad, and research, technology, and statistics programs. The FAST Act sustained many provisions of the Moving Ahead for Progress in the 21st Century (MAP-21) Act of 2012, including the performance-based planning emphasis. A prominent new feature of the FAST Act is the National Highway Freight Program, which carries a new funding stream and grant program for freight projects.

3.4 Moving Forward Act/INVEST in America Act

The Moving Forward Act, formally known as the "Investing in a New Vision for the Environment and Surface Transportation in America Act, or the INVEST in America Act," was introduced in its first incarnation to the U.S. House of Representatives Transportation and Infrastructure Committee on June 11, 2020, as H.R. 2 (<https://www.congress.gov/bill/116th-congress/house-bill/2>), and reported to the entire House on June 26. It was received in the Senate in July 2020. The bill addresses provisions related to federal-aid highway, transit, highway safety, motor carrier, research, hazardous materials, and rail programs of the U.S. Department of Transportation (USDOT).

Among other provisions, the bill:

- Extends FY 2020 enacted levels through FY 2021 for federal-aid highway, transit, and safety programs;
- Reauthorizes for FY 2022-FY 2025 several surface transportation programs, including the Federal-Aid Highway Program, transit programs, highway safety, motor carrier safety, and rail programs;
- Addresses climate change, including strategies to reduce the climate change impacts of the surface transportation system and conduct a vulnerability assessment to identify opportunities to enhance the resilience of the surface transportation system and ensure the efficient use of federal resources;
- Revises Buy America procurement requirements for highways, mass transit, and rail;
- Establishes a rebuild rural grant program to improve the safety, state of good repair, and connectivity of transportation infrastructure in rural communities;
- Implements new safety requirements across all transportation modes; and
- Directs the USDOT to establish a pilot program to demonstrate a national motor vehicle per-mile user fee to restore and maintain the long-term solvency of the Highway Trust Fund and achieve and maintain a state of good repair in the surface transportation system.

According to the bill fact sheet

(<https://transportation.house.gov/imo/media/doc/2020%20INVEST%20In%20America%20Fact%20Sheet.pdf>) the bill specified a five-year, \$494 billion investment in the existing transportation infrastructure as follows:

- Highways Investments: \$319 Billion
 - Delivers better roads and bridges faster by prioritizing fixing the broken, outdated

⁸ <https://www.fhwa.dot.gov/fastact/>



infrastructure we already have, including 47,000 structurally deficient bridges, before building new highway capacity.

- Modernizes our infrastructure with bold new funding for addressing gridlock and the most impactful projects and bottlenecks that affect local regions and the national transportation network.
 - Measures state-by-state greenhouse gas emissions, with incentives for best performers in carbon pollution reduction, and a new program to fund resilient infrastructure that can withstand the impacts of climate change.
 - Dramatically increases funding for development of charging stations and other alternative fueling options for electric and zero-emissions vehicles.
 - Addresses rising rates of pedestrian and bicyclist deaths by requiring states with the highest rates to set aside funding to tackle the problem, codifies and expands eligibility for safe routes to school, provides funding to develop active transportation networks, and strengthens emphasis on high-risk rural roads.
 - Doubles funding for technology deployment to increase innovation and creates new programs to fund green materials research and to deploy green construction materials and practices to create smarter, more efficient transportation systems.
- **Transit Investments: \$105 Billion**
 - Increases funding for transit agencies to add new routes and provide more reliable service, encouraging viable public transit options and fewer single-occupant cars clogging highways.
 - Creates a Mobility Innovation program to permit transit agencies to collaborate on mobility-on-demand services.
 - Strengthens Buy America provisions to boost domestic jobs in rail and bus manufacturing.
 - Increases investment in zero-emission buses to reduce carbon pollution.
 - Streamlines project delivery by reforming the Capital Investment Grants program so that our investments get shovels in the ground quicker and commuters see results faster.
 - Provides the investments needed to address the growing backlog of transit maintenance needs, making public transit safer and more reliable.
 - **Passenger Vehicle and Commercial Motor Vehicle Safety Investments: \$10 Billion**
 - Boosts funding for highway safety programs under the National Highway Traffic Safety Administration, providing \$5.3 billion over five years.
 - Increases funding for truck and bus safety programs under the Federal Motor Carrier Safety Administration, providing \$4.6 billion over five years.
 - **Rail Investments: \$60 Billion**
 - Triples funding for Amtrak to \$29 billion over five years, allowing for improvement and expansion of the nation's passenger rail network, including the Northeast Corridor (NEC) and the National Network, giving travelers a reliable, low-carbon option to travel both short and long distances, including to regions that lack frequent or affordable airport service.



- Invests in Amtrak stations, facilities, services, and modernization of its equipment, while continuing Amtrak's legacy of serving long-distance, state-supported, and Northeast Corridor passengers and ensuring a skilled Amtrak workforce.
- Creates a new \$19 billion program, the Passenger Rail Improvement, Modernization and Expansion (PRIME) grant program, devoted entirely to passenger rail improvements and expansion, performance optimization, and intercity passenger rail transportation expansion.
- Dramatically increases funding for the Consolidated Rail Infrastructure and Safety Improvements (CRISI) grant program to \$7 billion to fund passenger and freight rail projects. Expands program eligibilities and allows commuter rail authorities to compete for funds.
- Helps communities improve safety at rail crossings with a new \$2.5 billion grade-separation grant program.
- Addresses "long trains" (trains longer than 7,500 feet), as well as train crossings that are blocked more than 10 minutes, which impact local traffic and emergency response times.
- Prohibits USDOT from allowing the transport of liquified natural gas by rail tank car until extensive safety analysis is performed and additional conditions are met.

After Transportation and Infrastructure Committee markup, House Democrats combined the INVEST in America Act with additional provisions from additional committees to create the larger legislative package and filed it as H.R. 2, the "Moving Forward Act." Additional provisions that raised the funding amount to \$1.5 trillion include language to simultaneously revitalize and decarbonize U.S. infrastructure across all sectors of the economy, consistent with goals to achieve a net-zero emission economy by 2050. In addition to decarbonizing the transit sector, it would provide substantial support in the following areas:

- Modernization of the electric grid to allow for more renewable power generation;
- Expansion of and increase in funding for energy efficiency programs for homes, schools, and public buildings;
- Research, development, and demonstration of low-emissions aviation fuels and technologies;
- Enabling clean energy deployment and electric or alternative fuel vehicle infrastructure;
- Establishment of new commercial demonstration programs for energy storage and carbon capture, utilization, and storage (CCUS) technologies;
- Extension of key tax incentives for clean energy projects or programs as well as providing a widely supported option for those taxpayers to receive a direct payment in lieu of the tax credit equal to 85 percent of the credit;
- Extension of tax incentives for residential and commercial energy efficiency; and
- Expansion of tax incentives for electric vehicles and extension of tax credit for alternative fuel vehicle infrastructure.

In September 2020, Congress passed a one-year extension of the FAST Act. Funding levels are to remain steady through September 2021.

On February 26, 2021, the House Appropriations Committee Chair announced guidance for Community Project Funding requests. Community Project Funding is defined as congressionally directed spending, tax benefits, or tariff benefits that would benefit an entity, specific state, locality, or congressional district. In

practical terms, this reinstates the process of earmarking congressional funding for particular projects.

Guidelines for the process emphasize transparency, community support, and favor projects that are already programmed on a TIP or Statewide Transportation Improvement Program (STIP).

Uncertainty remains about other aspects of a long-term transportation infrastructure bill.

3.5 Alignment of Goals, Factors, Principles, and Themes

Throughout the various levels and jurisdictions of transportation planning—federal, state, county, municipality, region, district, etc.—various systems of planning goals, factors, principles, and themes have been developed to guide the planning process. There are common themes even though their organization and expression vary. Table 1 presents planning goals, factors, principles, and themes from several of the plans listed above and other guidance documents that influenced this long-range planning effort.



Table 1. Interrelation of Planning Goals, Factors, Principles, and Themes

L RTP Goals (SEDA-COG MPO)	Federal Planning Factors (US DOT) Source: 23 CFR 450.306.	PA On Track LRTP Strategies (PennDOT) Source: PA On Track LRTP, August 2016.	Smart Transportation Themes (PennDOT/NJDOT) Source: Smart Transportation Guidebook, NJDOT/PennDOT, March 2008.	Smart Transportation Principles (PennDOT) Source: Smart Transportation Guidebook, NJDOT/PennDOT, March 2008.	Federal Livability Principles (Partners for Sustainable Communities) Source: Partnership for Sustainable Communities https://www.hud.gov/program_offices/economic_development/Six_Livability_Principles .
1. Support the economic vitality of the region, especially by enabling global competitiveness, productivity and efficiency	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency	Personal and Freight Mobility	Leverage and preserve existing investments	Plan all projects in collaboration with the community	Promote equitable, affordable housing
			Understand the context; plan and design within the context		Enhance economic competitiveness
2. Increase the safety of the transportation system for motorized and non-motorized users	Increase the safety of the transportation system for motorized and non-motorized users	Safety	Safety always and maybe safety only	Use sound professional judgment	
			Accommodate all modes of travel	Plan for alternative transport modes	
3. Increase the security of the transportation system for motorized and non-motorized users	Increase security for transportation system users	Stewardship	Accommodate all modes of travel	Plan for alternative transport modes	
4. Increase the accessibility and mobility of people and for freight	Increase the accessibility and mobility options available to people and for freight	Personal and Freight Mobility	Look beyond level-of-service	Plan for alternative transport modes	Promote equitable, affordable housing
			Build towns, not sprawl		
5. Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns	Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns	Stewardship	Choose projects with high value/price ratio	Tailor solutions to the context	Provide more transportation choices
			Look beyond level-of-service	Tailor the approach	Support existing communities
			Enhance local network	Plan all projects in collaboration with the community	Coordinate policies and leverage investment
			Build towns, not sprawl		
	Reduce or mitigate storm water impacts of surface transportation		Understand the context; plan and design within the context	Use sound professional judgment	Value communities and neighborhoods
	Enhance travel and tourism				
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	Personal and Freight Mobility	Look beyond level-of-service	Tailor the approach	Provide more transportation choices
			Accommodate all modes of travel	Plan for alternative transport modes	
7. Promote efficient transportation system management and operations	Promote efficient system management and operation	Personal and Freight Mobility	Money Counts	Tailor the approach	Provide more transportation choices
			Leverage and preserve existing investments	Plan for alternative transport modes	
			Choose projects with high value/price ratio	Scale the solution to the size of the problem	
			Enhance local network		
		System Preservation	Money Counts		



LRTP Goals (SEDA-COG MPO)	Federal Planning Factors (US DOT) Source: 23 CFR 450.306.	PA On Track LRTP Strategies (PennDOT) Source: PA On Track LRTP, August 2016.	Smart Transportation Themes (PennDOT/NJDOT) Source: Smart Transportation Guidebook, NJDOT/PennDOT, March 2008.	Smart Transportation Principles (PennDOT) Source: Smart Transportation Guidebook, NJDOT/PennDOT, March 2008.	Federal Livability Principles (Partners for Sustainable Communities) Source: Partnership for Sustainable Communities https://www.hud.gov/program_offices/economic_development/Six_Livability_Principles .
8. Emphasize the preservation of the existing system	Emphasize preservation of the existing transportation system	Stewardship	Enhance local network	Scale the solution to the size of the problem	Value communities and neighborhoods
	Improve the resiliency and reliability of the transportation system		Leverage and preserve existing investments		
9. Foster compatibility between land use and transportation facilities to yield orderly growth and development		Stewardship	Leverage and preserve existing investments	Tailor solutions to the context	Provide more transportation choices
			Enhance local network	Tailor the approach	Support existing communities
			Build towns, not sprawl	Plan all projects in collaboration with the community	Promote equitable, affordable housing
			Understand the context; plan and design within the context	Use sound professional judgment	Coordinate policies and leverage investment
			Develop local governments as strong land use partners	Scale the solution to the size of the problem	Value communities and neighborhoods

3.6 PennDOT Connects

“PennDOT Connects” is the collaborative direction and toolset established by policy directive that (among other actions) replaced the Linking Planning and NEPA (LPN) initiative in late 2016. In the directive, PennDOT Secretary Leslie Richards noted that the purpose was to result in “broadening the benefits we deliver and taking a more holistic approach to planning. We are tasking PennDOT staff and our Planning Partners to consider community needs at the beginning of the planning process to ensure the best allocation of our resources.” The program was officially announced on February 23, 2017. A PennDOT press release on that date further commented:

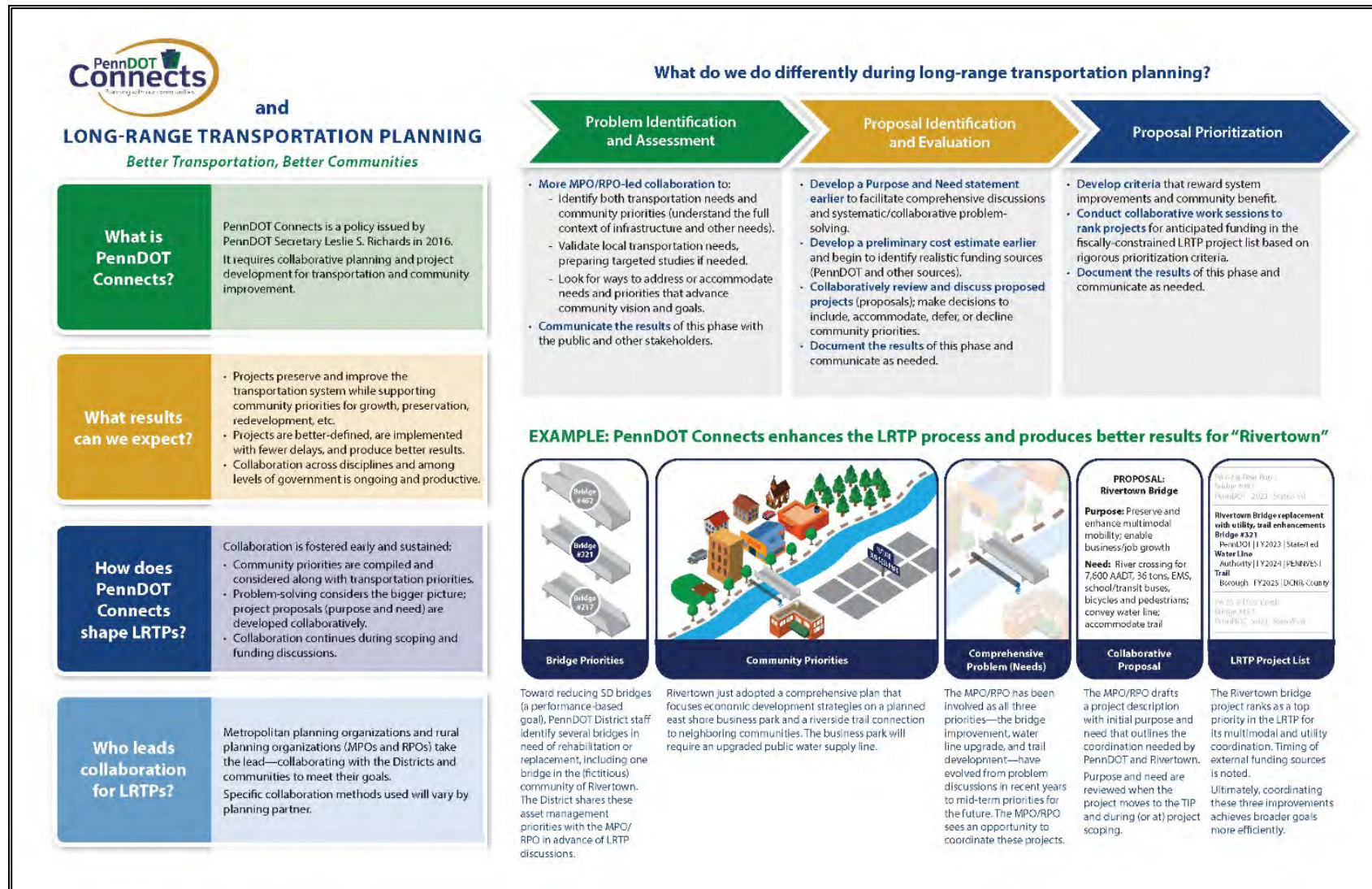
The new approach to project planning and development expands the department's requirements for engaging local and planning partners by requiring collaboration with stakeholders before project scopes are developed. PennDOT Connects aims to transform capital and maintenance project development by ensuring that community collaboration happens early, and that each project is considered in a holistic way for opportunities to improve safety, mobility, access, and environmental outcomes for all modes and local contexts. Earlier collaboration will ensure that projects meet current and projected needs as much as possible, and can reduce costly changes further in the project development process.

PennDOT has steadily incorporated the policy into its applicable operations, to include supporting the SEDA-COG MPO in its coordination with PennDOT and local and regional stakeholders, including with the LRTP update process. The PennDOT LRTP Guidance document has also been updated to reflect this new approach. Each PennDOT District now has, or is in the process of staffing, a District Planner position to serve as the primary liaison between the District and its regional Planning Partners. The SEDA-COG MPO also has a defined role and person(s) who have access to PennDOT Connects to be able to review projects, their status, and approve/sign off with concurrence. Outreach activities are now tracked through PennDOT's OneMap GIS-based interface. Dedicated funding to support PennDOT Connects planning studies and efforts has also been established on a statewide basis. PennDOT Connects also offers free technical assistance to municipalities to better integrate local land use, development, and transportation goals into the state transportation planning process. Any municipal staff member, government official, or planning partner is eligible to request this assistance.

At Districts 2-0 and 3-0, the PennDOT Connects process is still being evaluated for integration with existing processes being used to identify Asset Management projects for programming on the statewide TIP. Because this process is not yet mature, PennDOT Connects was not used in this LRTP update in evaluating or prioritizing the Asset Management projects identified for implementation. As PennDOT Connects continues to be implemented and used at the District level, such projects could be included in the process at an appropriate later time as desired.

Figure 6 shows the plan for integrating PennDOT Connects into the long-range transportation planning process at the state, regional, and local levels. The approach for how the SEDA-COG MPO is utilizing PennDOT Connects in the project prioritization process is discussed in Section 8.2.3.2.

Figure 6. Integration of PennDOT Connects and the Long-Range Transportation Process



Source: PennDOT Publication 10 (DM-1),

https://www.penndot.gov/ProjectAndPrograms/Planning/Documents/TransportationProgramDevelopment%20Process12_22_2017Report.pdf



4. REGIONAL CONTEXT

This section provides perspectives on the backdrop for transportation in the SEDA-COG MPO region as it currently exists. The information is intended as a baseline for understanding the transportation network, its components, and the dynamics affecting its use and upkeep.

4.1 Geography and Transportation History

The history of transportation and the development of infrastructure in Central Pennsylvania have been closely tied to the area's topography and waterways.

A majority of the SEDA-COG MPO region falls within the Ridge and Valley Geologic Province, with parts of Clinton County in the Appalachian Plateaus Province. According to the Pennsylvania Geological Survey,⁹ the topography of this region formed when pressure from the southwest compressed the region to the northwest, buckling the rock into long valleys running roughly in the same direction. Soft shales and siltstones eroded to form the valleys, while the sandstones eroded at a slower rate, leaving ridges. The differences between the ridges and valleys are more dramatic in the western and northern parts of the region, with elevation changes of up to a thousand feet. The differences become more subdued in the easternmost MPO counties. The physiography and topography are typified by the succession of numerous ridges and valleys with a southwest-northeast orientation.

⁹ Bureau of Topographic and Geologic Survey, <http://www.gis.dcnr.state.pa.us/geology/index.html>, PaGEODE Web-Mapping Application for Pennsylvania Geologic Data Exploration.

The largest portion of the SEDA-COG MPO region is drained by the Susquehanna River, with its West Branch flowing through or bordering Clinton, Northumberland, and Union counties. The North Branch flows through or borders Columbia, Montour, and Northumberland counties. The main stem of the Susquehanna borders Northumberland, Snyder, and the eastern tip of Juniata County. The Juniata River flows through Mifflin and Juniata counties, joining up with the Susquehanna River farther south. A host of smaller streams and creeks feed these major watercourses.

Infrastructure development followed the watercourses, valleys, and ridge gaps. The Pennsylvania Canal followed the Juniata, North Branch, West Branch, and Susquehanna Rivers. The confluence of the North and West Branch in the Sunbury and Northumberland areas, and other points along the rivers, became major trade centers in the 19th Century and remain population centers today.

The canals were eclipsed by railroads built along many of the same riverbed alignments. Highways were then built paralleling many of the rail lines, or feeding traffic to them, following the valley floors or winding along the gaps between adjacent ridges. Much of the current transportation network orients around these features and follows paths that have been in use for more than a century. The notable variation to this pattern is Interstate 80, which cuts across the ridge and valley topography but frequently follows the established paths of state routes, particularly in the western part of the region.





4.2 Transportation System

4.2.1 Transportation Agencies

The following agencies are principally responsible for the highway and street infrastructure in the eight-county SEDA-COG MPO region:

- Federal Highway Administration (FHWA) of the U.S. Department of Transportation (USDOT)
- Pennsylvania Department of Transportation (PennDOT)
- Counties
- Cities and municipalities (boroughs, towns, and townships)

4.2.2 Highway System

The highway system in the SEDA-COG MPO region includes the physical infrastructure that conveys vehicles (motorized and non-motorized) and supports the movement of people and goods. Highways and streets are the most recognizable primary conduits of travel. Bridges and tunnels conduct certain roadways or traverse other roadways and environmental features. The junctions of the transportation system include intersections and interchanges.

The major highway corridors in the SEDA-COG MPO region (see Figure 7) are characterized not only by high traffic volumes, but also by their role in the transportation of goods as part of interstate or international commerce; transportation of people for commercial, tourism, or personal purposes; the movement of agricultural products to major market or processing centers; and other factors. Table 2 presents an overview of key characteristics for each of these major highway corridors. Several of these major highway corridors are seeing significant new development and modification. The following major highway construction projects are currently under construction:

- Central Susquehanna Valley Transportation (CSVT) Project – This project will complete approximately 13 miles of new four-lane, limited-access highway through Snyder, Union, and Northumberland counties as a bypass of the existing free-access US 11/US 15, US 15, and PA 147 corridors, which traverse Hummels Wharf, Shamokin Dam, Northumberland, and Lewisburg, among other smaller communities. The highway will complete a long-planned connection between US 11/15 south of Selinsgrove and I-80. Construction of the roadway will be in two phases, with the Northern Section to open in 2022 and the Southern Section to be open in 2027. A broader discussion of the CSVT project and its implications for the region is found in Section 7, Issues and Implications.
- Potters Mills Gap Project (PMG) – This project, to be completed by 2021, will construct about three miles of four-lane, limited-access highway from the Mifflin/Centre County line to Potters Mills in Centre County, including new grade-separated interchanges at Sand Mountain Road and PA 144. The project addresses safety, mobility, and congestion concerns. Although the project is not located within the SEDA-COG MPO region, it is expected to provide mobility and economic benefits for Juniata and Mifflin counties. In the Mifflin County Comprehensive Plan, the PMG and the ongoing development of a limited-access connection to I-80 are referenced as the county's highest highway improvement priorities.¹⁰

¹⁰ *Visions for the 21st Century*, The Mifflin County Comprehensive Plan, 2014, page 16-6.

Figure 7. Major Highway Corridors, SEDA-COG MPO Region

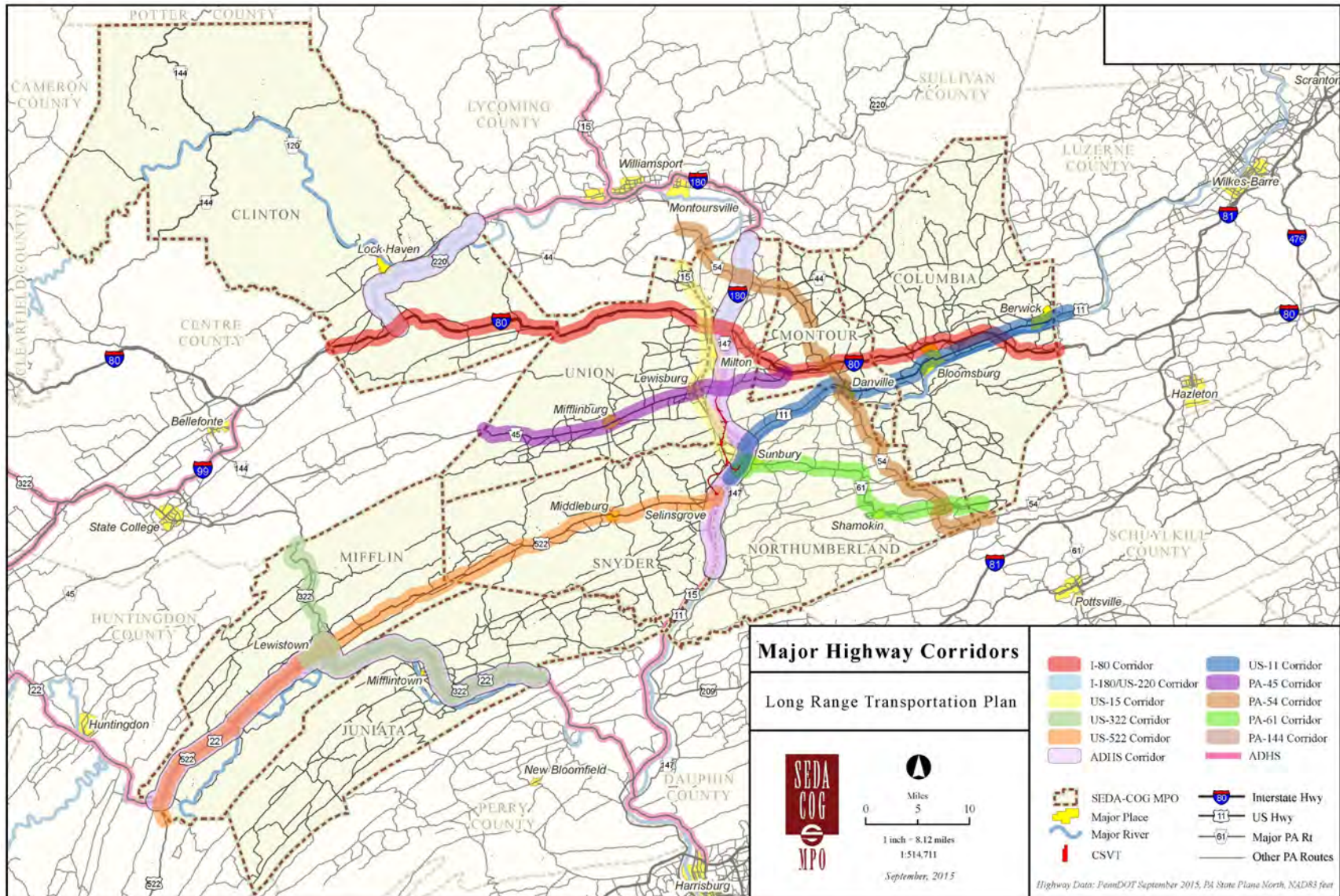




Table 2. Major Highway Corridors

Route	SEDA-COG MPO Counties	2018 ADT ¹	Truck Percentage ²	ADHS Corridor ³	Notes
I-80	Clinton, Union, Northumberland, Montour, & Columbia	21,000 - 40,000	40% to 50% west of I-180; 34% to 64% east of I-180	--	
I-180	Northumberland	16,000 to 18,000	20% - 24%	Corridor P	Connects I-80 to Williamsport, PA (connects to ADHS Corridor U)
US 11	Snyder, Northumberland, Montour, & Columbia	10,000 to 17,000	17% to 25% south of PA 147 4% to 12% north of PA 147	--	Connects the Bloomsburg–Berwick Urbanized Area with I-80
US 15	Snyder & Union	16,000 to 29,000 south of I-80 to 33,000 at Shamokin Dam	7% to 23%	--	Only non-interstate in Pennsylvania designated as part of the Department of Defense's Strategic Highway Network Co-designated with US 11 south of Shamokin Dam
US 22-322	Juniata & Mifflin	15,000 to 25,000	9% to 35%	Corridor M	Co-designated with US 22 south of Lewistown
US22-522	Mifflin (west of Lewistown)	9,000	6% to 11%	Corridor M	Not fully completed to multilane divided status
US 220	Clinton	7,200 to 18,000	9% to 22% (I-80)	Corridor P	Connects I-80 to Lock Haven
US 522	Mifflin & Snyder (east of Lewistown)	3,200 to 12,000	4% to 13%	--	
PA 45	Union, Northumberland, & Montour	2,200 (western Union County line) to 19,000 (Lewisburg)	12% (western Union County line) to 6% (Lewisburg)	--	Connects Danville / Lewisburg with State College
PA 54	Northumberland & Montour	2,200 to 9,700 (23,000 near Danville near Danville)	5% to 14%	--	Connects US 15 to I-81



Route	SEDA-COG MPO Counties	2018 ADT ¹	Truck Percentage ²	ADHS Corridor ³	Notes
PA 61	Northumberland & Columbia	1,500 (southern Columbia County) to 24,000 at Sunbury / Shamokin Dam	3% - 13%	--	Links US 15 to I-81
CSVT	Snyder, Union, & Northumberland	NA	NA	Corridor P-1	Under construction Northern section opens 2022 Southern section opens 2027

Sources:

¹ Average Daily Traffic, PennDOT, Pennsylvania Traffic Volume Map, 2018 (published November 2019);

https://gis.penndot.gov/BPR_PDF_FILES/MAPS/Traffic/Traffic_Volume/Statewide/Statewide_2018_tv.pdf

² Truck %, PennDOT, PennDOT Traffic Information Repository (TIRe), <https://gis.penndot.gov/TIRe>

³ Appalachian Regional Commission, Status of the Appalachian Development Highway System, 9/30/2019, https://www.arc.gov/program_areas/AppalachianDevelopmentHighwaySystem.asp, pp. 44-48.



Including the major highway corridors, the SEDA-COG MPO region is home to nearly 1,500 miles of roadway included in the Federal-Aid Highway System, including almost 86 miles of Interstate highways. The Federal-Aid Highway System includes those roads on the National Highway System or functionally classified as Urban Collector / Rural Major Collector, or higher. It should be noted that the total roadway network of federal-aid and non-federal-aid highways includes more than 6,700 miles. Table 3 summarizes the miles of roadway by county and Federal Functional Classification. Most of the roadways included in the Federal-Aid Highway System are owned and maintained by PennDOT, but the Federal-Aid Highway System also includes 95.5 miles of locally owned and maintained roadways.¹¹ Detailed maps of the roadway system on a county scale can be found on the SEDA-COG MPO Web site.

Table 3. Miles of Roadway by County and Functional Classification

County	Federal-Aid Linear Miles					Non-Federal-Aid Linear Miles		Total Linear Miles
	Inter-State	Other Frwy/Expwy	Other Principal Arterial	Minor Arterial	Major Collector	Minor Collecto	Local	
Clinton	24.0	14.3	2.9	90.7	109.9	39.8	445.1	726.71
Columbia	19.1	0.0	24.1	87.2	132.9	85.1	1,044.3	1,392.82
Juniata	0.0	20.8	1.1	46.8	69.1	89.3	503.2	730.34
Mifflin	0.0	20.3	41.6	31.6	62.9	64.2	405.3	625.87
Montour	11.7	0.0	9.8	23.2	31.5	29.9	298.6	404.77
Northumberland	14.8	7.5	50.5	114.9	159.8	90.4	983.3	1,421.23
Snyder	0.0	3.1	49.5	36.7	51.9	78.7	601.1	820.93
Union	16.2	0.0	22.5	27.4	80.6	77.9	379.7	604.25
SEDA-COG MPO	85.8	66.0	202.0	458.5	698.6	555.3	4,660.6	6,726.92
Pennsylvania	1,868.6	917.8	4,376.2	8,533.4	13,072.1	6,957.3	84,871.1	120,596.49

Source: 2018 Highway Statistics Report, Publication 600 (7-19), PennDOT

In addition to the Federal Functional Classification and Federal-Aid Highway System designations, other classification schemes have been developed by federal and state agencies. The schemes are tools that organize the roadway system for a particular purpose. Most schemes create a hierarchy based on the relative importance or priority assigned to the roadway. Some schemes reference other schemes in defining tiers. For instance, the PennDOT Business Plan Network references the National Highway System in its top two tiers. The following sub-sections describe the prevalent federal and state highway networks and classification schemes that are most relevant for metropolitan planning in Pennsylvania.

4.2.2.1 National Highway System

The National Highway System (NHS) consists of roadways important to the nation's economy, defense, and mobility. The NHS was developed by the USDOT in cooperation with the states, local officials, and MPOs, and is composed of the following roadway sub-systems:

¹¹ 2017 Highway Statistics Report, Publication 600 (9-18), PennDOT.

- Interstate: The Eisenhower Interstate System retains its separate identity within the NHS.
- Other Principal Arterials: Highways in rural and urban areas that provide access between an arterial and a major port, airport, public transportation facility, or other intermodal facility.
- Strategic Highway Network (STRAHNET): Highways that are important to the U.S. strategic defense policy and provide access, continuity, and emergency capabilities for defense purposes.
- Major Strategic Highway Network Connectors: These are highways that provide access between major military installations and highways that are part of the Strategic Highway Network.
- Intermodal Connectors: These highways provide access between major intermodal facilities and the other four subsystems making up the National Highway System.

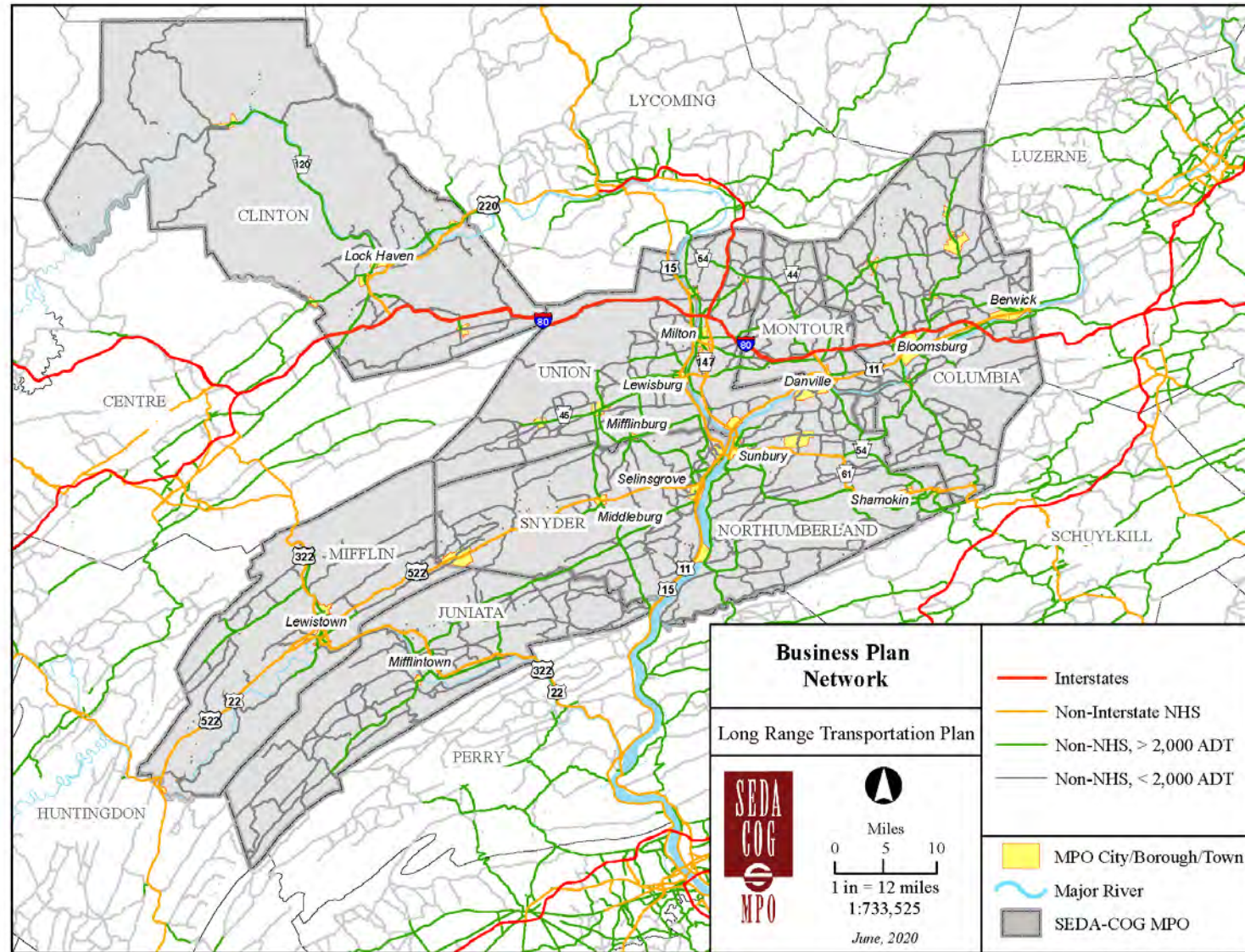
4.2.2.2 PennDOT Business Plan Network

Figure 8 illustrates the PennDOT Business Plan Network (BPN), developed by PennDOT to be a core system for prioritizing improvements and reporting performance of the roadway network. The four tiers reference their NHS status and average daily traffic volume (ADT), as follows:

1. Interstates: Highest-priority roadways
2. Non-Interstate NHS roadways
3. Non-NHS, greater than 2,000 ADT
4. Non-NHS, less than 2,000 ADT



Figure 8. PennDOT Business Plan Network, SEDA-COG MPO Region



Data: PennDOT, SEDA-COG

4.2.2.3 PennDOT Corridor Modernization Network

PennDOT's Corridor Modernization program is a comprehensive initiative to better evaluate, prioritize, plan, deploy, and measure the effectiveness of transportation management and operations strategies throughout Pennsylvania's transportation system. The products of Corridor Modernization help to guide investment in congested-corridor projects. The Corridor Modernization Network encompasses the tiers given in Table 4 (left side), which are based on road type, average annual daily traffic volume (AADT), and NHS status. The right side of Table 4 aligns the Corridor Modernization Network tiers and with the Business Plan Network tiers, to illustrate the relationship between the two network schemes.

Table 4. Corridor Modernization Roadway Tiers and Relationship to Business Plan Network

Corridor Modernization			Business Plan Network
Road Type	Tier	Criteria	
Limited Access	1A	AADT > 75,000	BPN 1: Interstate
	1B	AADT between 50,000 and 75,000	
	1C	AADT < 50,000	
Non-Limited Access	2A	AADT > 25,000	BPN 2: NHS Non-Interstate
	2B	AADT between 10,000 and 25,000 or NHS with AADT < 10,000	
Low-Volume (Non-NHS)	3A	AADT between 2,000 and 10,000	BPN 3: Non-NHS AADT ≥ 2,000
	3B	AADT < 2,000	BPN 4: Non-NHS AADT ≤ 2,000

Source: Corridor Modernization, presentation at the 2013 Transportation Engineering & Safety Conference, December 13, 2013

4.2.2.4 National Highway Freight Network

The National Highway Freight Network (NHFN) strategically directs federal resources and policies toward improved performance of the highway freight transportation system. The NHFN includes the following subsystems of roadways:

- **Primary Highway Freight System (PHFS):** This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consists of 41,518 centerline miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads.
- **Other Interstate portions not on the PHFS:** These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,843 centerline miles of Interstate, nationwide, and fluctuate with additions and deletions to the Interstate Highway System.
- **Critical Rural Freight Corridors (CRFCs):** These are public roads not in an urbanized area that provide access and connection to the PHFS and the Interstates with other important ports, public transportation facilities, or other intermodal freight facilities.

- Critical Urban Freight Corridors (CUFCs): These are public roads in urbanized areas that provide access and connection to the PHFS and the Interstates with other ports, public transportation facilities, or other intermodal transportation facilities.

Not including the CRFCs and CUFCs, the NHFN consists of the PHFS and other Interstate portions not on the PHFS, which encompasses approximately 51,369 centerline miles. Within the SEDA-COG MPO, Interstates 80 and 180 are part of the NHFN Primary System—I-80 as part of the PHFS and I-180 as an “other Interstate portion not on the PHFS.” Designation is an eligibility step for tapping the federal funding stream directed to the NHFN. The FHWA Administrator is required to re-designate the PHFS every five years.

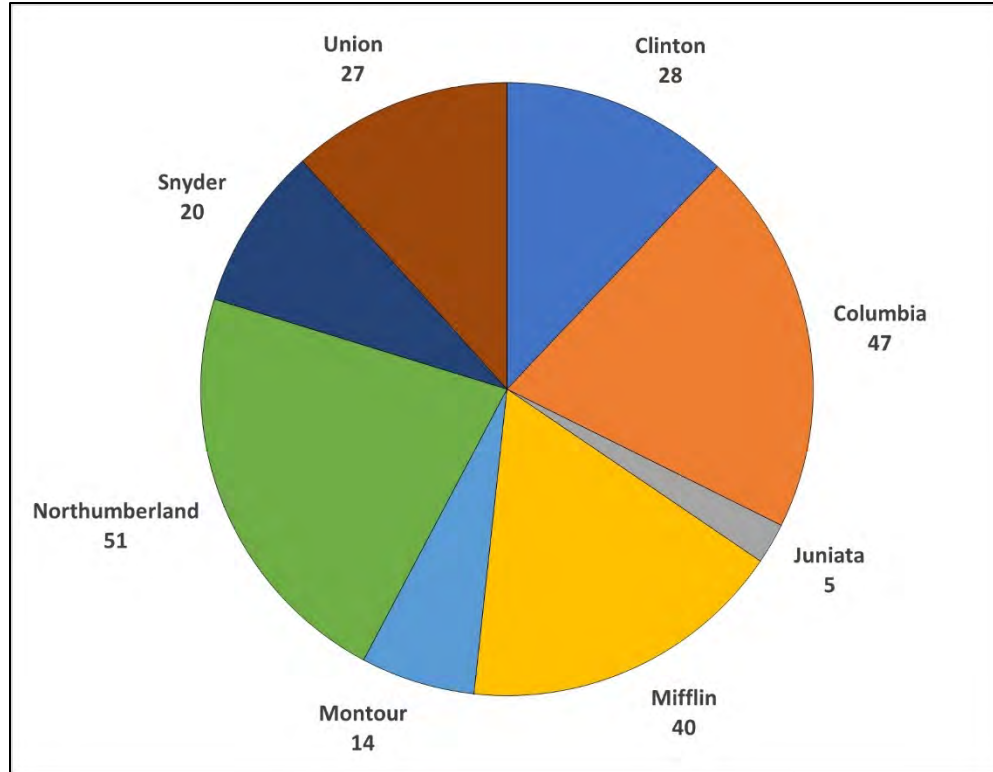
4.2.2.5 Infrastructure Elements

Along with the roadways themselves, the transportation system includes other infrastructure elements that are essential for operating a fully functioning transportation network, managing traffic flow and operations, allowing efficient maintenance, and maintaining travel safety:

- Right-of-Way, which is the “real estate” covered by the paved roadway and shoulders in addition to the roadside and additional reserved area on either side and within the median to accommodate slopes, interchanges, etc., as well as future expansion of the system.
- Shoulder and Roadside Features, including berms, guiderail, delineators, drainage, poles, lighting, etc.
- Signs, both on the roadside and overhead, that regulate traffic flow, provide directional and operational guidance, and general travel information.
- Traffic Control Signals, including 231 intersection signals (see Figure 9), pedestrian and bike signals, beacons, flashers, etc.
- ITS and Technology Elements, including variable message signs, traffic cameras, highway advisory radio, speed warning devices, etc.
- Structures, including bridges, culverts, tunnels, overhead structures (signs, utilities), etc.
- Parking Facilities, along with rest areas, weigh stations, and park-and-ride facilities (both formal and informal sites where vehicles are parked for carpooling or accessing bus service).



Figure 9. Intersection Traffic Signals, SEDA-COG MPO Region



Source: PennDOT OneMap, accessed February 2020

4.2.3 Public Transportation and Ride-Sharing

4.2.3.1 Types of Services

The following sections define and describe the types of public transportation services currently offered by transit agencies in the SEDA-COG MPO region.

4.2.3.1.1 Shared-Ride/Demand-Responsive Service

All parts of the region are currently served by demand-responsive, shared-ride service, where the route and destination are determined by passenger request. Shared-ride provides consolidated trips between riders' origins and destinations that are not served by fixed-route bus service. Often referred to as "paratransit," shared-ride operates during specified hours and specific travel areas. Riders are grouped together depending upon their travel time and location(s). Service is available to the general public at full fare, although the utilization of most services at full fare is low. Most passengers are able to ride with no or low fares through eligibility for state and federal programs or sponsoring human service agencies that assist seniors, persons with disabilities, and low-income individuals (among others) with their transportation needs. A broad assortment of such assistance programs is currently available, and each has a different set of regulations, funding sources, reporting standards, and service delivery guidelines. Information on the services within each county can be obtained directly from the local providers. The more commonly used funding programs include the following:

- Senior Shared-Ride Program



- Aging Services Block Grant Program
- Medical Assistance Transportation Program (MATP)
- Americans with Disabilities Act (ADA) Complementary Paratransit Program
- Persons with Disabilities Program (PWD)
- Welfare to Work (W2W) Program
- Mental Health/Intellectual & Developmental Disabilities (MH/IDD)

Various levels of coordination are occurring between the demand-responsive systems in the MPO area, with each of the systems coordinating cross-county trips with at least one other provider. Coordination between the systems typically involves transferring passengers at county borders, at specific areas or major destination points.

4.2.3.1.2 Fixed-Route Services

Fixed-route service is operated over designated routes according to a published schedule and is available to the general public. Passengers can board and alight fixed-route bus services at any bus stop along the established route. The SEDA-COG MPO region's only public fixed-route system is the Lower Anthracite Transportation System (LATS) operated by the Borough of Mount Carmel. LATS serves the area from Shamokin to Mount Carmel.

Four SEDA-COG MPO region universities—Bucknell, Bloomsburg, Lock Haven, and Susquehanna—operate small fixed-route transit and shuttle systems for the exclusive use of their student bodies.

4.2.3.1.3 Intercity Services

Intercity bus service is typically operated by private companies and provides connections between communities and over longer distances. Intercity service schedules are typically designed to attract longer-distance travelers vs. those making shorter trips (such as within the MPO area). PennDOT's Bureau of Public Transportation contracts with six carriers across Pennsylvania to provide scheduled fixed-route service along routes considered essential links in the regional/statewide network of intercity bus services, but which cannot be financially supported solely from user fares. Before the COVID-19 pandemic occurred, several routes passed through or originated within the SEDA-COG MPO region. These included links from State College to Wilkes-Barre and State College to Harrisburg, operated by Fullington Trailways (see Figure 10). Listings of public transportation programs and services are found at <https://gis.penndot.gov/transitmap/>.

Other private busing contractors have also offered routes through the region. The most prominent example is Megabus. Although Megabus routes pass through the region (between stops in State College, Harrisburg, Philadelphia, Pittsburgh, New York, etc.), stops within the region have not been established, and the COVID-19 situation has caused reductions in or suspension of some of their services.

Fullington resumed limited service in August from State College to Harrisburg, and Williamsport to Harrisburg, New York City, and Philadelphia, mainly on weekends. The State College–Harrisburg route runs along Route 322 with stops in Lewistown, Mifflintown, and Thompsontown. Although suspended during the pandemic, Greyhound has resumed service through the MPO area on the Interstate 80 and Route 15 corridors.

As of late 2020, intercity bus services as well as fixed-route public transit ridership volumes were still being significantly affected by the COVID-19 pandemic. Statewide, public transit ridership had declined by 50 percent as of November 2020.

4.2.3.2 Vanpool and Carpool/Ride-share

Vanpools are typically groups of people that lease a van from a public or private provider at a fixed monthly cost that covers the lease payment, maintenance, roadside assistance, and insurance. The van then takes the riders to their ultimate destinations.

PennDOT contracts with Enterprise Rent-A-Car for a “Commute with Enterprise” program that has been implemented nationally (see <https://www.enterpriseholdings.com/en/total-transportation-solution/neighborhood-network/commute-with-enterprise.html>.) Enterprise vanpools were established in the MPO region to serve Shamokin Dam–Harrisburg service, as well as a Shamokin–Pottsville route. During COVID in 2020, some services and the PennDOT subsidy were suspended but are expected to be reestablished in 2021. In the larger region, there has been a shift from white-collar commuting service to blue-collar routes, especially to distribution and fulfillment centers. The Enterprise group would like to reengage MPOs to consider how best to seek and qualify for federal funding.

The Centre Area Transportation Authority (CATA) located in State College operates a **CATACOMMUTE** vanpool program that serves 35 groups in 12 counties, typically serving 7-15 riders per van. Vans service the State College/Bellefonte areas with groups currently coming from several areas in the SEDA-COG MPO, including Lewistown and Lock Haven. CATA also facilitates the formation of carpools through its Web-based **CATACOMMUTE** portal. See <https://catabus.com/catacommute/vanpool-program/> for more information.

4.2.3.3 Park-and-Ride/Park-and-Pool

Park-and-ride facilities are parking areas, frequently with public transport connections, that allow commuters to leave their vehicles and transfer to another car, bus, rail system (rapid transit, light rail, or commuter rail) for the remainder of the journey.

Figure 10 shows the locations of 11 park-and-ride lots in the SEDA-COG MPO region and scheduled intercity bus service routes. Three park-and-ride facilities are owned and maintained by PennDOT (green stars), and eight other locations operate as informal lots (red triangles). The informal lots are places where commuters use existing parking lots or use undesignated pull-off areas alongside roadways, often without property owner permission. These informal areas can pose safety or liability concerns for both the parked vehicles and passing traffic. The CSVT project incorporates the construction of two new park-and-ride lots (orange stars), which are located at the planned Winfield (US 15) Interchange and the planned Northumberland (Existing PA 147/Future PA 405) Interchange.

Due to high carpooling rates and potential safety issues with informal park-and-ride areas adjacent to US Route 22/322, PennDOT completed a commuter parking feasibility study for several interchanges along US 22/322 in Juniata County. Following a 2011 Feasibility Study report, eight areas of interest for park-and-ride facilities were identified. Funds are currently programmed in the 3rd four-year period of the Twelve-Year Plan for design and construction of a facility at a Juniata County location. The objectives for the new Juniata County park-and-ride facility (applicable to other regional applications) include:

- Provide adequate parking for existing and future commuter use.
- Provide additional ride-sharing opportunities and/or options.
- Provide a safe area for commuter parking.
- Alleviate commuter parking infringing upon private parking lots designated to serve other uses.
- Promote environmentally friendly conservation efforts.



4.2.3.4 Microtransit

At least two transit providers bordering the SEDA-COG area are exploring options for providing microtransit services. CATA implemented **CATAGO!** “microtransit” service in 2020, with services within Bellefonte and between Bellefonte and State College purchased from a subcontractor (**CATARIDE** paratransit/demand-responsive service). These services are supported by passenger fares as well as federal, state, and local funding sources. See <https://catabus.com/go/> for more information.

rabbittransit operates a microtransit service branded Stop Hopper in York County. Stop Hopper designates a vehicle to provide service within a designated service area during regular service areas. Riders use a smartphone app to request a ride to and from any point within the designated area, and pay a low fee of \$2.00 per trip. In terms of scheduling, the service operates more like a ride-hailing service than traditional shared-ride service, and avoids many of the concerns shared-ride providers face related to eligibility and billing.

4.2.3.5 Transit Providers and Profiles

The SEDA-COG MPO is served by a variety of public transportation services, including fixed-route, demand-responsive, intercity bus, taxi, and college transportation services. Table 5 briefly describes each of these services.

Figure 10. Park-and-Ride Lot Locations and Scheduled Intercity Bus Routes, SEDA-COG MPO Region

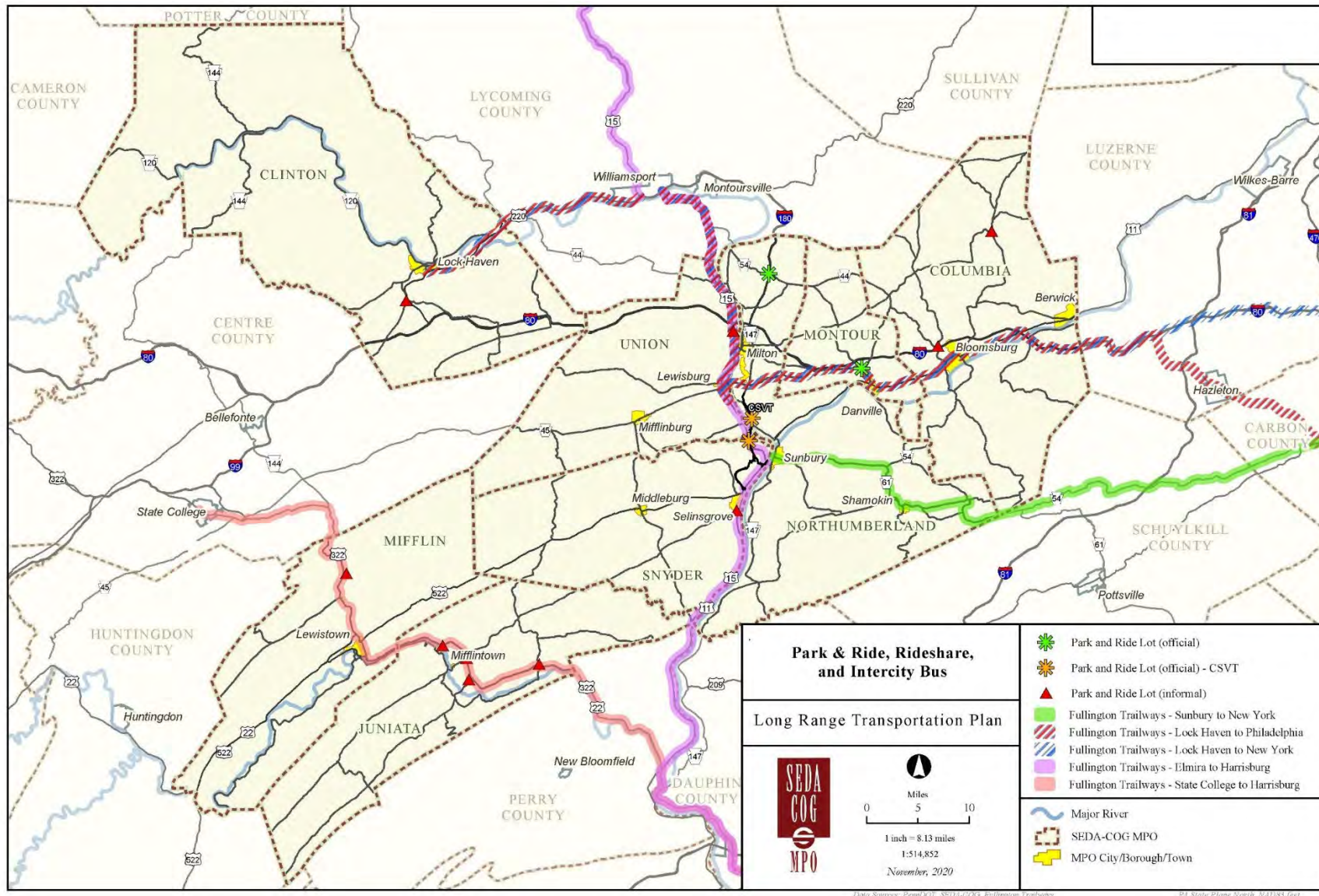


Table 5. Transit Providers in the SEDA-COG MPO Region

Area Served & Provider	Address	City/State/ZIP	Phone
Clinton County			
STEP, Inc.	2138 Lincoln St.	Williamsport, PA 17701	570-326-0587
Fullington Trailways (Intercity Bus)	316 East Cherry St.	Clearfield, PA 16830	888-847-2430
Columbia County			
rabbittransit	415 Zarfoss Dr.	York, PA 17404	800-632-9063
Fullington Trailways (Intercity Bus)	316 East Cherry St.	Clearfield, PA 16830	888-847-2430
Juniata County			
Call A Ride Service, Inc.	249 West Third St.	Lewistown, PA 17044	717-242-2277
J & D's, Inc. (bus and MH/MR)	35 School Bus Ln.	Lewistown, PA 17044	717-248-8125
Mifflin County			
Call A Ride Service, Inc.	249 West Third St.	Lewistown, PA 17044	717-242-2277
J & D's, Inc. (bus and MH/MR)	35 School Bus Ln.	Lewistown, PA 17044	717-248-8125
Fullington Trailways			
Greyhound (Intercity Bus)	350 North St. Paul St.	Dallas, TX 75201	800-231-2222
Amtrak Lewistown Station	150 Helen St.	Lewistown, PA 17044	800-842-7245
Montour County			
rabbittransit	415 Zarfoss Dr.	York, PA 17404	800-632-9063
Fullington Trailways			
Northumberland County			
rabbittransit	415 Zarfoss Dr.	York, PA 17404	800-632-9063
Lower Anthracite Transit System	137 West Fourth Street	Mt. Carmel, PA 17851	570-339-3956
Fullington Trailways	316 East Cherry St.	Clearfield, PA 16830	888-847-2430
Snyder County			
rabbittransit	415 Zarfoss Dr.	York, PA 17404	800-632-9063
Fullington Trailways	316 East Cherry St.	Clearfield, PA 16830	888-847-2430
Union County			
rabbittransit	415 Zarfoss Dr.	York, PA 17404	800-632-9063
Fullington Trailways	316 East Cherry St.	Clearfield, PA 16830	888-847-2430

Source: Coordinated Public Transit–Human Services Transportation Plan for the SEDA-COG and Williamsport Area Metropolitan Planning Organizations, September 2019

4.2.3.6 Transit Regionalization

PennDOT's Bureau of Public Transportation has continued to promote and support consolidation of operations between existing transit providers. In 2019, the Williamsport MPO and SEDA-COG MPO completed an updated Coordinated Public Transit–Human Services Transportation Plan to examine the current situation of regional transit providers and to present recommendations for consolidation.

Key areas examined and evaluated included:

- Enhanced Fixed-Route Services
- Enhanced Shared-Ride Services



- Connectivity
- Transit Experience
- Transit Alternatives
- Information and Other Assistance
- Transportation for Youth
- Bicycle/Pedestrian Access

Most of the transportation services provided in the SEDA-COG MPO region are shared-ride/demand-responsive, primarily serving the needs of seniors, persons with disabilities, and low-income users. However, large busing companies offer fixed routes to specific locations for area residents, and Mount Carmel Borough's Lower Anthracite Transit System provides a fixed-route transit system for communities in lower Northumberland County. Also, Amtrak has a station stop in Lewistown, Mifflin County, making rail passenger service available to the region's population. In Lycoming and Clinton counties, River Valley Transit offers a number of fixed routes, and coordinates closely with shared-ride operations provided by STEP, Inc.

As part of the Coordinated Plan process, surveys were sent to area residents and organizations to identify public transportation needs and gaps. The identified need and gaps included:

- Awareness of available services
- Information clearinghouse
- Information development
- Transportation for those not eligible for a transportation program
- Inter-county transportation
- Additional fixed-route service and better transportation from rural areas to cities/towns
- Lack of same-day service
- Travel time
- Evening and weekend transportation
- Accessibility issues
- Student transportation
- Long-distance travel
- Transit experience
- Vehicles
- Administrative buildings, maintenance facilities and equipment
- High fuel costs
- Underutilization of existing resources
- Duplication and redundancy
- Transportation limitations
- Transportation assistance
- Transportation coordination

While it is not the purpose of this document to comment on individual needs and gaps, or strategies to address them, the Coordinated Plan proposed specific strategies in three general categories:

- Category 1 – Coordinate and Consolidate Transportation Services and Resources:
 - Coordinate Transportation Services
 - Share Resources
 - Address Regulatory Barriers
- Category 2 – Mobility Strategies:
 - Mobility Management



- Stabilize Existing Transportation Services
- Expand or Create New Transportation Services
- Enhance Accessibility and Equity
- Category 3 – Communication, Training, and Organizational Support:
 - Centralize Information
 - Educate the Public on Transportation Options
 - Improve Awareness of Existing Resources and Programs

Some of the specific recommendations that relate to regionalization of transit services include:

- Establish a Regional Coordination Council.
- Improve coordination of information resources.
- Pursue transportation brokerage systems.
- Pool funding resources and matching funds.
- Make greater use of existing vehicles in a regional, coordinated manner.
- Create a regional network of public transportation connections along major corridors.
- Provide intra-regional commuter bus service.
- Create a centralized resource directory.
- Establish a Transportation Management Association.

As of April 2021, fixed-route, local transit service is only available in portions of Clinton County as provided by River Valley Transit (RVT) and Northumberland County as provided by the Lower Anthracite Transit System (LATS). In February 2018, RVT initiated fixed-route service to Clinton County as part of a three-year demonstration pilot project grant from PennDOT. Similar to the experience of many fixed-route services, ridership on the service to Clinton County experienced a significant downturn during 2020 as a result of measures put into place to address the COVID-19 pandemic. The three-year demonstration project was terminated ahead of schedule in late 2020. Limited service on Fridays and Saturdays was reestablished in early 2021.

From 2018 to 2020, RVT, SEDA-COG and Williamsport MPO staff, and regional stakeholders with the Central PA Transportation Coalition and a Fixed-Route Transit Study Advisory Group worked on a candidate fixed-route project. The project focused on the US Route 11 and 15 corridors to provide connectivity among communities in Columbia, Montour, Northumberland, Snyder, and Union counties, with Lycoming County being the central transit hub. RVT prepared draft service plan, routes, and schedule that could be used to request a formal fixed-route service feasibility study and potential demonstration grant through PennDOT. Continuing discussions with PennDOT indicated that due to statewide pressures on transit funding, PennDOT was forced to prioritize continuing existing services over new service, and, in late 2020, work on this initiative was tabled.

Several counties have contracted with rabbittransit (headquartered in York) to oversee their shared-ride transit systems, including Northumberland, Columbia, Montour, Snyder, and Union counties. rabbittransit is a regional public transportation provider that originated as the York-Adams Transit Authority. In a sense, with five of the SEDA-COG MPO counties currently operating under the rabbittransit umbrella, a form of transit regionalization has already occurred. It is expected that further cooperation, cross-county



efficiencies, greater quality of service, and access to new technology tools will result from the emerging relationships with rabbittransit. For new demand-responsive service, rabbittransit launched a transportation pilot brokerage project in 2018 with funding from the Geisinger Health System to provide service to patients who are unable to get to their medical appointments due to a lack of transportation. This service is a partially covered benefit for Geisinger Health Plan clients, although there is the potential for greater implementation as a fully insurable process. If that occurs, ridership could be expected to increase tenfold. Although ridership in 2020 remained flat, the pilot program was extended in 2020 for an additional two years. The program sees about 1,000 trips made each month even though it has experienced a 70 percent regular turnover in users. Discussions have considered increasing the geographical service area, other types of insurances to cover the medical trips, and using the data as support for feeding a fixed-route transit operation.

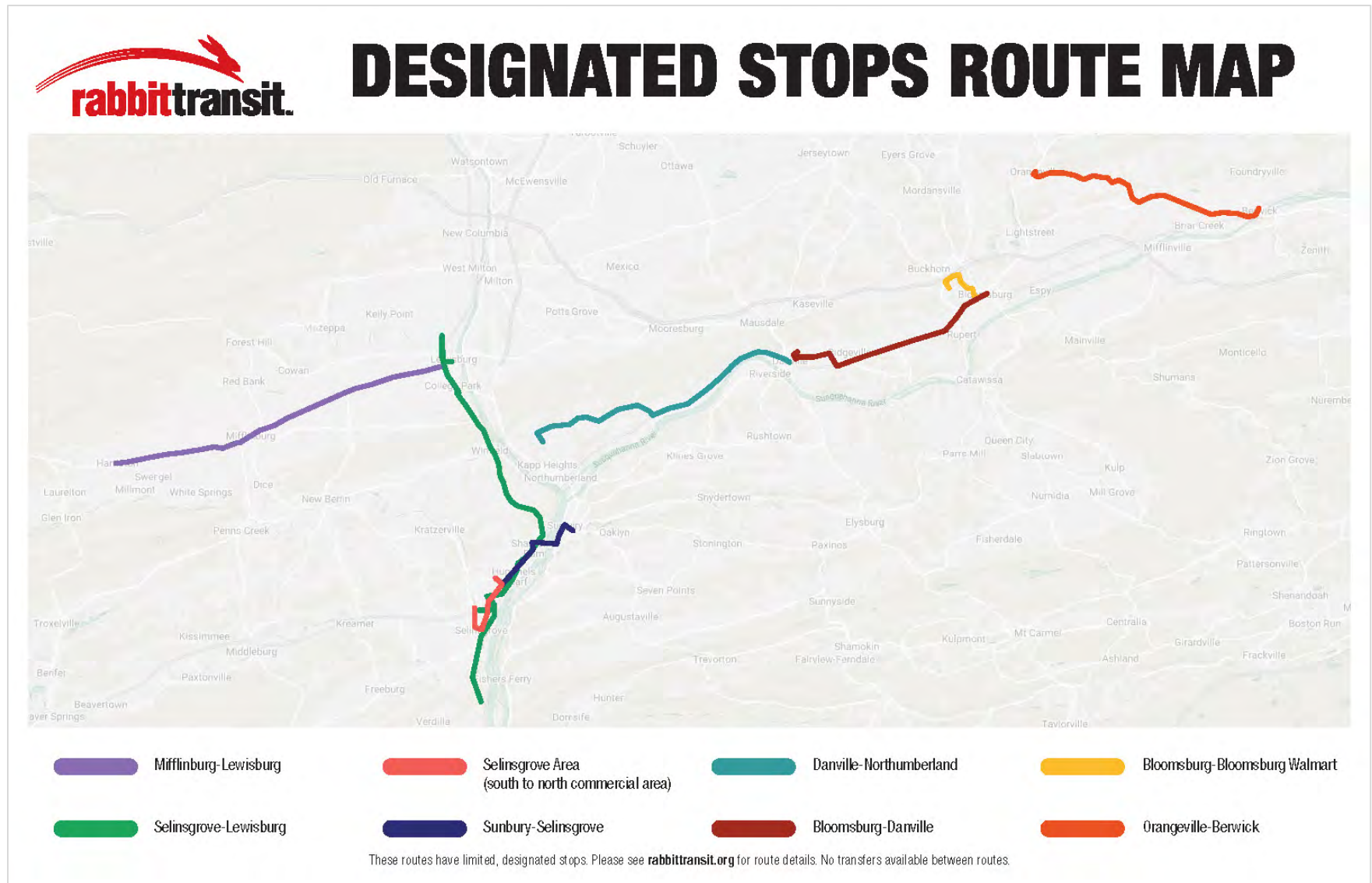
rabbittransit is working with stakeholders in the SEDA-COG area to pilot two additional types of service, based on the shared-ride infrastructure now in place.

In April 2021, rabbittransit launched a Designated Stop Service serving Columbia, Montour, Northumberland, Snyder and Union counties. Designated Stop Service makes use of shared-ride trips scheduled on a regular basis. Regional facilities such as parks, libraries, and housing complexes along the route are designated as stops. Anyone wishing to ride should call ahead and schedule a pick-up and drop-off at designated stop locations, and can ride one-way for \$2.00. This provides a low-cost alternative to fixed-route service for limited service areas that coincide with consistent shared-ride trips. Eight routes making both local and regional connections are available. As more services and locations return to normal operations, additional routes may be added. More details about rabbittransit's Designated Stop Service, routes, stops, and schedules are available at <https://www.rabbittransit.org/shared-ride/designated-stop/>.

rabbittransit is also exploring a pilot program to provide the Stop Hopper microtransit service in up to three areas within the SEDA-COG MPO area. Stop Hopper would provide same-day on-demand service in service corridors up to 12 miles long and a few miles wide. Work to refine the service area and funding options is continuing.

Figure 11 maps rabbittransit's routes with designated stops.

Figure 11: rabbittransit Designated Stops Route Map



4.3 Railroad System

4.3.1 Passenger Service

Amtrak provides once-daily *Pennsylvanian* service between New York City and Pittsburgh (via Philadelphia and Harrisburg) on the Keystone Corridor, which passes through Mifflin and Juniata counties. Amtrak's national rail system can be accessed from Lewistown Station. Service on the Keystone Corridor West operates through a lease agreement on the Norfolk Southern (NS) Main Line Freight Corridor, which provides a passenger connection between Harrisburg and Pittsburgh with additional access to areas such as Greensburg, Altoona, and Johnstown. In December 2019, a group of local and regional officials that included PennDOT and the SEDA-COG MPO, met to review proposed planning efforts for increasing Amtrak service through Lewistown and upgrading the station building. At that time, PennDOT had submitted a proposal to NS for a second train per day on the *Pennsylvanian* route, and NS was planning to conduct an internal study to examine the options. Members of the Western Pennsylvanians for Passenger Rail Service group have since advocated for three daily trains. Local discussion also focused on provision of better multimodal access to Lewistown Station, including bike/ped and intercity bus connections, bike routes, etc., and addressing Americans with Disabilities Act (ADA) issues. At that time, based on a proposed NS study, 2021 was identified as the earliest possible window for implementation of a second train.

4.3.2 Rail Freight

Through public oversight and ownership provided by the SEDA-COG Joint Rail Authority (JRA), the abandonment of rail lines is no longer a threat as was the case under Conrail or could be with a new private owner. The JRA-member counties consist of Centre, Clinton, Columbia, Lycoming, Mifflin, Montour, Northumberland, and Union. The JRA owns approximately 200 miles of rail line (Figure 12).

The presence of a rail line opens up land for industrial or distribution development and can be a deciding factor for companies considering locating in the region. In addition, some existing manufacturers/distribution centers depend on a sound the rail network to maintain their operations. The availability of appropriate jobs is necessary to attract and retain a younger workforce. As such, rail services within the region are integral with efforts to achieve SEDA-COG's economic goals of expanding existing businesses and building the capacity to market the region in the international arena.

Currently, nine freight railroads own or operate lines in the SEDA-COG MPO region. Table 6 contains a list of transloading facilities, including the class of each railroad. Freight railroads are generally defined and classified as follows:

- Class I railroads are defined by the federal Surface Transportation Board as having \$447.621 million or more of annual carrier operating revenue. They primarily operate long-haul service over high-density intercity traffic lanes.
- Class II, or regional railroads, operate over at least 350 miles of track and/or have revenue greater than \$35.810 million but less than \$447.621 million per year.
- Class III, or short-line railroads, operate over less than 350 miles of track and have an annual revenue of \$35.810 million or less per year.

Various rail improvements have been proposed within the SEDA-COG MPO region. Similarly, the



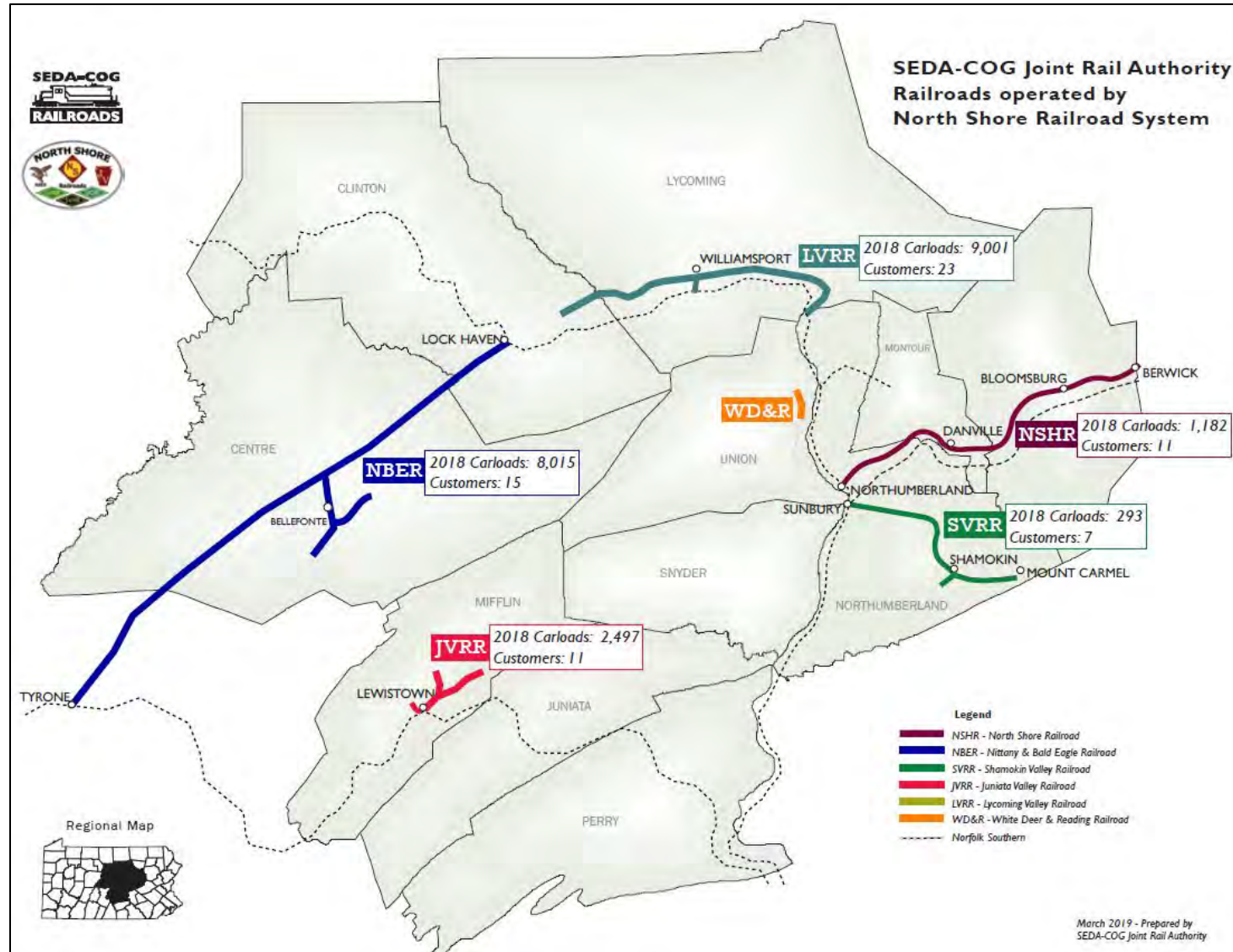
Pennsylvania Intercity Passenger and Freight Rail Plan, dated February 2010, the Pennsylvania State Rail Plan, issued January 2016, and the Pennsylvania Statewide TIP (STIP) list an inventory of various freight rail project needs within the statewide rail network.

4.3.3 Potential Project Areas

In Spring 2020, the SEDA-COG Joint Rail Authority submitted to PennDOT an updated list of recent, ongoing, and proposed projects. These lists (organized by short-line rail company) are shown in Table 7 through Table 12. Some of the most noteworthy projects under development or planned include:

- **Great Stream Commons.** A few years ago, Union County Industrial Railroad Company restored rail service to Great Stream Commons, a site in Allenwood (Union County) that is notable for offering both highway and rail access to land capable of accommodating a two-million-square-foot building. The industrial park is located adjacent to US 15 and just 4.5 miles/five minutes from I-80 at the New Columbia interchange. All of Great Stream Commons is designated as either Keystone Opportunity Zone (KOZ) or Keystone Opportunity Expansion Zone (KOEZ)—incentive districts designated by the Commonwealth of Pennsylvania. These zones offer significant tax advantages for companies locating there. The site is still being marketed, but a major north-south powerline remains a problem for developing the site and attracting new

Figure 12. SEDA-COG Joint Rail Authority System



businesses; it would need to be relocated. In August 2020 a buyer purchased 57 acres at the industrial park for a planned 300,000- to 400,000-square-foot building.

- **Former SEEDCO Site.** The 343-acre SEEDCO site in Northumberland County is also being marketed for industrial development. This site has been included in the Pennsylvania State Rail Plan but has some issues that may hinder development. A rail connection to the JRA system could be provided if needed.
- **Berwick Industrial Development Authority Site.** This site in Columbia County is already served by rail (the Hill Track), and a new warehouse is under consideration.
- **DRIVE/Danville Industrial Complex/Metso Minerals Industrial Site.** The Danville Area Transportation Study included a recommendation to accommodate increased truck and rail movements to and from the industrial complex in Danville owned by the DRIVE economic development organization. Of particular interest is redevelopment of the Metso Minerals Industries site, which is already served by the North Shore Railroad. State multimodal funding for a new siding is expected to be approved and could serve a transload facility.



Table 6. Freight Railroads in the SEDA-COG MPO Region: Available Transloading Facilities

Operator	Class	Type	General Location	Length (miles)	Available Transloading Facilities	Notes
Norfolk Southern (NS)	I	Long distance line-haul shipper	Mifflin & Juniata counties (mainline) and secondary lines (NS, LVRR & NBER rights) in Northumberland, Columbia & Clinton counties	20,000 2,300 operated, 1,700 owned in PA	Various throughout Pennsylvania and the country (none in SEDA-COG MPO)	Operates two intermodal terminals in Harrisburg, Dauphin County, PA; Only Priority Freight Corridor (Main Line or Central PA Corridor) in SEDA-COG MPO (Mifflin & Juniata counties on NS mainline)
Juniata Valley Railroad (JVRR)	III	Short line	Access to NS in Lewistown, Mifflin County; primarily serves Juniata County	17	<ul style="list-style-type: none"> • Mifflin County Industrial Development Corporation Plaza (Lewistown Yard), Lewistown, Mifflin County – Rail yard, dock, and Team Tracks • Kish Creek Team Track, Burnham, Mifflin County – Ground-level Team Track • Nittany Oil Transload Facility, Lewistown, Mifflin County – Tank storage, bulk transfer services • Jack’s Creek Team Track, Maitland, Mifflin County – Ground-level Team Track 	Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System
Lycoming Valley Railroad (LVRR)	III	Short line	Lycoming & Clinton counties; Interchanges with NS in Sunbury, Northumberland County	48.7	<ul style="list-style-type: none"> • Newberry Rail Yard, Lycoming County – Bulkomatic Transfer, ground-level Team Tracks (Outside MPO) • Halls Station, Muncy, Lycoming County – Ground-level Team Tracks with Pit (Outside MPO) • Saegers Siding, Muncy, Lycoming County – Fenced compound with a ramp for loading and unloading vehicles (Outside MPO) • Faxon Street Transload Facility, Williamsport, Lycoming County – Box Car Dock (Outside MPO) 	Operates on track owned by SEDA-COG Joint Rail Authority (JRA); largest traffic-generating short line on the North Shore Railroad Company System



Operator	Class	Type	General Location	Length (miles)	Available Transloading Facilities	Notes
Nittany & Bald Eagle Railroad (NBER)	III	Short line	Interchanges with NS in Lock Haven, Clinton County & Sunbury, Northumberland County	70	<ul style="list-style-type: none">• Happy Valley Team Track, Pleasant Gap, Centre County – Public Box Car Dock, Single Car Spot (Outside MPO)• Port Matilda Team Track, Port Matilda, Centre County – Ground-level Team Track, 250 foot siding (Outside MPO)• Tyrone Team Track, Tyrone, Blair County – Multiple ground-level Team Tracks (nearly 1 mile long)	Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System

Source: 2015 Pennsylvania State Rail Plan



Table 7. Juniata Valley Railroad Proposed Projects List, August 2020

Description	City	County	Region	Estimated Cost	Carrier(s)	Type	Schedule	Impacted Industry	Source	Public Sponsor	Comments
Bridge No. 0.46 – eight spans over Juniata River - replace end stringer concrete bearing pedestals, repair stone masonry	Lewistown	Mifflin	Central	TBD	JVRR	A	2015		2015 Rail Plan	SEDA JRA	Complete 2015
West Park drain pipe outfall	Lewistown	Mifflin	Central	\$ 55,000	JVRR	A	2021		2015 Rail Plan	SEDA JRA	Remove
Maitland Branch Bridge No. 1.51 – three span over Kishacoquillas - bearing repairs; replace timber deck; reset shifted bearing stones at East Abutment; remove debris from channel	Lewistown	Mifflin	Central	\$ 200,000	JVRR	A	2023		2015 Rail Plan	SEDA JRA	
Maitland Branch Bridge No. 4.53 – three span over Jacks Creek - replace timber tie deck; replace timber bearing blocks; repoint stone masonry	Maitland	Mifflin	Central	\$ 120,000	JVRR	A	2024		2015 Rail Plan	SEDA JRA	
Burnham Branch Bridge No. 3.25 – three span deck girder over Kishacoquillas - Perform underwater inspection of Pier 2 and stabilize pier with reinforced concrete repair. Repoint masonry and clear debris from bearings.	Burnham	Mifflin	Central	\$ 200,000	JVRR	A	2022		2015 Rail Plan	SEDA JRA	This is the highest priority bridge project on the JVRR and one of the highest priorities on all JRA railroads since a primary member foundation (Pier 2)
Burnham Yard Additional Tracks (North Yards development)	Burnham	Mifflin	Central	\$ 3,125,000	JVRR	F	2020-2023	M, W	WG 2018	SEDA JRA	Commonwealth Rail Car has an interest in Future
Rail Access-Mifflin Co. Industrial Development Center	Lewisburg	Mifflin	Central	\$ 770,006	JVRR	E	TBD	O	WG 2018		
West Park Track Reconstruction of Rapid Shear Sections (with new rail)	Lewistown	Mifflin	Central	\$ 769,000	JVRR	A	2021	M	SEDA JRA	SEDA JRA	JVRR Highest Track Priority
MCIDC Plaza and Mifflin County Industrial Park Improvements - Establish road crossing and rehabilitate internal tracks and docks	Lewistown	Mifflin	Central	\$ 200,000	SVRR	C			2015 Rail Plan	MCIDC/SEDA JRA	
Maitland Branch Bridge No. 0.46 - eight spans over Juniata River - replace stringer bearing pedestals at West Abutment. Repair East Abutment backwall.	Lewistown	Mifflin	Central	\$ 50,000	JVRR	A	2024 +		SURC/JRA	SEDA JRA	
Long-Term Projects 2030-2045											
Maitland Industrial Track - Replace 85# rail with 115# or better (up to 7 track miles)	Lewistown to Maitland	Mifflin	Central		JVRR	A			SURC/JRA	SEDA JRA	

Table 8. Nittany & Bald Eagle Railroad Proposed Projects List (Clinton County), August 2020

Description	City	County	Region	Estimated Cost	Carrier(s)	Type	Schedule	Impacted Industry	Source	Public Spons	Comments
Bridge No. 51.21 – through girder - miscellaneous steel repairs with spot painting; instal timber cribwalls at both approaches	Mill Hall	Clinton	Central	\$ 280,000	NBER	A	2024		2015 Rail Plan	SEDA JRA	
Castanea Runaround on Mill Hall Industrial Track	Castanea	Clinton	Central	\$ 320,000	NBER	F	2019-2023	E, M, A	WG 2018	SEDA JRA	Underway 2020
NBER Main Flood Resiliency - Raise bridges, enlarge culverts, and related Capital upgrades to protect railroad from flood damage	Mill Hall to Tyrone	Clinton, Centre and Blair	Central	\$ 3,000,000	NBER	A	2022-2025		SURC/JRA	SEDA JRA	
NBER Main shoulder cutting (39 track miles) to replace fouled and contaminated ballast	Mill Hall to Tyrone	Clinton, Centre and Blair	Central	\$ 1,870,000	NBER	A	2022-2025		SURC/JRA	SEDA JRA	



Table 9. North Shore Railroad Proposed Projects List, August 2020

Description	City	County	Region	Estimated Cost	Carrier(s)	Type	Schedule Impacted Industry	Source	Public Sponsor	Comments
Bridge No. 194.07 (Catawissa) - Replace with box culvert and realign stream	Catawissa	Columbia	Central	TBD	NSHR	A	2019	2015 Rail Plan	SEDA JRA	2016 RTAP. Complete 2019
Bloomsburg yard stabilization wall -	Bloomsburg	Columbia	Central	\$ 1,300,000	NSHR	A	2016	2015 Rail Plan	SEDA JRA	
Bridge No. 191.52 – Rupert - Embankment stabilization; spot paint steel; concrete repairs; north end bearing repair for track profile; replace timber tie deck	Rupert	Columbia	Central	\$ 375,000	NSHR	A	2022	2015 Rail Plan	SEDA JRA	
Bridge No. 186.18 – Single span I beam - Replace with concrete box; raise track profile	Scott Twp	Columbia	Central	\$ 600,000	NSHR	A	2023	2015 Rail Plan	SEDA JRA	
Bridge No. 195.88 (Bear Camp) – stone arch - Replace with concrete box and realign	Cooper Two	Columbia	Central	\$ 380,000	NSHR	A	2021	2015 Rail Plan	SEDA JRA	2016 RTAP. Underway 2021
Bridge No. 180.55 – deck girder - Stone masonry repairs at East Abutment	Briar Creek	Columbia	Central	\$ 60,000	NSHR	A	2024	2015 Rail Plan	SEDA JRA	
Bridge No. 192.01 – Rail top - Remove sediment and repair downstream end wall with gunite repairs	Rupert	Columbia	Central	\$ 60,000	NSHR	A	2024	2015 Rail Plan	SEDA JRA	
Track to NSHR Transload Site (Button Oil)	Northumberland	Northumberland	Central	\$ 1,480,869	NSHR	D	2020 E	WG 2018		Underway 2020
Rail access to DRIVE site (formerly Metso Minerals plant)	Danville	Montour	Central	\$ 1,100,000	NSHR	F	2020 O	WG 2018	DRIVE/NSHR/JRA	Underway 2020.
Run-around & new rail access to Sekisui Kydex South Campus	Bloomsburg	Columbia	Central	\$ 2,800,000	NSHR	C	2020 P	WG 2018	SEDA JRA	Underway 2020. RTAP 2019
Masonite Track Upgrade		Northumberland	Central	\$ 118,946	NSHR	F	2021-2023 A	WG 2018	SEDA JRA	
Berwick Yard Improvements	Berwick	Columbia	Central	\$ 500,000	NSHR	F	TBD A, W	WG 2018	SEDA JRA	
Long run-around & rail access to Markunas Industrial Site	Northumberland	Northumberland	Central	\$ 1,084,738	NSHR	C	TBD O	WG 2018	SEDA JRA	
Increased track capacity at J.M. Smucker's plant		Columbia	Central	\$ 373,922	NSHR	F	2021-2023 A	WG 2018	SEDA JRA	
Rail Replacement - 101# & 105# to Heavier Rail Section (5 track miles)	Bloomsburg	Columbia	Central	\$ 2,957,000.00	NSHR	F	TBD M	SURC/JRA	SEDA JRA	
Bridge 207.66 - Metal pipe culvert - Replace with new reinforced concrete pipe culvert or box culvert	Point Twp	Columbia	Central	\$ 500,000	NSHR	A	2024	SURC/JRA	SEDA JRA	Add
Bloomsburg to Lime Ridge Drainage Improvements - Stormwater Management	Bloomsburg area	Columbia	Central	\$ 750,000	NSHR	A	2021 M	SURC/JRA	SEDA JRA	
Long-Term Projects 2030-2045										
Rail Replacement - 101# & 105# to Heavier Rail Section (25 track miles)	Norry to Bewick	Northumberland	Central		NSHR	A	A, M	SURC/JRA	SEDA JRA	
	Montour	Northumberland								
	Columbia	Columbia								

Table 10. Shamokin Valley Railroad Proposed Projects List, August 2020

Description	City	County	Region	Estimated Cost	Carrier(s)	Type	Schedule Impacted Industry	Source	Public Sponsor	Comments
Bridge No. 14.95 – three span thru girder - Rebuild tops of piers and abutment bridge seats, Stabilize foundation of north abutment, Replace timber tie deck	Paxinos	Northumberland	Central	TBD	SVRR	A	2020	2015 Rail Plan	SEDA JRA	2016 RTAP Program. 2020 construction.
Bridge No. 17.39 – Concrete slab - Embankment stabilization, stone masonry repairs and spall repairs on underside of slab	Coal Twp	Northumberland	Central	\$ 200,000	SVRR	A	2023	2015 Rail Plan	SEDA JRA	
Bridge No. 152.96 – Concrete slab - Rebuild downstream wing walls	Sunbury	Northumberland	Central	\$ 100,000	SVRR	A	2022	2015 Rail Plan	SEDA JRA	
Bridge No. 154.84 – three span deck girder - Raise bridge; install ballast deck waterproofing and parapet gunit repairs; raise abandoned steel superstructure downstream; and channel rehabilitation.	Sunbury	Northumberland	Central	\$ 750,000	SVRR	A	2024	2015 Rail Plan	SEDA JRA	Little Shamokin Creek Stream Stabilization - Phase 3. Applying for grant for this work.
Bridge No. 155.22 – four span deck girder - Timber tie deck; stone masonry repairs and repointing		Northumberland	Central	\$ 380,000	SVRR	A	2023	2015 Rail Plan	SEDA JRA	
Signal Systems - Complete effort to signalize all city crossings in advance of new traffic on line	Shamokin	Northumberland	Central	\$ 2,000,000	SVRR	F	2014-2015	2015 Rail Plan	SEDA JRA	Complete
SEEDCO Industrial Park Rail Extension	Mt. Carmel	Northumberland	Central	\$ 5,000,000	SVRR	E	TBD O	WG 2018	SEDA JRA	Site being marketed by county
Rehabilitation of Carbon Run Branch Embedded Track and Bridge Work (Bridge 0.18 underpin north abutment and pier, repoint masonry, spot paint; Bridge 0.08 repoint stone)	Shamokin	Northumberland	Central	\$ 1,323,000	SVRR	F	TBD	SURC/JRA	SEDA JRA	
Drainage improvements - former Glen Burn Colliery area	Shamokin	Northumberland	Central	\$ 150,000	SVRR	F	TBD	SURC/JRA	SEDA JRA	
Poppy Road Bridge Rehabilitation (MP 11.35)	Shamokin Twp	Northumberland	Central	\$ 150,000	SVRR		2022	SURC/JRA	SEDA JRA/Shamokin Twp	2019 MTF pending
Long-Term Projects 2030-2045										
Restoration of Shamokin Yard Tracks	Shamokin	Northumberland	Central		SVRR	B	2030 W, E, O	SURC/JRA	SEDA JRA	
Duke Oil Runaround Completion	Ralpho Township	Northumberland	Central		SVRR	B	E	SURC/JRA	SEDA JRA	
Reconstruct Curves on SVRR Main (up to 8 miles)	Sunbury to Mt. Carmel	Northumberland	Central		SVRR	A	E, O, P	SURC/JRA	SEDA JRA	Take out excessive superelevation



Table 11. Union County Industrial Railroad Proposed Projects List, August 2020

Description	City	County	Region	Estimated Cost	Carrier(s)	Type	Schedule	Impacted Industry	Source	Public Sponsor	Comments
New Columbia south run-around track	White Deer Townshi Union		Central	\$ 493,269	UCIR	F	2020	O	WG 2018		Underway 2020
West Milton Yard Track Expansion	White Deer Townshi Union		Central	\$ 2,183,736	UCIR	B	TBD	A, E, O, M	WG 2018		
Long-Term Projects 2030-2045											

Table 12. White Deer Railroad Proposed Projects List, August 2020

Description	City	County	Region	Estimated Cost	Carrier(s)	Type	Schedule	Impacted Industry	Source	Public Sponsor	Comments
Rail access to Great Stream Commons Industrial Park	Allenwood	Union	Central	\$ 3,500,000	UCIR	C	TBD	O, M, A, B		SEDA JRA	
Long-Term Projects 2030-2045											

4.4 Airports

The PennDOT Bureau of Aviation provides support for local airports through the state airport improvement program, conducting meetings on an annual basis with each operator to review plans and update status. Typical improvements may include the installation of fencing, acquisition of snow removal equipment, runway rehabilitation, or lighting improvements. Under Act 164, municipalities located within the Part 77 flight surfaces (the navigable airspace) of a public airport are required to enact or incorporate airport zoning.

There are no airports in the MPO region with scheduled airline service; the closest such facilities serve Harrisburg, Williamsport, and State College. Table 13 and Figure 13 inventory airports in the SEDA-COG MPO region.

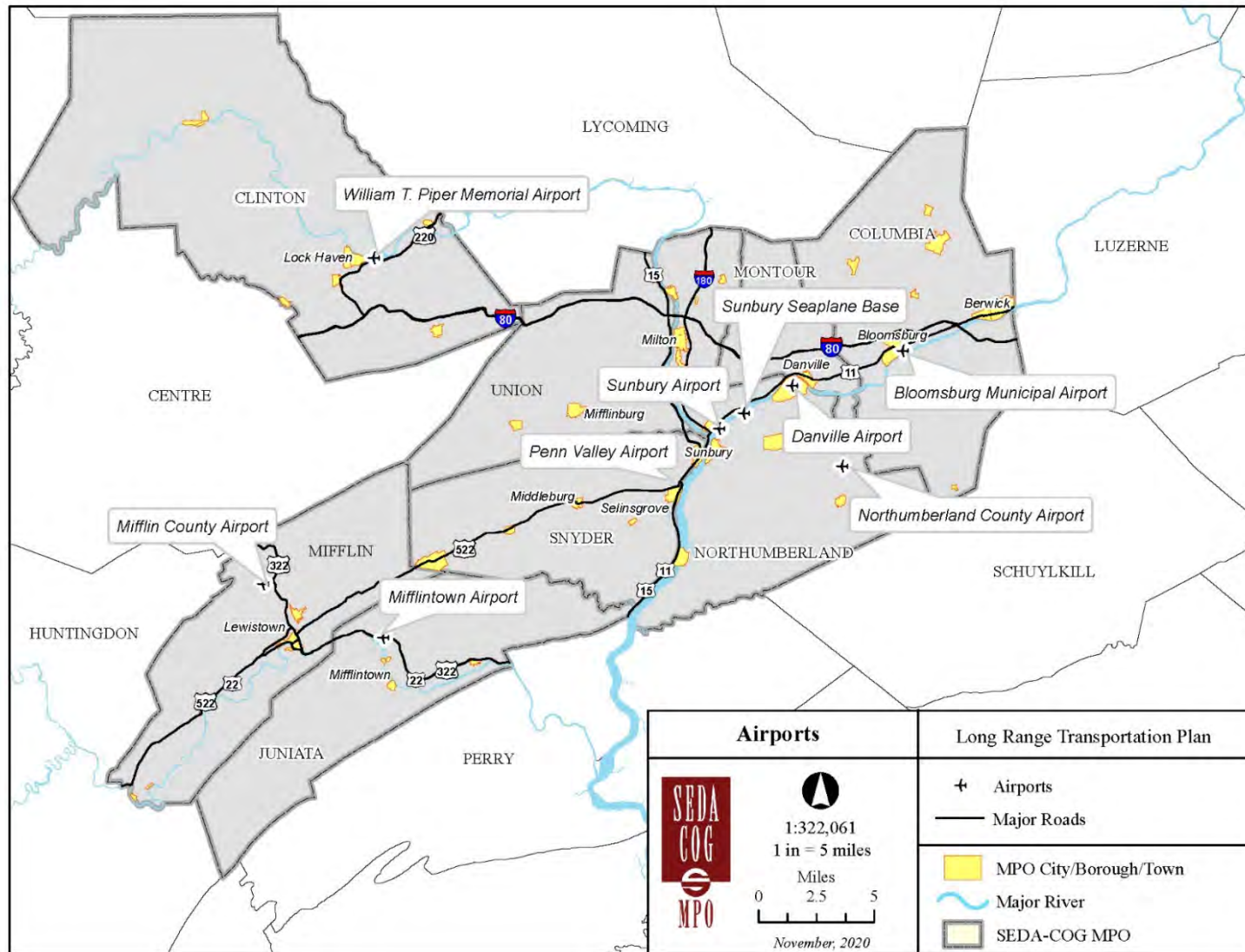
Table 13. Airports in the SEDA-COG MPO Region

Airport *	County	Airport Class	Base Aircraft	Total General Aviation Operations *		Runway Type	Runway Length (Feet)
				Average	Estimated Annual		
William T. Piper Memorial (KLHV)	Clinton	Basic	33	48/day	17,520	Paved	3,799
Bloomsburg Municipal (N13)	Columbia	Basic	22	29/day	10,585	Paved	3,200
Mifflintown (P34)	Juniata	Limited Use	20	74/week	3,848	Paved	2,627
Mifflin County (KRVL)	Mifflin	Advanced	42	39/day	14,235	Paved	5,001
Danville (8n8)	Northumberland	Basic	38	25/day	9,125	Paved	3,000
Northumberland County (N79)	Northumberland	Intermediate	22	63/day	22,995	Paved	3,297
Sunbury (71N)	Northumberland	Limited Use	6	31/week	1,612	Turf	3,250
Sunbury Seaplane (h11)	Northumberland	Limited Use	2	20/year	20	Water	5,000
Penn Valley (KSEG)	Snyder	Advanced	25	60/day	21,900	Paved	4,760

Sources: SEDA-COG RPO Long Range Transportation Plan, 2011-2035, SEDA-COG, December 2011; Airnav.com, <http://airnav.com/airports/>, accessed 3/6/2020; Total General Aviation Operations as of December 2015

Further information on the requirements and status of zoning by municipality can be found on the Bureau of Aviation Web site. Review indicates that for most airports within the SEDA-COG MPO, the required zoning has been implemented in some but not all of the impacted municipalities. The exception is for the Sunbury airports, where no surrounding municipalities have included the required zoning provisions.

Figure 13. Airports, SEDA-COG MPO Region



4.5 Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities encompass the functional system of sidewalks and other facilities that can be used as a reasonable trip-making alternative to highways. FHWA makes a strong distinction between bicycle / pedestrian facilities and recreational trails that can be used for bicycling and pedestrian use (see following section).

FHWA defines "bicycle facilities" to include improvements and reasonable amenities and provisions to accommodate, enhance, or encourage bicycling, including but not limited to bicycle lanes and paths, traffic control devices, parking, storage facilities, and bicycle-sharing systems. "Pedestrian facilities" include pedestrian access routes and reasonable amenities, including but not limited to benches, bus shelters, lighting, and water fountains, and provisions to accommodate, enhance, or encourage walking.

Figure 19 on page 73 includes state-designated bike routes and major bike/rail trails.

4.5.1 Planning Issues

Title 23 of the United States Code (U.S.C.), Sections 134 and 135, require that MPOs in their long-range transportation plans and PennDOT in its statewide long-range transportation plan, and TIPs:

- Provide for the development and integrated management and operation of transportation systems and facilities (including accessible pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system.
- Provide for consideration of "all modes of transportation."
- Provide for consideration of projects and strategies that will increase the safety and security for motorized and non-motorized users.
- Ensure that the transportation planning process is being carried out in accordance with all applicable requirements of the Americans with Disabilities Act of 1990.
- Include "an identification of transportation facilities (including major roadways, transit, multimodal and intermodal facilities, non-motorized transportation facilities and intermodal connectors) that should function as an integrated metropolitan transportation system."
- Provide "for the development and implementation of the intermodal transportation system."
- Include "representatives of users of pedestrian walkways and bicycle transportation facilities" among "interested parties" with whom metropolitan areas and states provide a reasonable opportunity to comment during the development of the long-range metropolitan and statewide transportation plans.
- Include "investments in pedestrian walkways and bicycle transportation facilities" in the publication of annual listings of projects.

There are many simple and cost-effective ways to include bicycle and pedestrian accommodation as part of roadway projects.

There are many simple and cost-effective ways to integrate non-motorized users into the design and

operation of the transportation system by including bicycle and pedestrian accommodation as part of larger ongoing projects. Examples include:

- Providing paved shoulders on new and reconstructed roads.
- Restriping roads, either as a standalone project or after a resurfacing or reconstruction project, to create striped bike lanes.
- Building sidewalks and trails and marking crosswalks or on-street bike lanes as part of new highways and requiring new transit vehicles to have bicycle racks and/or hooks installed.
- Planners, designers, and other decision-makers should consider how connected vehicle technologies may affect pedestrians, bicyclists, and other non-motorized users within the highway right-of-way and how these technologies may affect access to transit services.

There are usually a number of benefits to making these investments and furthering walking and bicycling as integral to surface transportation. For example, shoulders are important for motorist safety as well as providing bicyclists a place to ride. The broad eligibility of bicycle and pedestrian facilities in all the major federal surface transportation funding programs means that incidental improvements such as these are appropriate to be included as part of larger transportation projects, except on highway facilities where bicycle and pedestrian travel is prohibited.

4.5.2 Functional System

Integrating safe bicycling and walking facilities into the transportation system creates an intermodal network that provides a real choice of transportation modes. Bicyclists and pedestrians have the same origins and destinations as other transportation system users, and it is important for them to have safe and convenient access to airports, ports, ferry services, transit terminals, and other intermodal facilities as well as access to jobs, education, health care, and other essential services.

Bicycle and pedestrian needs must be given "due consideration" under federal surface transportation law (23 U.S.C. § 217(g)(1)). Due consideration should include, at a minimum, a presumption that bicyclists, pedestrians, and persons with disabilities will be accommodated in the design of new and improved transportation facilities. In the planning, design, and operation of transportation facilities, bicyclists, pedestrians, and persons with disabilities should be included as a matter of routine, and the decision to not accommodate them should be the exception rather than the rule.

PennDOT, its affiliated MPOs, and local governments are required by federal law to ensure that bicycle and pedestrian access is not made more difficult or impossible as the result of any new improvements or new transportation facilities.

4.5.3 Agencies and Organizations

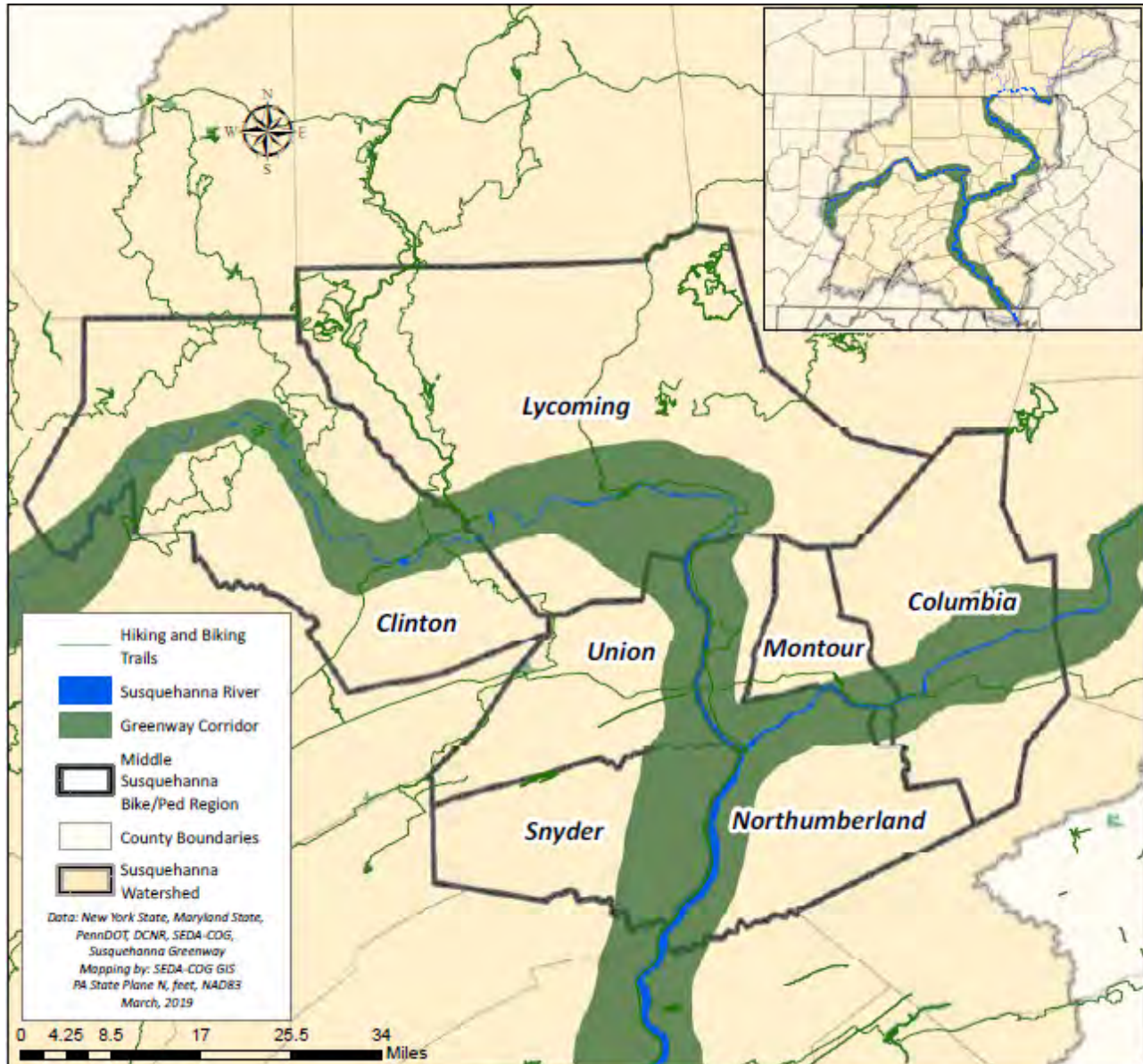
4.5.3.1 Federal and State

At the federal level, FHWA is working with the National Highway Traffic Safety Administration (NHTSA), the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and other agencies to implement the bicycle and pedestrian provisions of federal surface transportation law (most recent is the FAST Act). PennDOT and local agencies (MPOs, counties, and municipalities) are expected to work together cooperatively with transportation providers, user groups, and the public to develop plans, programs, and projects that reflect this vision.

4.5.3.2 Regional and Local

Since the 2016 LRTP update, at the MPO and local levels bicycle and pedestrian facility planning has been focused primarily on two efforts. First, a Middle Susquehanna Regional Bicycle and Pedestrian Advisory Committee was formed to develop a Middle Susquehanna Bicycle and Pedestrian Plan, which was completed in June 2019. This plan contained a vision statement and goals and objectives for the bicycle and pedestrian network in the mid-Susquehanna region, defined as being concurrent with the seven of the MPO counties (Figure 14).

Figure 14. Region Covered in Middle Susquehanna Bicycle and Pedestrian Plan



Source: Middle Susquehanna Bicycle and Pedestrian Plan, June 2019

Five goals were developed to provide the focus for improvement and network development:

1. Improve safety for those already walking and biking among other travelers.



2. Improve and extend connections among the places people go every day—jobs, school, parks/recreation sites—to support low-cost and no-cost travel and active lifestyles.
3. Increase the numbers of people walking and biking regularly.
4. Enhance bicycle and pedestrian routes and trails with information about the region’s history, ecology, and heritage, defining travel and recreational experiences that could only occur in the Middle Susquehanna region.
5. Support community and economic development through bicycle and pedestrian transportation, recognizing that a portion of prospective residents and employers are looking for walk-friendly and bike-friendly communities as places to live, to establish business, and to visit.

Strategies were identified to achieve these goals and support development of resulting identified implementation projects. An analysis of current conditions also helped to determine project opportunities, needs, and gaps, and formed the basis for an action plan.

Summary listings and maps (see Figure 15 through Figure 17 for examples) of prioritized needs and projects were developed to support development of a multi-step action plan, which included the following items:

- Action 1: Establish the Middle Susquehanna Bicycle and Pedestrian Advisory Committee.
- Action 2: Update the SEDA-COG bike+ped Web page.
- Action 3: Publish and maintain an online map of prime places to walk and bike.
- Action 4: Develop partnerships for bike+ped connectivity and safety projects, project enhancements, and initiatives to strengthen bike+ped culture.
- Action 5: Promote successful projects of all sizes as well as testimonials from elected officials and community leaders.
- Action 6: Encourage communities, businesses, and universities to pursue the “Bike-Friendly Community” program and designations.
- Action 7: Engage local media in promoting bicycling and walking and their benefits.
- Action 8: Report major activities and impacts annually.
- Action 9: Encourage bike+ped audits in additional towns.
- Action 10: Compile public comments from primary and secondary sources as a resource for local bike+ped planning and improvement.
- Action 11: Assess on-road bicycling conditions along candidate corridors and potential intercommunity improvement, including transit service (bikes on bus).
- Action 12: Support the extension of existing trails along the Susquehanna Greenway.
- Action 13: Encourage municipalities to address identified bike+ped needs associated with local streets and roads.
- Action 14: Work with state and local police departments to encourage consistent enforcement of traffic laws pertaining to safe bike+ped travel.
- Action 15: Promote biking and walking to daily destinations and community events.
- Action 16: Encourage development of and resident participation in bicycling and walking clubs for a variety of ages and abilities.
- Action 17: Promote responsible shared use of streets by all travelers.

- Action 18: Estimate biking and walking activity.
- Action 19: Develop bicycle and pedestrian safety awareness campaigns for all travelers.

The project lists and maps were reviewed and evaluated to provide input to the potential projects list included in this LRTP update.



Figure 15. Bicyclist Levels-of-Stress Maps for Four Communities, Middle Susquehanna Bicycle and Pedestrian Plan

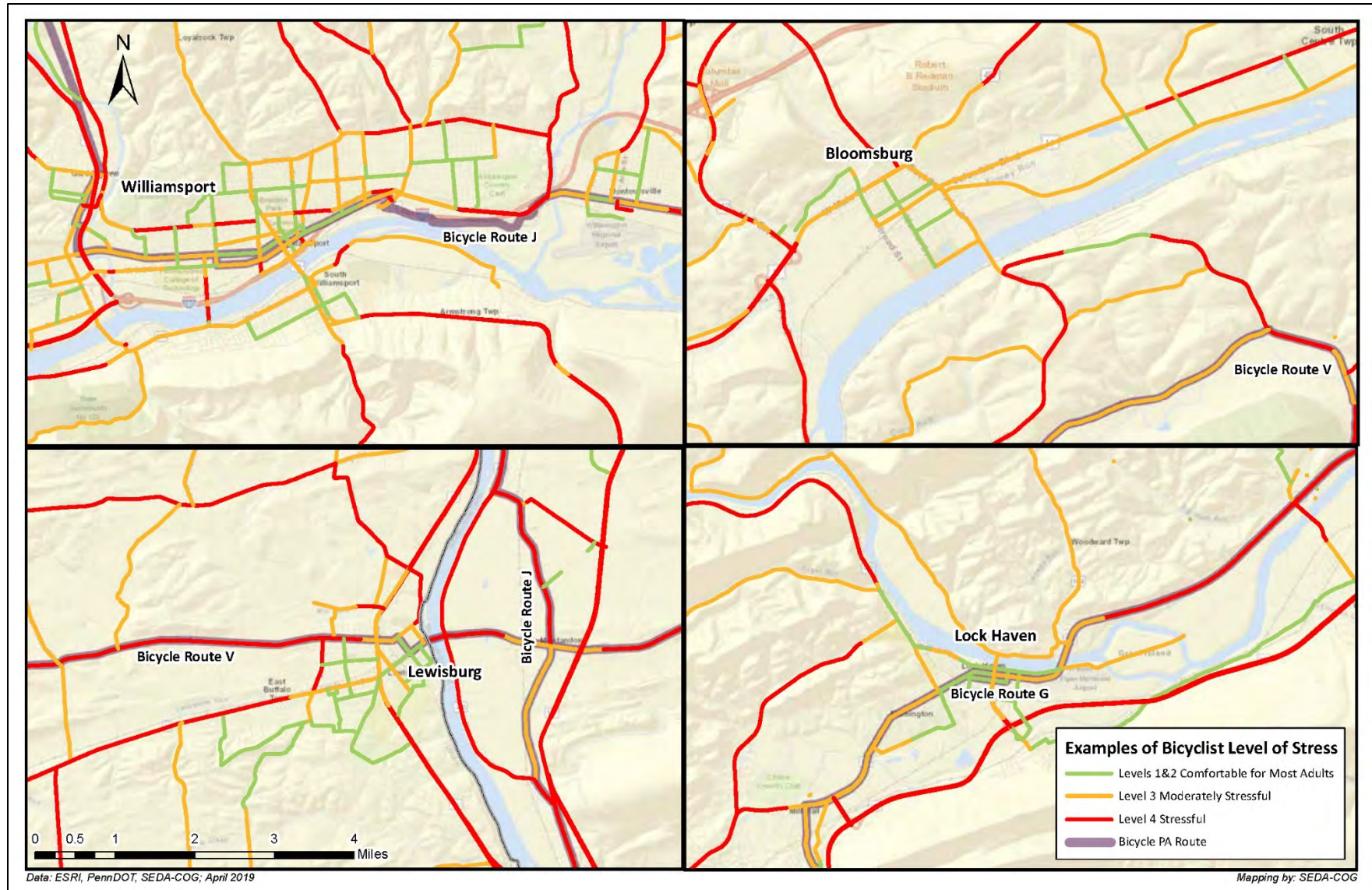


Figure 16. Partial Summary List of Needs, Middle Susquehanna Bicycle and Pedestrian Plan

Summary List of Needs/Projects

See the SEDA-COG bike+ped web page for the full Matrix of Bicycle and Pedestrian Needs.

Project Type	KEY		
	High	Medium	Low
Safety	▲	▲	▲
Bicycle/Pedestrian	●	●	●
Parks & Recreation	■	■	■
Other	⊙	⊙	⊙

Needs in Clinton County (see Map 1)

CL-1a	Bald Eagle Valley Trail	●
CL-1b	Bald Eagle Valley Trail, Phase 3: Wayne Township	●
CL-1d	Bald Eagle Valley Trail, Phase 5: WE Susq River bridge to Pine Creek Trailhead	●
CL-1c	Bald Eagle Valley Trail, Phase 4: Bridge over WB Susq River	●
CL-1e	Bald Eagle Valley Trail, Phase 6: Lock Haven Connector	●
CL-2	Renovo Riverwalk Restoration	●
CL-7	Hogan Boulevard Safe Bike Route	▲
CL-8	Pedestrian Crossings, Jay Street @ Main Street	▲
CL-9	Pedestrian Crossings, Water Street @ Grove Street	▲
CL-10	Pedestrian Crossings, Mill Street @ E. Main Street	▲
CL-11	Pedestrian Crossings, 4th Street @ W. Church Street	▲
CL-12	Pedestrian Crossings, Fairview Street Corridor	▲
CL-13	Pedestrian/Bicycle Trail along Norfolk Southern ROW	●
CL-14	Bald Eagle and White Deer Ridge Trail	●
CL-15	Lock Haven Citywide Trail/Bicycle Network	●
CL-16	Woodward Twp Riverview Park Connector	●
CL-17	East/West Renovo Walking Connector	●
CL-18	Hogan Blvd Safety project near Bald Eagle Creek Bridge	▲
CL-19	Pine Loganton Rd Improvement	⊙

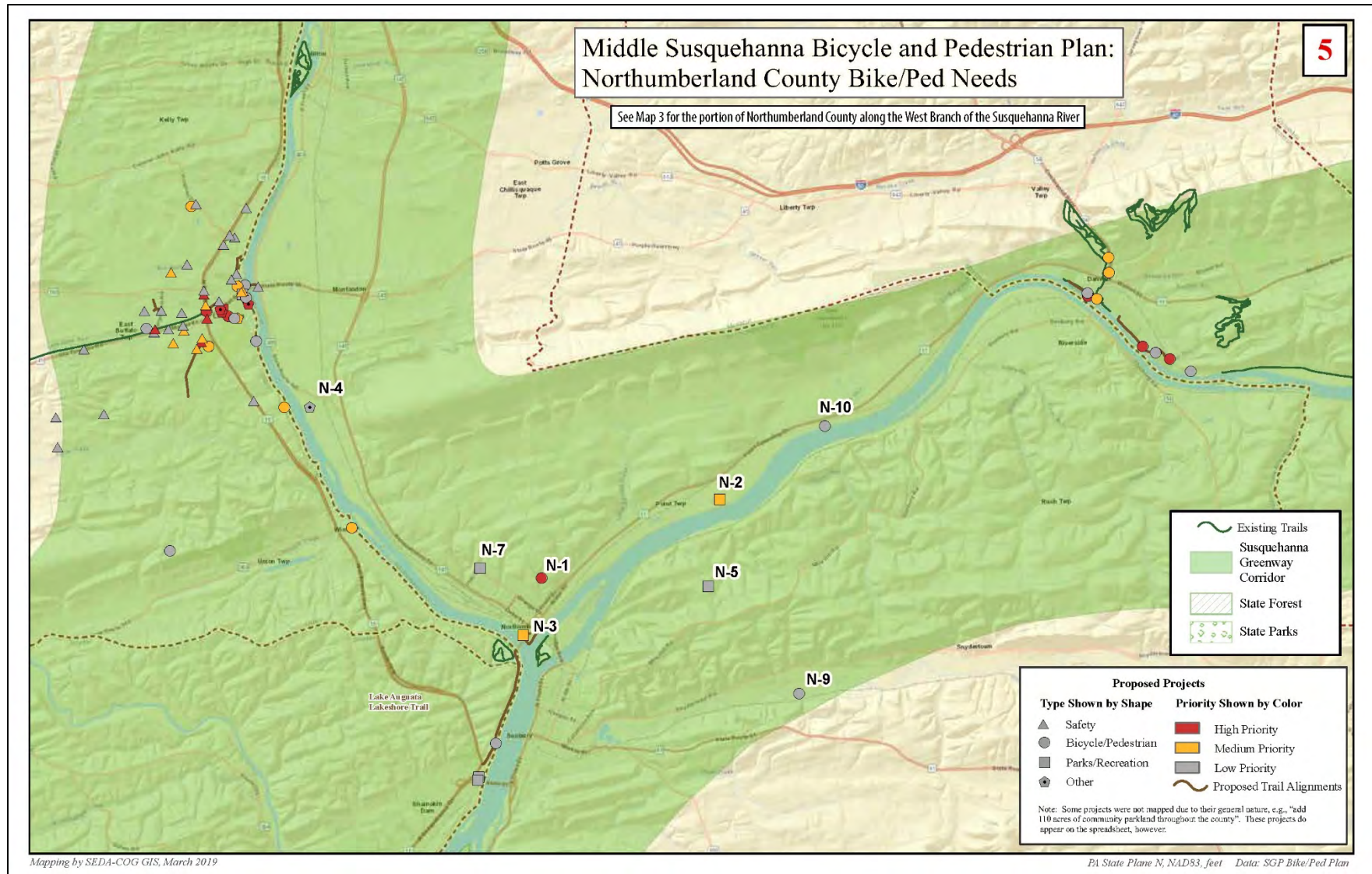
Needs in Lycoming County (see Map 2)

L-1	Susquehanna River Walk Extension and Connectors	●
L-2	Millers Run Greenway	●
L-3	Bald Eagle Mountain Ridge Trail (AKA Ridge Trail)	●
L-4	Montgomery to Allenwood Rail Trail	●
L-5	Extend Lycoming Creek Bikeway	●
L-6	Connect Susquehanna River Walk to Muncy Borough	●
L-7	Connect Susquehanna River Walk west to Jersey Shore	●
L-8a	Sylvan Dell Conservation Project	●
L-8b	Sylvan Dell Conservation Ridge Trail Connector Project	●
L-9	Jersey Shore to Lock Haven connector trail (AKA Pine Creek Connector, Clinton County Rail Trail)	●
L-10	Montoursville to Muncy Trail	●
L-11	Muncy to Montgomery Trail	●
L-12	Basin St. River Walk Connector	●

Needs in Union County (see Map 3)

U-1	Countywide comprehensive pedestrian and bicycle transportation network	●
U-2a	Route 15 Corridor, Lewisburg Area	▲
U-2b	Route 45 Corridor, Mifflinburg Area	▲
U-3	Union County Town and Village Sidewalk Network	●
U-4	Union County Rural Commercial Corridors	●
U-5	Countywide pedestrian and bicycle transportation network	●
U-6	Provide multi-use trails to accommodate off-road non-motorized travel	●
U-7	Union County Safe Routes to School	▲
U-9	Union County Riparian Forest Buffers	⊙
U-10	Great Stream Commons Riverfront	■
U-11	Bull Run Greenway	●
U-12	Buffalo Valley Rail Trail (BVRT) US 15 crossing	●
U-13	Allenwood Village to Montgomery Borough multi-use riverfront trail	●
U-14	BVRT Western Extension- Mifflinburg to Swengle	●
U-15	BVRT railroad bridge over the Susquehanna	●
U-16	West Branch Susquehanna Greenway, Lewisburg to Winfield Village Trail	●
U-17	St. Anthony St./River Road Bridge	▲
U-18	West Branch Susquehanna Water Trail Infrastructure Improvements throughout county - St George St demonstration project	⊙
U-19	Great Stream Commons River Access	⊙
U-20	Urban Stream restoration and greenway (demonstration project Bull Run Greenway, currently at Kidsburg)	⊙
U-21	West Branch Susquehanna Greenway	●

Figure 17. Summary List of Northumberland County Bike/Ped Needs, Middle Susquehanna Bicycle and Pedestrian Plan



Following completion of the plan, the Mid Susquehanna Active Transportation Committee (MSATC) was established as a permanent group to guide and direct implementation of actions and projects related to plan recommendations. The MSATC will continue to regularly provide input and coordinate with the SEDA-COG MPO on project development. It has also been suggested that this group expand to include Mifflin and Juniata counties, or that these counties should consider forming their own similar organization.

The Town of Bloomsburg has also developed a Walk Bike Bloomsburg Connectivity Master Plan. Similar in approach to the Middle Susquehanna Bicycle and Pedestrian Plan, goals and objectives for pedestrian and bicycle facilities were identified, inventories and analyses performed, and recommendations generated to meet needs. Figure 18 shows a visualization of an example project that could be implemented. The Walk Bike Bloomsburg Connectivity Master Plan was reviewed to provide input to the potential projects list for the LRTP update.



Figure 18. Visualization of Recommended Improvement, Walk Bike Bloomsburg Connectivity Master Plan



4.6 Recreational Systems

4.6.1 Land Trails

Land trails include hiking trails, bike trails, rail trails, PA Bike Routes, and state/national hiking trails. These trail systems were developed through ongoing efforts to include projects from greenway and open space planning efforts within the region, and through review by stakeholders during the planning process, and consultation with the PA Department of Conservation and Natural Resources (DCNR) to identify data for existing facilities. Features of note include the three Bicycle PA routes that pass through the region: Routes G, J, and V.

Other features include the SEDA-COG MPO region's two rail trails: the Robbins Trail in Montour County, located west of Route 54 and north of US 11, and the Buffalo Valley Rail Trail, which connects Mifflinburg and Lewisburg. The Buffalo Valley Rail Trail was the first project completed with Pennsylvania Community Transportation Initiative (PCTI) funding within the SEDA-COG MPO. The Buffalo Valley Rail Trail serves a transportation/commuting purpose in addition to its recreational use. The trail is a bicycle and pedestrian arterial through the center of Union County. The Union County Trail Authority owns the Buffalo Valley Rail Trail. In 2021, DCNR established the Buffalo Valley Rail Trail Crossing of US 15 as one of the top 10 priority trail gaps across Pennsylvania.

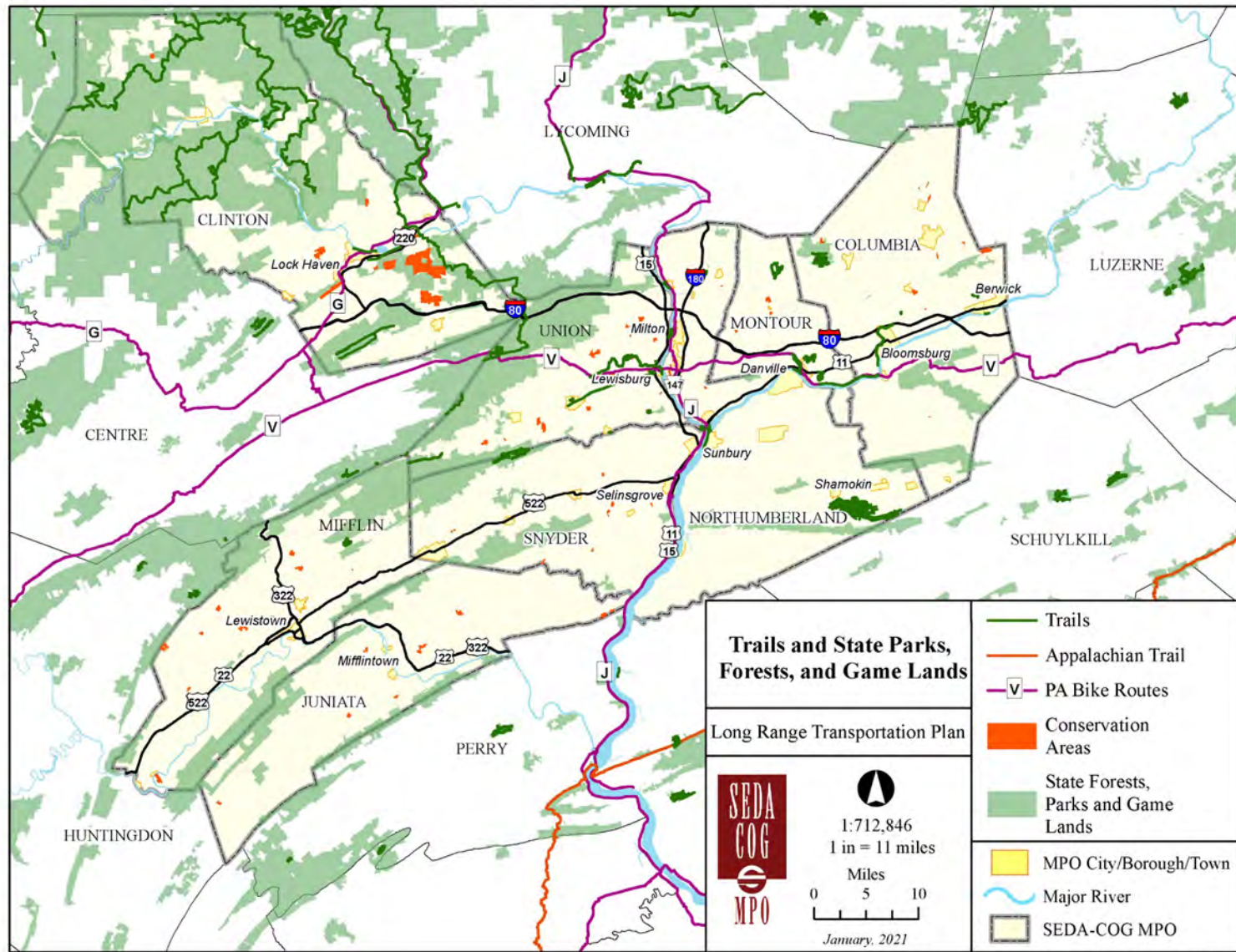
Major trails in the MPO region are listed in Table 14 and shown in Figure 19.

Table 14. Major Trails in the SEDA-COG MPO Region

Trail	County	Trail Type	Extents	Length (Miles)
Robbins Trail	Montour	Rail Trail	Just west of PA 54, from PA 642 south to Montour Street	3.4
Buffalo Valley Rail Trail	Union	Rail Trail	Lewisburg to Mifflinburg	9.0
Bald Eagle Valley Trail	Clinton	Land Trail	Castanea to McElhattan, within McElhattan	11.5
Penn's Creek Path, Mid-State Trail	Mifflin	Land Trail	South of Millheim and Woodward near the Poe Paddy State Park and White Mountain Wilderness Area	2.8
Mid-State Trail	Clinton, Mifflin, Union, Centre	Land Trail	Statewide, through Mifflin, Union, and Clinton counties	316.7
Donut Hole Trail	Clinton, Cameron	Land Trail	Farrandsville, Clinton County, to Cameron County	81.7
Chuck Keiper Trail	Clinton, Centre	Land Trail	Loop in Centre and Clinton counties	51.8

Sources: SEDA-COG, June 2020; Susquehanna Greenways Partnership, 2020

Figure 19. Major Trails and Recreational Lands in the SEDA-COG MPO Region



4.7 Regional Demographic Characteristics

The SEDA-COG MPO is one of the largest MPOs in Pennsylvania in terms of land area. The region contains webs of small towns and urbanized areas. The northern (Clinton County) and western (Juniata and Mifflin counties) portions of the region are predominantly rural. A slightly higher concentration of urbanized areas can be found in the eastern parts of the region. The urbanized areas are centered on the region's major highway corridors, including US 220 in Lock Haven, Clinton County; the US 322 and US 22/522 corridors in Mifflin and Juniata counties; the US 11/15 corridors in Snyder, Northumberland, Montour, and Columbia counties; the PA 61 corridor in Northumberland County, and the US 15 corridor through Union County.

4.7.1 Demographic Characteristics and Trends

4.7.1.1 Urbanized Areas and Urban Clusters

The SEDA-COG MPO region contains one Urbanized Area (UZA)—the Bloomsburg–Berwick UZA in Columbia, Montour, and Northumberland counties, located largely along the US 11 corridor as shown in Table 15 and Figure 20. UZAs consist of densely developed territory that contains 50,000 or more people. The U.S. Census Bureau delineates UZAs to provide a more accurate accounting of urban and rural territory, population, and housing in the vicinity of large places. The Bloomsburg–Berwick UZA is the contiguous UZA where the population exceeded the 50,000 threshold, allowing SEDA-COG to be designated as an MPO vs. an RPO. The 11 Urban Clusters (UCs) consist of densely developed territory that has at least 2,500 people, but fewer than 50,000 people (Ashland, Jersey Shore, Lewistown, Lock Haven, Mifflinburg, Mifflintown, Milton-Lewisburg, Montgomery, Mount Union, Shamokin-Mount Carmel, and Sunbury). The U.S. Census Bureau first introduced the UC concept for the 2000 census to provide a more consistent and accurate measure of urban population, housing, and territory. There are also 177 municipalities in the MPO region.

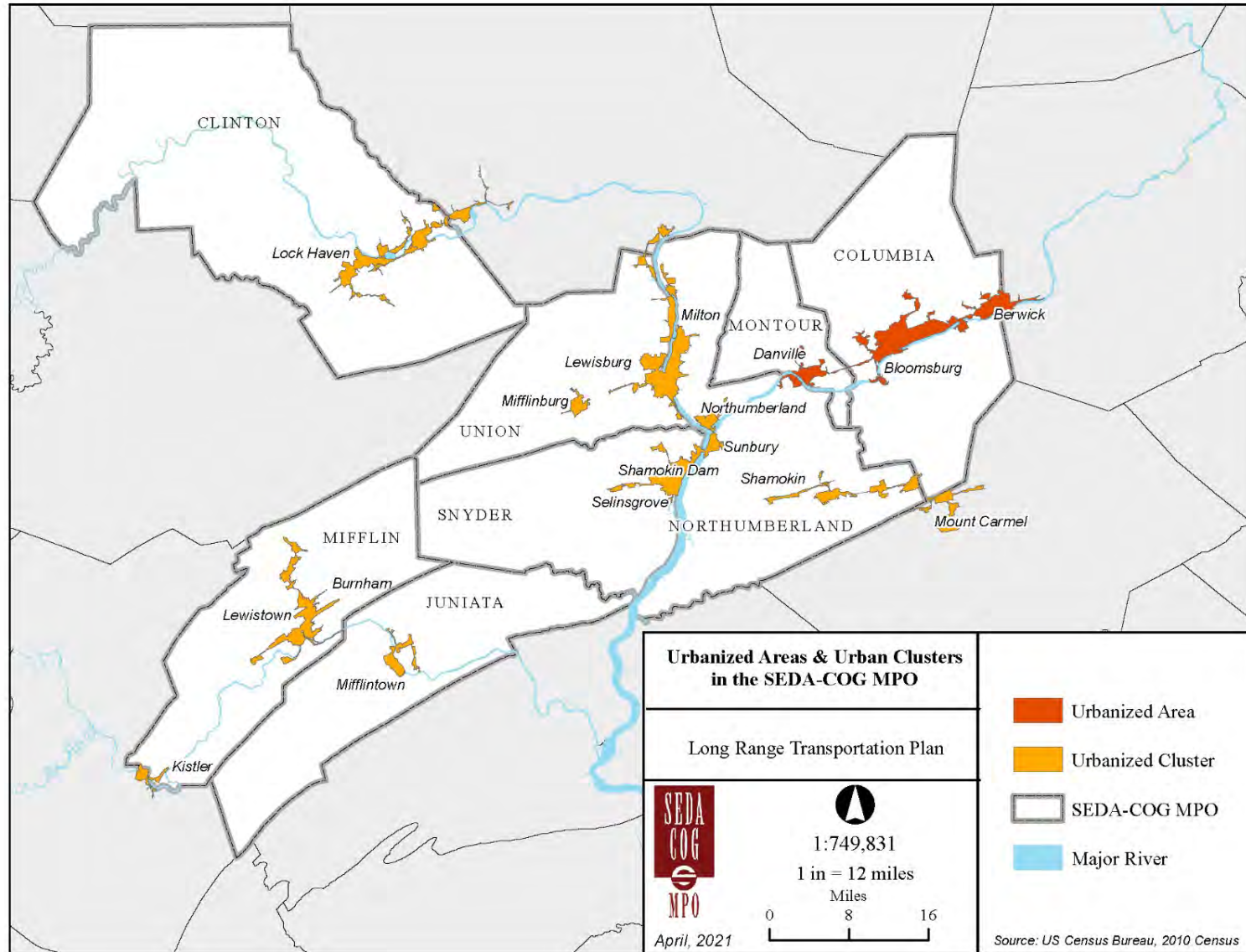
Table 15. 2010 Population within Urbanized Areas (UZA) and Urban Clusters (UC)

UZA or UC	Counties	2010 Census Population
Bloomsburg–Berwick UZA*	Columbia, Montour, Northumberland & Luzerne	53,618
Milton–Lewisburg UC	Northumberland & Union	30,806
Shamokin–Mount Carmel UC*	Northumberland & Schuylkill	30,185
Sunbury UC	Northumberland & Snyder	29,541
Lewistown UC	Mifflin	22,181
Lock Haven UC	Clinton	17,741
Jersey Shore UC*	Clinton & Lycoming	9,606
Ashland UC*	Northumberland & Schuylkill	7,820
Montgomery UC*	Union & Lycoming	6,453
Mifflintown UC	Juniata	4,372
Mifflinburg UC	Union	4,363
Mount Union UC*	Mifflin & Huntingdon	3,859

Source: U.S. Census Bureau, https://www2.census.gov/geo/docs/reference/ua/ua_list_all.xls

*UZA or UC extends outside of the SEDA-COG MPO region

Figure 20. Urbanized Areas and Urban Clusters in the SEDA-COG MPO Region





4.7.1.2 County Population and Projections

More than 370,000 people live in the SEDA-COG MPO region, according to 2019 population estimates. The MPO's population increased at a rate of 3.3 percent from 2000 to 2010. It appears that population growth peaked around the middle of that decade. The population appears to have remained constant or fallen in six of the SEDA-COG counties, such that the regional population has decreased by about 1 percent from 2010 to 2019. Northumberland and Columbia are experiencing the largest decrease. Snyder and Union counties are still showing an increase in population, but population in the remaining counties is either decreasing or remaining constant. Decrease in activity and employment related to Marcellus Shale gas extraction efforts may contribute to this, as well as the closing of several large employers across the region. At this point, the region is not on track to meet the 2020 population projections established by the Center for Rural PA in 2014.

Table 16. County, MPO, and State Population Projections

	Census	Census	Census Estimate	% Change	Change	Projections		
	2000	2010	2019	2010-2019	2000 - 2019	2020	2030	2040
Clinton	37,914	39,238	38,915	-0.8%	-323	41,957	44,973	48,164
Columbia	64,151	67,295	65,715	-2.3%	-1,580	67,759	67,922	67,091
Juniata	22,821	24,636	24,624	0%	-12	24,681	25,013	25,094
Mifflin	46,486	46,682	46,276	-0.9%	-406	48,102	49,578	50,709
Montour	18,236	18,267	18,259	0%	-8	19,524	21,037	22,807
Northumberland	94,556	94,528	91,761	-2.9%	-2,767	95,481	95,264	93,027
Snyder	37,546	39,702	40,483	2.0%	781	41,438	42,156	41,678
Union	41,624	44,947	45,111	0.4%	164	47,499	49,931	51,641
SEDA-COG MPO	363,334	365,895	371,144	-1.1%	-4,151	386,441	395,874	400,211
Pennsylvania	12,281,054	12,540,718	12,791,53	0.7%	89,151	13,230,170	13,759,594	14,132,588

Sources:

U.S. Census Bureau, 2000 Census, Table P1, Total Population

U.S. Census Bureau, 2010 Census, Table P1, Total Population

U.S. Census Bureau, 2019 5-Year Estimates

The Center for Rural Pennsylvania, Pennsylvania Population Projections, 2010-2040, March 2014

https://www.rural.palegislature.us/documents/reports/Population_Projections_Report.pdf, accessed 3/25/2016

4.7.1.3 Population Centers (Municipalities)

Population Centers in the SEDA-COG MPO region were identified using U.S. Census 2010 data (Table 17). Population Centers are defined as municipalities with a population greater than 3,500 people and a population density greater than 1,000 people per square mile. Northumberland County contains the most Population Centers, with five boroughs meeting the criteria and two municipalities with the highest population density. Columbia and Union counties each have two boroughs classified as Population Centers. Clinton, Columbia, Mifflin, Montour, and Snyder counties each contain one Population Center. Juniata County has no municipalities that meet both Population Center criteria. However, the Borough of Port Royal meets the population density requirement and has been included in Table 17 to show at least one Population Center in each MPO county.

The two largest municipalities within the SEDA-COG MPO region by population are both in Columbia



County (Bloomsburg and Berwick), which are part of the area now classified as an Urbanized Area. Based on census estimates, all but one of the population centers has decreased in population since 2010.

Table 17. Population Centers in the SEDA-COG MPO Region
(listed by 2010 Population Density)

County	Municipality	2000 Census	2010 Census	2019 Census Estimate	2000-2019 Change (%)	2010-2019 Change (#)	Land Area (sq. mi.)	2020 Population Density (pop / sq. mi.)
Northumberland	City of Shamokin	8,009	7,374	6,952	-5.7%	-422	0.80	8,690
Northumberland	Mount Carmel Borough	6,390	5,893	5,274	-10.5%	-619	0.70	7,534
Union	Lewisburg Borough	5,620	5,792	5,708	-1.5%	-84	1.00	5,708
Northumberland	City of Sunbury	10,610	9,905	9,362	-5.5%	-543	2.10	4,458
Mifflin	Lewistown Borough	8,998	8,338	8,125	-2.6%	-213	2.00	4,063
Clinton	City of Lock Haven	9,149	9,772	9,083	-7.1%	-689	2.50	3,633
Snyder	Selinsgrove Borough	5,383	5,654	5,902	4.4%	248	1.83	3,225
Columbia	Berwick Borough	10,774	10,477	9,903	-5.5%	-574	3.10	3,195
Columbia	Town of Bloomsburg	12,375	14,855	13,811	-7.0%	-1,044	4.35	3,175
Montour	Danville Borough	4,897	4,699	4,648	-1.1%	-51	1.60	2,905
Northumberland	Northumberland Borough	3,714	3,804	3,607	-5.2%	-197	1.51	2,389
Union	Mifflinburg Borough	3,594	3,540	3,475	-1.8%	-65	1.80	1,931
Northumberland	Milton Borough	6,650	7,042	6,595	-6.3%	-447	3.43	1,923
Juniata*	Port Royal Borough	977	1,185	-908	-23.4%	-277	0.70	1,297

Sources: U.S. Census Bureau, 2000 Census, Table P1, Total Population

U.S. Census Bureau, 2010 Census, Table P1, Total Population

U.S. Census Bureau, 2019 5-Year Estimates

Notes: Population Centers are defined as areas with a population > 3,500 people and a population density > 1,000 people / square mile.

*Juniata County has no municipalities that meet both Population Center criteria; however, Port Royal Borough does meet the Population Density criterion and is included to show at least one Population Center in each MPO county.

4.7.1.4 Plain Sect Populations

The MPO region contains a sizeable “Plain Sect” population, including both Amish and Old Order

Mennonite groups that rely on horse-and-buggy vehicles for transportation. Table 18 provides Plain Sect population estimates collected from two sources:

1. Association of Statisticians of American Religious Bodies (ASARB) for the 2010 U.S. Religion Census, which is conducted each decade. This data strictly represents the Amish among the “Old Orders,” who travel by horse and buggy and limit their use of modern technologies.
2. The ASARB Census was supplemented with 2019 data for the Old Order Mennonite populations in Union and Snyder counties, as provided by Union County Planning. These groups include “Wenger Mennonite,” “Team Mennonite,” and “Groffdale Conference Mennonite.” In 2019, there were approximately 313 households of Old Order Mennonite families residing in Union County. Based on an average number of children per family of 8.3 (10.3 persons per family), the Old Order Mennonite population was estimated at 3,224 persons.

Table 18. 2010-2012 Plain Sect Population

Geography	Population
Clinton County	1,315
Columbia County	121
Juniata County	973
Mifflin County	2,899
Montour County	446
Northumberland County	620
Snyder County	344
Union County	73 Amish 3,224 Mennonite
SEDA-COG MPO Total	9,311

Sources: Association of Religion Data Archives, U.S. Religion Census, 2010,
<http://www.thearda.com/>.

Union County Planning Office, 2016 and 2019

Approximately 81,000 Amish live in Pennsylvania, which is second only to Ohio among U.S. states in number of Amish residents.¹² The SEDA-COG MPO counties are home to approximately 6,800 Amish, which is 12 percent of the Pennsylvania total. The Amish settlements in Mifflin County are the ninth-largest in the United States and the second-largest in Pennsylvania, after Lancaster County.¹³

Research conducted at Ohio State University indicates that the Amish population is growing rapidly, doubling in size every 21 to 22 years due to larger family sizes and a high rate of adherence. The North American Amish population is predicted to reach 1 million by 2050, bringing economic, cultural, social and religious change to the areas with substantial Amish settlements. One trend that has already

¹² “Amish Population Profile, 2020.” Young Center for Anabaptist and Pietist Studies, Elizabethtown College.
<http://groups.etown.edu/amishstudies/statistics/amish-population-profile-2020>.

¹³ “Twelve Largest Amish Settlements, 2020.” Young Center for Anabaptist and Pietist Studies, Elizabethtown College.
<http://groups.etown.edu/amishstudies/statistics/twelve-largest-settlements-2020/>.

been noted anecdotally in the SEDA-COG MPO region is that of Amish buying up land in rural areas close to family and community services. In some cases, the availability of farmland may not keep pace with growth, inducing Amish men to seek non-farm employment in the labor and construction trades.¹⁴

Mennonites and Amish share a similar religious heritage in the Anabaptist movement but have been separate groups since the late 1600s. They migrated separately to the United States but settled in similar areas. The numerous Mennonite groups in the United States are diverse, with many being quite assimilated into typical American culture. Old Order Mennonite groups, like many living in Union and Snyder counties, still use horse-and-buggy transportation, while many other Mennonite groups drive cars and use modern technology.¹⁵

4.7.1.5 Population 65 Years and Older

In 2010, the U.S. Census counted 63,647 persons (about 17 percent of the total population) age 65 and older living in the SEDA-COG MPO area. Comparatively, about 16 percent of Pennsylvania's total 2010 population was 65 and older. Figure 21 charts the 2000 and 2010 U.S. Census populations alongside population projections from the Pennsylvania State Data Center for 2020, 2030, and 2040. With the early wave of the "Baby Boomer" generation turning 65 in 2011, the number of 65+ residents is expected to increase rapidly until leveling off sometime between 2030 and 2040. As a percentage of the total population (Figure 22) the proportion of the total population age 65 and over is expected to increase from about 17 percent in 2010 (about 1 in 6 persons) to more than 23 percent in 2030 (about 1 in 4 persons).

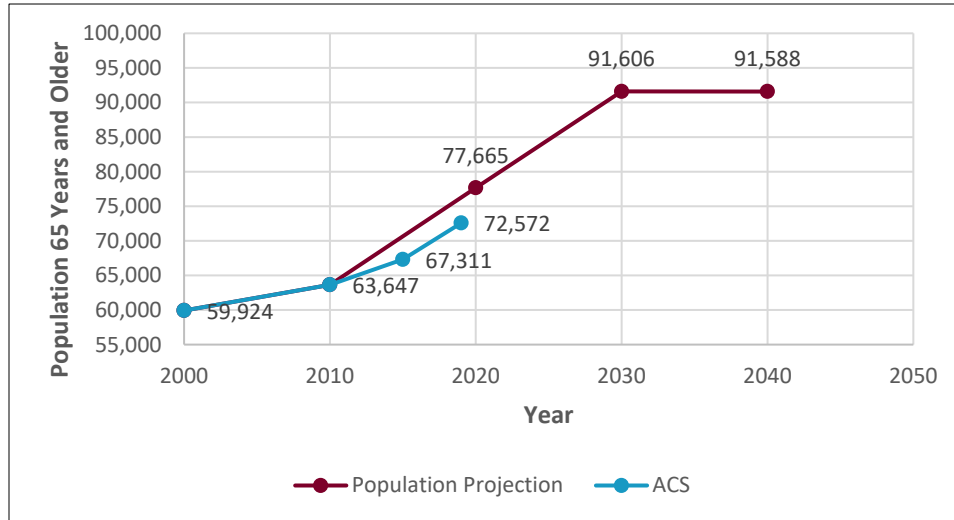
Comparison to ACS estimates indicates that the proportion of residents over age 65 is increasing, but not as quickly as predicted by the population projections. The proportion of residents over age 65 ranges from about 18 percent in Clinton and Snyder counties to 21 percent in Mifflin and Northumberland counties, and the over-65 population in Northumberland County is larger than the entire population of Montour County.

The proportion of residents age 65 or better is increasing, but not as rapidly as projected.

¹⁴ The Ohio State University News Room, "Estimate: A new Amish Community is Founded Every 3 and a half weeks in US," <https://news.osu.edu/estimate-a-new-amish-community-is-founded-every-35-weeks-in-us/>, July 30, 2012.

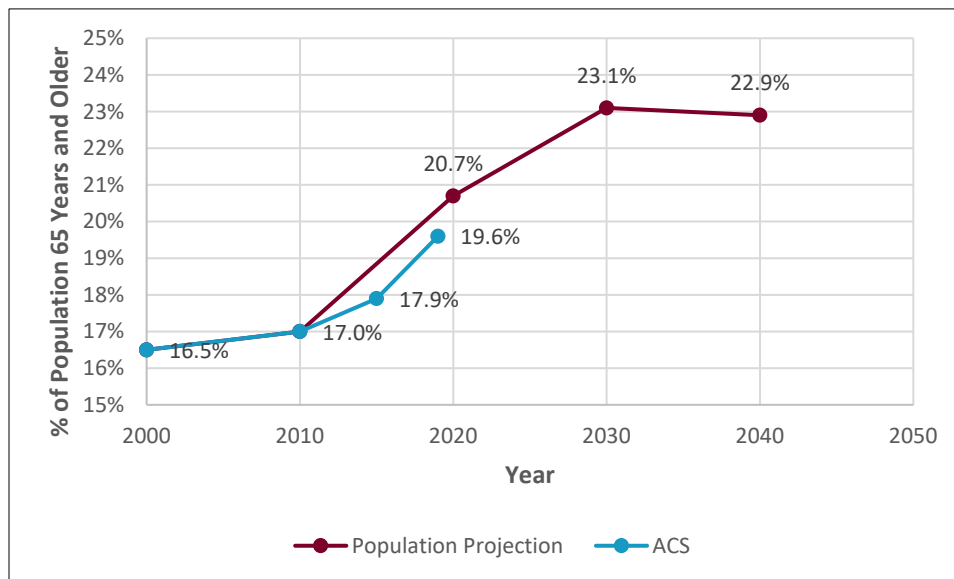
¹⁵ Amish Studies, The Young Center Web site, <https://groups.etown.edu/amishstudies/religion/mennonites/>, 2016.

Figure 21. Population 65 Years and Older by Count, SEDA-COG MPO Region, 2000 to 2040



Source: Pennsylvania State Data Center, Population Projections, 2020-2040, U.S. Census Bureau, 2019 5-Year Estimates via Population Projections Dashboard

Figure 22. Population 65 Years and Older by Percentage, SEDA-COG MPO Region, 2000 to 2040



Source: Pennsylvania State Data Center, Population Projections, 2020-2040, via Population Projections Dashboard,

<https://pasdc.hbg.psu.edu/Services/PopulationProjectionsDashboard/tabid/2135/Default.aspx>,

U.S. Census Bureau, 2019 5-Year Estimates

Large increases in the senior citizen population will affect transportation planning and programming due to specific infrastructure design considerations and mobility needs of the elderly. A 2012 report sponsored by AARP (formerly the American Association of Retired Persons) noted the following factors influencing

transportation and transit access needs for America's aging population:¹⁶

- Planning for investment in transit systems is needed now, so that transportation alternatives are in place and ready when the needs begin to escalate.
- The Baby Boomer generation is America's first truly suburban generation, a product of post-World War II expansion accompanied by construction of the Interstate Highway System.
- Aging Baby Boomers overwhelmingly want to stay in their homes (i.e., "age-in-place"), stay active, and lead independent lives.
- Smaller metropolitan areas (those with less than 1 million persons) have the largest percentage of seniors age 65 and older with poor transit access and the largest projected increases in seniors with poor transit access.

4.7.1.6 Households with Low Vehicle Access

Households without a vehicle and no access to a vehicle face unique transportation challenges. These Zero-vehicle or Low-vehicle-access households are those without direct access to an automobile and tend to be highly dependent on public and other non-traditional modes of transportation (transit, bicycles, walking, horse and buggy).

Figure 23 presents the census tracts with the highest concentration of households without access to a vehicle. The percentage of households without or with low access to a personal vehicle is 8.8 percent for the SEDA-COG MPO region, as compared to the national average of 8.6 percent. The Pennsylvania average is 10.9 percent.

In many areas, the distribution of low-vehicle access households mirrors the distribution of persons in poverty. However, unlike the direct impact that poverty has on the choice of transportation options, not owning a vehicle may be a personal decision, rather than an economic one—such as for Amish and

For some residents, not owning a vehicle may be a personal choice rather than a financial necessity.

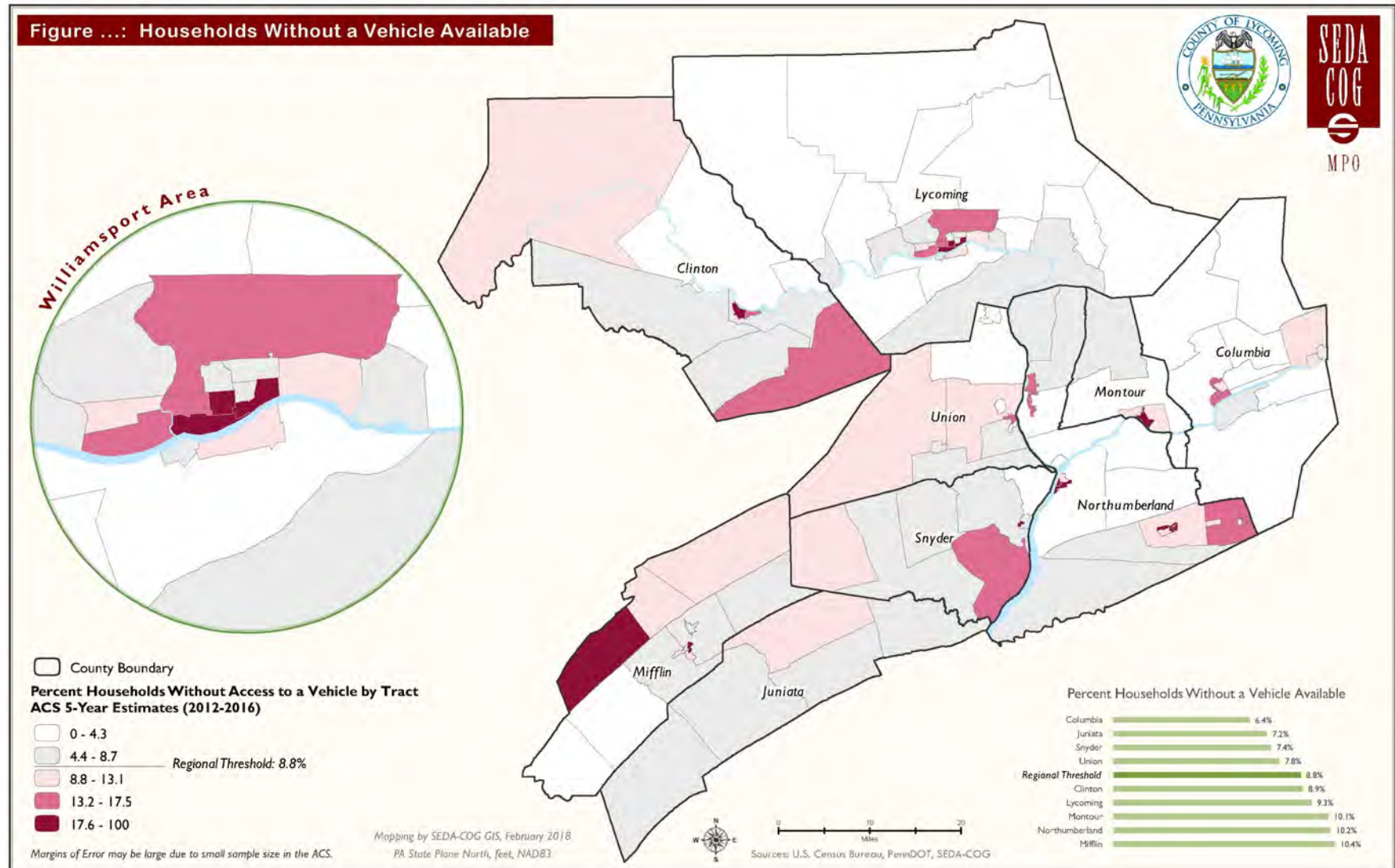
Old Order Mennonite populations, which are significant in the MPO area. Mifflin County, central Juniata County, southeastern Clinton County, western Union County, and southeastern Snyder County are each noted to have larger Amish and Old Order Mennonite populations and are shown in Figure 23 to have relatively high numbers of households without access to a vehicle.

The presence of Plain Sect populations does not explain all of the tracts where low vehicle access is noted. For other tracts, vehicle access is correlated with other factors, including family structures that have a female head of household with children present. These

households also tend to have lower income; nearly half of the households in the SEDA-COG MPO having a female head with children present are at or below poverty level. These along with other lower-income households frequently cannot afford to own a vehicle. For the SEDA-COG MPO region, the only areas where high concentrations of female head of household corresponds with a high no-vehicle-access area is the tract in northern / northwestern Clinton County, which explains the divergence from the trend stated previously of low- vehicle-access areas corresponding with Plain Sect populations.

¹⁶ AARP, *Waiting for a Ride: Transit Access and America's Aging Population*, 2012, accessed via the AARP Web site, <http://www.aarp.org/content/dam/aarp/livable-communities/old-learn/transportation/waiting-for-a-ride-transit-access-and-americas-aging-population-aarp.pdf>.

Figure 23. Households Without Vehicle Access, SEDA-COG MPO Region



4.8 Employment

As shown in Table 19, the number of jobs grew from 2015 to 2019 in every SEDA-COG MPO county except Columbia County, where employment remained virtually unchanged. Overall, the MPO region saw a 2.6 percent increase in jobs from 2015 to 2019. The counties with the largest number of jobs are Columbia and Northumberland counties.

Table 19. Employment by County

Geographic Area	Jobs 2015 Q3	Jobs 2019 Q2	2019 Q2 Percent of Region Total
Clinton County	11,785	12,215	9.0%
Columbia County	24,748	24,741	18.3%
Juniata County	6,238	6,937	5.1%
Mifflin County	14,868	15,716	11.6%
Montour County	14,913	16,190	12.0%
Northumberland County	28,209	26,847	19.8%
Snyder County	15,760	16,617	12.3%
Union County	15,395	16,124	11.9%
SEDA-COG MPO REGION	131,916	135,387	100.0%
Trend	+2.6%		

Source: U.S. Census Bureau, LEHD QWI for 3rd Quarter 2015 and 2nd Quarter 2019,
<http://ledextract.ces.census.gov/>

Notes: Jobs estimate is the total number of jobs on the first day of the reference quarter. Beginning-of-quarter employment counts are similar to point-in-time employment measures, such as the Quarterly Census of Employment and Wages (QCEW). Data represents all workers across all NAICS Sectors

Figure 24 illustrates the location and intensity of employment throughout the SEDA-COG MPO region, according to 2012 data from the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) program. Employment location and industry categories are based on state-level unemployment insurance earnings data and the Quarterly Census of Employment and Wages.¹⁷

The most intensive clusters of employment are located in the more developed municipalities and urban areas in the eastern part of the MPO, including Bloomsburg–Berwick, Danville, Sunbury–Selinsgrove, Lewisburg–Milton, Lock Haven, and Lewistown. Smaller pockets of larger employers are also located around Shamokin, Middleburg, and Mifflintown. In general, the location patterns for employment are strongly correlated to the region's major highway network, in particular US 22/322, US 522, US 11/15, US 220, PA 61, PA 54, PA 45, and I-80.

¹⁷ Longitudinal Employer-Household Dynamics Web page, U.S. Census Bureau, 2016. <http://lehd.ces.census.gov/>

Figure 24. Employment Intensity by Census Block, SEDA-COG MPO Region

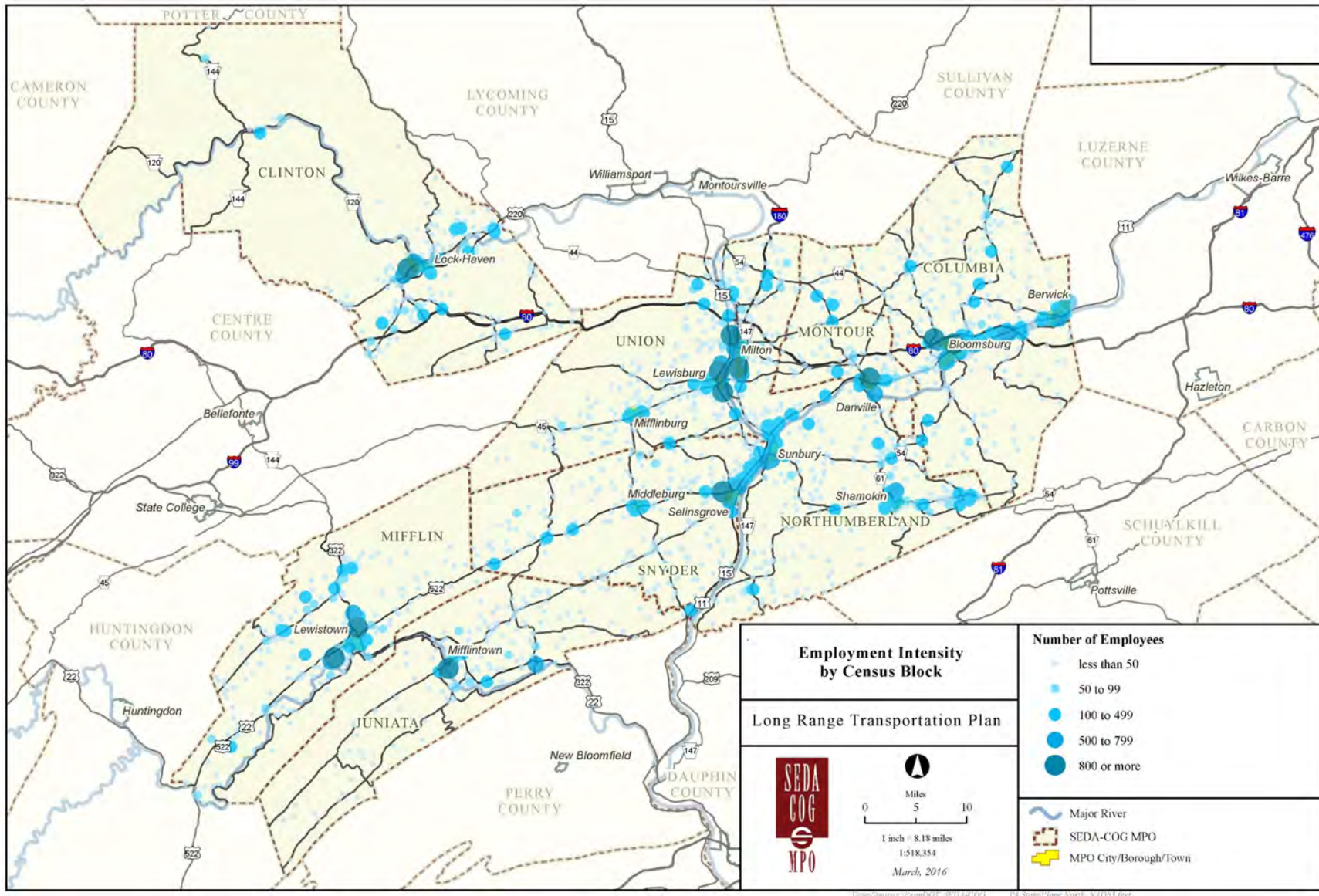


Table 20 summarizes employment by industry classification for the SEDA-COG MPO region. The largest industries by employment are in the fields of health care and medical services, followed closely by manufacturing, retail trade, and educational services. These four industries account for nearly 60 percent of all employment. Recent trends in employment by industry show decreases in manufacturing and increases in health care and social assistance—trends also noted in the SEDA-COG Comprehensive Economic Development Strategy.

Table 20. 2019 Employment by Economic Sector, Primary Jobs

Industry Classification	2019 Primary Jobs	
	Workers	% of Total
Agriculture, Forestry, Fishing, and Hunting	1,461	1.1%
Mining, Quarrying, and Oil and Gas Extraction	692	0.5%
Utilities	844	0.6%
Construction	5,313	3.9%
Manufacturing	3,695	2.7%
Wholesale Trade	1,064	0.8%
Retail Trade	3,550	2.6%
Transportation and Warehousing	767	0.6%
Information	2,637	1.9%
Finance and Insurance	4,164	3.1%
Real Estate and Rental and Leasing	3,418	2.5%
Professional, Scientific, and Technical Services	12,435	9.2%
Management of Companies and Enterprises	28,266	20.9%
Administrative and Support and Waste Management and Remediation Services	1,275	0.9%
Educational Services	11,446	8.5%
Health Care and Social Assistance	4,027	3.0%
Arts, Entertainment, and Recreation	4,816	3.6%
Accommodation and Food Services	24,137	17.8%
Other Services [except Public Administration]	15,057	11.1%
Public Administration	6,281	4.6%
Total 2019 Workers	135,345	100.0%

Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics via OnTheMap, Primary Jobs, 2019. Notes: A “Primary Job” is the highest paying job for a worker in that year. Primary Jobs equals the number of workers. Industry Classification is defined according to the North American Industry Classification System (NAICS).

Table 21 lists the top 10 employers in each SEDA-COG MPO county, further illustrating the industries and types of products produced and service provided. To support a more in-depth understanding of employment location and quantity, SEDA-COG has obtained employment data for the 11-county SEDA-COG region and all bordering counties.



Table 21. Top 10 Employers in SEDA-COG MPO Region, by County

	Rank	Employer		Rank	Employer
Clinton County	1	FIRST QUALITY PRODUCTS INC	Montour County	1	GEISINGER MEDICAL CENTER
	2	FIRST QUALITY TISSUE LLC		2	GEISINGER CLINIC
	3	KEYSTONE CENTRAL SCHOOL DISTRICT		3	GEISINGER SYSTEM SERVICES
	4	PA STATE SYSTEM OF HIGHER EDUCATION		4	GEISINGER HEALTH PLAN
	5	TRUCK-LITE CO LLC		5	STATE GOVERNMENT
	6	WAL-MART ASSOCIATES INC		6	DANVILLE AREA SCHOOL DISTRICT
	7	KEANE FRAC LP		7	GREAT DANE LLC
	8	CLINTON COUNTY COMMISSIONERS		8	MARIA JOSEPH MANOR
	9	STATE GOVERNMENT		9	GEISINGER HEALTHSOUTH REHAB HOSPITAL
	10	UPMC SUSQUEHANNA LOCK HAVEN		10	GRANDVIEW NURSING & REHABILITATION
Columbia County	1	PA STATE SYSTEM OF HIGHER EDUCATION	Northumberland County	1	WEIS MARKETS INC
	2	GEISINGER SYSTEM SERVICES		2	KNOEBELS AMUSEMENT RESORT
	3	WISE FOODS INC		3	STATE GOVERNMENT
	4	AUTONEUM NORTH AMERICA INC		4	CONAGRA FOODS PACKAGED FOODS COMPANY
	5	METROPOLITAN TRUCKING		5	NORTHUMBERLAND COUNTY
	6	DOLLAR TREE STORES DISTRIBUTION CTR		6	FURMAN FOODS INC
	7	KAWNEER COMPANY INC		7	SHIKELLAMY SCHOOL DISTRICT
	8	BIG HEART PET BRANDS		8	GEISINGER MEDICAL CENTER
	9	BERWICK OFFRAY LLC		9	WATSON TOWN TRUCKING CO INC
	10	GEISINGER-BLOOMSBURG HOSPITAL		10	SHAMOKIN AREA SCHOOL DISTRICT
Juniata County	1	AC PRODUCTS INC	Snyder County	1	STATE GOVERNMENT
	2	EMPIRE KOSHER POULTRY INC		2	SUSQUEHANNA UNIVERSITY
	3	JUNIATA COUNTY SCHOOL DISTRICT		3	NATIONAL BEEF
	4	CHAMPION MODULAR INC		4	PROFESSIONAL BUILDING SYSTEMS INC
	5	FIVE BROTHERS		5	SELINGSGROVE AREA SCHOOL DISTRICT
	6	SANITATION SOLUTIONS PLUS LLC		6	CONESTOGA WOOD SPECIALTIES
	7	PLAIN & FANCY CUSTOM CABINETRY LLC		7	MIDD-WEST SCHOOL DISTRICT
	8	WEIS MARKETS INC		8	UNITED CEREBRAL PALSY OF CENTRAL PA
	9	STATE GOVERNMENT		9	WAL-MART ASSOCIATES INC
	10	PENNIAN BANK		10	WOOD-MODE LLC
Mifflin County	1	GEISINGER-LEWISTOWN HOSPITAL	Union County	1	BUCKNELL UNIVERSITY
	2	MIFFLIN COUNTY SCHOOL DISTRICT		2	EVANGELICAL COMMUNITY HOSPITAL
	3	PHILIPS ULTRASOUND INC		3	FEDERAL GOVERNMENT
	4	STANDARD STEEL LLC		4	DNA CENTRAL INC
	5	FIRST QUALITY BABY PRODUCTS LLC		5	EVANGELICAL MEDICAL SERVICES ORGANIZATION
	6	TRINITY PLASTICS INC		6	MIFFLINBURG AREA SCHOOL DISTRICT
	7	GEISINGER CLINIC		7	WAL-MART ASSOCIATES INC
	8	UNITED CEREBRAL PALSY OF CENTRAL PA		8	ELKAY WOOD PRODUCTS COMPANY
	9	VALLEY VIEW HAVEN		9	LEWISBURG AREA SCHOOL DISTRICT
	10	OVERHEAD DOOR CORP		10	COUNTRY CUPBOARD

Source: PA Department of Labor & Industry, 3rd Quarter 2019 Initial Data; Federal and State Government Entities Aggregated, <http://www.workstats.dli.pa.gov/Products/Top50/Pages/default.aspx>.

4.9 Tourism and Recreation

The SEDA-COG MPO region offers many recreational opportunities that contribute to the significant tourism in the area (see Figure 25). Clinton County is part of the area designated “Pennsylvania Wilds” (PA Wilds). The PA Wilds is an extensive two-million-acre region covering 12 counties. Lush forests, rugged mountain trails, and pristine streams are typical of the PA Wilds. Columbia, Montour, Northumberland, Snyder and Union counties make up the Susquehanna Valley Region of Pennsylvania. The Susquehanna Valley is characterized by rolling hills and boasts six state parks, including Milton State Park with miles of hiking trails and Ricketts Glen State Park, which contains numerous waterfalls and a diversity of wildlife. Juniata and Mifflin counties are within the Allegheny Mountains and Valleys Region of Pennsylvania. This region is considered the "Heart of Pennsylvania" and boasts covered bridges, tree-sheltered streams, and small Victorian towns.

As shown in Figure 25, tourism opportunities in the MPO region are plentiful and primarily consist of outdoor opportunities (including, but not limited to, state parks, river recreation, designated Wild Areas, golf courses, speedways, camping, and hunting). Other tourism draws in the region include historical locations (museums, historic houses, etc.), covered bridges (many are also historic locations), and activities associated with typical rural small towns (farmers’ markets, local playhouses, etc.). Columbia County has by far the most covered bridges, while historic sites are numerous along the US 15 corridor through Selinsgrove, Sunbury, Lewisburg, and West Milton.

Tourism generated nearly \$980 million in 2018 and supplied more than 12,000 jobs in the SEDA-COG MPO region.

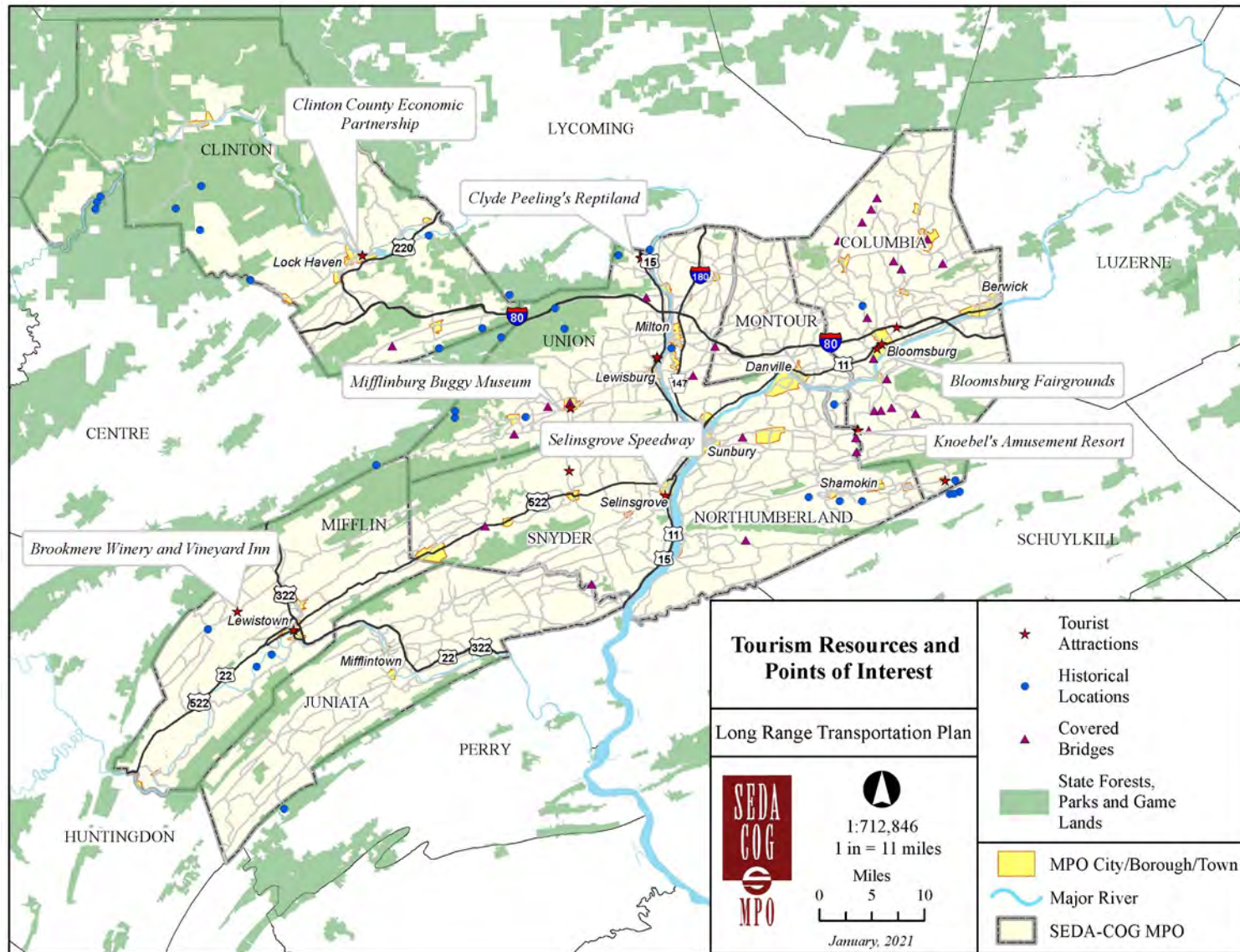
Table 22 summarizes the total tourism economy impacts within the SEDA-COG MPO region. The table shows that tourism generated almost \$980 million in revenue in 2018 and supplied more than 12,000 jobs throughout the SEDA-COG MPO region.

Table 22. Total Tourism Economic Impacts, 2018

County	Total Tourism Demand	Employment	Labor Income	Taxes	
				State & Local	Federal
	(Millions of dollars – Except Employment, in Units)				
Clinton	159.1	1,678	55.6	13.7	14.2
Columbia	186.1	2,147	63.5	16.0	16.5
Juniata	38.3	477	10.2	3.0	3.0
Mifflin	72.4	1,136	30.2	6.7	7.1
Montour	104.9	1,376	47.5	9.9	10.8
Northumberland	143.7	1,973	60.5	13.2	14.6
Snyder	116.3	1,298	37.8	9.5	9.5
Union	157.7	1,977	64.2	14.3	15.0
Total	978.5	12,062	369.5	86.3	90.7

Source: Tourism Economics, The Economic Impact of Travel in Pennsylvania Report for the Year 2018, <https://www.visitpa.com/sites/default/files/pdfs/2018-Economic-Impact-of-Travel-and-Tourism-in-Pennsylvania-min.pdf>

Figure 25. Tourism Resources and Points of Interest, SEDA-COG Region



Data: PennDOT, DCNR, PA Game Commission, SEDA-COG, PHMC

4.10 Natural, Community, and Cultural Environments Resources

4.10.1 Existing Environment

This section summarizes the overall existing environment in the SEDA-COG MPO region. The "environment" can be considered to consist of three distinct yet inter-related elements: the natural environment, the community environment, and the cultural environment. The natural environment of an area encompasses all naturally occurring resources (plants, animals, streams, wetlands, etc.). The community environment includes resources that have been created by man (municipalities, community facilities, parks and recreational facilities, potential hazardous waste sites, productive agricultural areas, etc.). The community environment would also include the economic aspects of the region—economy, jobs, industry, etc.; those elements are discussed in other sections of this LRTP. The cultural environment consists of locally, regionally, statewide, or nationally recognized historic and archaeological sites, structures, and historic districts.

At a regional level, significant resources in the natural environment for the SEDA-COG MPO counties include (but are not limited to) wetlands and water trails associated with the Susquehanna and Juniata rivers and other water bodies, the streams and lakes feeding them, and the forestland that surrounds them. The previously discussed municipalities, metropolitan areas, and associated facilities comprise the community environment. Remnants from the Pennsylvania Canal, covered bridges, and historic sites are a few of the elements of the cultural environment.

4.10.2 Susquehanna Greenway Partnership

The region's rivers form a critical backbone for many of the natural resources, and efforts to develop sustainable positive relationships between the rivers and the communities along them have been led by the Susquehanna Greenway Partnership (SGP). The greenway concept includes the construction of more than 500 miles of connected trails and parks along the Susquehanna River, with access points, green infrastructure, and supporting facilities through a 22-county area. Through their various planning efforts, the SGP has led a planning process with strong public involvement, identifying potential future projects and programs, and helping the towns along the river develop sustainable economic opportunities based on the river.

The SGP efforts have developed support for projects that may ultimately be funded through transportation programs. While many of the existing land trails in the region are found in remote areas, the connected network of trails and parks envisioned by the SGP would link many of the region's population centers, providing a viable alternative mode choice in a predominantly rural area.

Other efforts underway at the SGP have the potential to reduce sprawl and mitigate storm water impacts by encouraging "complete streets" design approaches and riparian buffer zones to reduce runoff rates in storm events. More information about current efforts can be found at the SGP Web site, <http://www.susquehannagreenway.org/>. More detailed data and descriptions for the rivers and other regional resources can be found in the various greenway and open space plans, and the county Natural Heritage Inventories. Comprehensive plans for the region's eight counties can also be consulted for information and inventories at the county level, including the description of locally important places (in addition to National Register-listed sites) in the Juniata County Comprehensive Plan, and the listing of major scenic views in the Snyder County Comprehensive Plan.

The Economic Impact of Travel and Tourism in Pennsylvania for calendar year 2018 (available at



<https://www.visitpa.com/economic-impact-travel-report>) determined that tourism direct sales totaled almost \$980 million for the eight counties in the MPO. This underscores the importance of identifying and preserving resources and recreational opportunities within the region.

4.10.3 Minimizing Environmental Impacts

PennDOT and cooperating agencies have made a large amount of environmental resources data available, including streams (stocked, wild trout, High Quality/Exceptional Value, designated Water Trails), surface waters (TMDL, Attaining/Non-Attaining), protected lands, agriculture, and other resources.

Under current practices, these data are queried through the project development process with the completion of the PennDOT Connects screening form, and requests for any additional needed data are made to the appropriate agencies. The data are used to help develop projects that minimize adverse impacts to natural, community, and cultural resources, and build positive outcomes into the process. The screening form accesses a central database containing a large amount of data from a variety of sources. Each of these sources follows its own process for maintaining and updating the data provided, and review of resources at the local level may identify resources that have not been incorporated by the source agencies.

GIS information collected as part of the previous LRTP efforts was supplemented with data collected for this LRTP update. It should be noted that PennDOT, FHWA, and the Pennsylvania Historical and Museum Commission (PHMC) conducted a cooperative effort to evaluate bridges more than 20 feet long and constructed before 1957 for eligibility for the National Historic Register. Results of this process are included in PennDOT's Bridge Management System (BMS) and the bridge information regularly provided to Planning Partners by PennDOT and included in the planning process. BMS also includes an indication for covered bridges. PHMC notes that there are many municipalities where little or no data have been collected, and that additional surveys on potential historic properties and evaluation of the region's larger agricultural areas to identify potential rural historic districts may be desirable strategies for providing a more complete listing of the features and places that are important to maintaining the region's heritage and character.

The project development process conducted for TIP updates within the region indicates environmental impacts related to specific projects. Where required, the mitigation process has been tailored to the impacts in question. Mitigation has included creating wetland banks, altering designs to accommodate pedestrian or river-borne traffic, observing restrictions on activities to avoid conflicts with threatened and endangered species, providing additional shoulder width to accommodate pedestrian and non-motorized traffic, constructing tunnel or bridge structures to maintain connectivity for pedestrian and non-motorized vehicle traffic, and preserving historic assets.

4.10.4 Agency Coordination

The SEDA-COG MPO convenes meetings with agencies that oversee resources that may be impacted by the transportation planning process through the Agency Coordination Meeting (ACM) process. The process provides a forum to foster open and effective communication among transportation providers and resource agencies in the development of transportation plans and projects.

The federal regulations for Metropolitan Planning require the following steps in the development of long-range transportation plans:

- Consult with the regulatory and resource agencies "responsible for land use management,

natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan;”

- Comparison of transportation plans to inventories of natural or historic resources, if available;
- Comparison of transportation plan with State Conservation plans or maps, if available; and
- 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 steps were fulfilled through the Agency Coordination Meeting (ACM) held on March 24, 2021. The presentation, supporting materials, and a meeting summary are provided in Appendix D.

The ACM presentation included an overview of potential impacts based on 370 projects included in the 2021 – 2032 TYP. A buffer analysis for the projects was conducted using GIS data provided by ACM staff. It was shown that the resources most likely to be impacted included prime and statewide important farmland soils, flood/resiliency impacts, water quality, and environmentally sensitive resources.

Resource agency members suggested several additional resources to be considered in the future, including Natural Heritage Polygons, a pending statewide plan for fish and boat access, links for data related to Important Bird Areas, Important Mammal Areas, Bald Eagle Nest/Buffer Zones, and links to mitigation bank Web sites.





5. Performance Measures

5.1 Transportation Performance Management

MAP-21 and the FAST Act established requirements for performance management to promote the most efficient investment of transportation funds. Transportation Performance Management (TPM) is a strategic approach that uses data to make investment and policy decisions to achieve national performance goals. The national goal areas are summarized in Table 23.

Table 23. TPM National Goal Areas

National Goal Areas	
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
Infrastructure Condition	To maintain the highway infrastructure asset system in a state of good repair
Congestion Reduction	To achieve a significant reduction in congestion on the National Highway System.
System Reliability	To improve the efficiency of the surface transportation system.

Freight Movement and Economic Vitality	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
Environmental Sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment.
Reduced Project Delivery Delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

TPM goals and performance objectives can also be viewed in a hierarchical, flow-based approach, as shown in Figure 26. To meet these goals, PennDOT and the MPOs/RPOs follow a Performance-Based Planning and Programming (PBPP) process, with a focus on collaboration among PennDOT, FHWA, and MPOs/RPOs at the county and regional levels. These activities are carried out as part of a cooperative, continuing, and comprehensive (3C) planning process which guides the development of many PBPP documents, including this SEDA-COG Long-Range Transportation Plan.

Figure 26. Transportation Performance Management Hierarchical, Flow-Based Approach



5.2 Integrating Performance Management at SEDA-COG

The integration of performance management processes and the national performance measures has become an important area of emphasis for MPOs. SEDA-COG continues to build upon practices started more than a decade ago and has focused on integration of performance measure concepts outlined in the FHWA and FTA Planning Rule.

5.2.1 History of Performance-Based Planning in the SEDA-COG MPO Region

Performance measures were first incorporated in SEDA-COG's 2011 LRTP as an annual performance measures report that included data on bridge and pavement conditions, traffic fatalities, employment, and other areas that staff deemed likely to be included in the federal performance measures then taking shape. PennDOT began creating statewide and regional performance measure reports for specific pavement and bridge measures at about the same time that were integrated into SEDA-COG's performance reports.

MAP-21 and the FAST Act provided the national goals and performance measures that serve as a basis for state and regional performance assessments. For the 2016 LRTP update, considerable information had been provided about safety performance measures. PennDOT had begun providing information about regional targets for highway and bridge conditions through the Scorecard of Influence approach. The



scorecard approach provided specific regional targets for each level of the PennDOT Business Plan Network, and suggested programming strategies required to achieve those targets. SEDA-COG expanded the regional annual performance measure reporting process to include the scorecard of influence criteria as a supplemental table.

Since 2016, the federal rule-making process for performance measures has been completed, and PennDOT and the MPOs/RPOs have collaborated to develop written provisions for the selection and reporting of performance targets for each of the performance measures required. PennDOT is required to establish statewide targets, and MPOs/RPOs have the option of supporting the statewide targets or developing their own quantifiable targets. As part of developing the statewide targets, PennDOT assesses regional targets in each planning area. If each area programs projects and completes activities that enable the regional targets to be met, the state targets are also met.

5.2.2 Addressing National Performance Measures in Plans and Programs

FHWA and FTA jointly issued a Planning Rule to document changes in the statewide and metropolitan planning processes consistent with the National Performance Measures. This rule requires State DOTs and MPOs to implement a performance-based approach to planning and programming.

Under this framework, the three FHWA Performance Measure (PM) rules and FTA transit rule established various performance measures required to monitor the performance of safety (PM1), bridges and pavements (PM2), system performance (PM3), and transit asset management (TAM). The rules also indicate how MPOs should set targets, report progress, and integrate performance management into their TIP and LRTP programs. The Planning Rule specifies how performance management and the national performance measures are to be incorporated into the MPO's TIP and LRTP, as summarized in Figure 27.

Federal performance measures address highway safety, condition, and congestion as well as the condition of transit facilities.

Figure 27. Incorporating National Performance Measures into the TIP and LRTP

Transportation Improvement Program	Long-Range Transportation Plan
<p>The TIP shall:</p> <ul style="list-style-type: none"> • Reflect the investment priorities established in the current metropolitan transportation plan. • Be designed such that once implemented, it makes progress toward achieving the performance targets established. • Include, to the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets identified in the metropolitan transportation plan, linking investment priorities to those performance targets. 	<p>The LRTP shall:</p> <ul style="list-style-type: none"> • Describe the performance measures and performance targets used in assessing the performance of the transportation system. • Include a System Performance Report that: <ul style="list-style-type: none"> – Evaluates the condition and performance of the transportation system with respect to performance targets. – Documents the progress achieved by the MPO/RPO in meeting the targets in comparison to performance recorded in past reports. • Integrate the goals, objectives, performance measures, and targets described in all the plans and processes required as part of a performance-based program.

5.2.3 Performance Management for the SEDA-COG TIP and LRTP

As part of the 2021-2024 TIP update, and continuing with this update of the LRTP, SEDA-COG continues to implement a PBPP approach to guide the development of major plans. This update includes development of a System Performance Report establishing baseline data, targets, and the performance in meeting those targets.

SEDA-COG continues to integrate performance measures into the project selection and prioritization process. For this LRTP, SEDA-COG has developed mapping to support the evaluation of “Corridors of Opportunity,” presented in Section 8.4. The approach helps prioritize projects on the region’s major transportation corridors that will help meet federal performance targets. The mapping includes information that correlates with the national performance measures including bridge and pavement conditions, traffic congestion and reliability, and traffic crashes and fatalities. In addition, other important factors addressing land use, traffic demand, and resiliency are included. SEDA-COG continues to integrate this data and other national performance measure information into the regional project selection and prioritization process.

As an implementation step to this plan, staff will review the performance reporting practices from prior updates and assess which activities to continue in the future reporting process.

5.3 Overview of National Performance Measures

This section describes the national performance measures used by SEDA-COG in assessing the performance of the transportation system. Performance measures are described in Table 24 through Table 27 for the following measure categories: Safety (PM1), Infrastructure (PM2), System Performance (PM3), and Transit.

Table 24. Safety (PM1) Performance Measures

Overview	On April 14, 2016, FHWA set the final rule for safety performance measures. This rule required state DOTs to set annual safety performance targets via the Highway Safety Improvement Program (HSIP) .
Goal	Reduce traffic fatalities and serious injuries
Federal Measures	<ol style="list-style-type: none"> 1. Number of Fatalities 2. Fatalities per 100 million vehicle miles traveled (VMT) 3. Number of serious injuries 4. Rate of serious injuries (per 100 million VMT) 5. Number of non-motorized fatalities and number of non-motorized serious injuries combined
Data Sources	Data for the fatalities are drawn from the Fatality Analysis Reporting System (FARS) and data for the serious injuries are taken from the state motor vehicle crash database. Rates are calculated using Vehicle Miles Traveled (VMT) drawn from the Highway Performance Monitoring System (HPMS).
Calculation Methods	Five-year rolling averages are used to calculate targets for each of the safety measures.
Target Setting	Pennsylvania determines statewide targets based on PennDOT's Strategic Highway Safety Plan (SHSP). The goal of the planning and programming actions taken to achieve the target is to see a steady decline in the fatalities and injuries each year. SEDA-COG supports PennDOT's statewide targets and evaluates regional trends to ensure the region is contributing to the statewide target achievement.
Reporting and Progress	Safety targets are reported in the HSIP report by August 31 of each year. Reported trends and targets can be viewed on FHWA's Transportation Performance Management (TPM) dashboard . SEDA-COG's LRTP provides a System Performance Report that summarizes PennDOT's progress to meeting targets and regional information.

Table 25. Bridge and Pavement Infrastructure (PM2) Performance Measures

Overview	On February 17, 2017, FHWA set the final rule for infrastructure performance measures . This rule required state DOTs to establish performance measures consisting of four pavement measures and two bridge measures.
Goal	Improve the National Highway System (NHS) infrastructure of interstate pavement and both Interstate and non-Interstate bridge condition.
Federal Measures	<ol style="list-style-type: none"> 1. Interstate pavement in Good condition 2. Interstate pavement in Poor condition 3. Non-Interstate NHS pavement in Good condition 4. Non-Interstate NHS pavement in Poor condition 5. NHS bridges in Good condition 6. NHS bridges in Poor condition
Data Sources	Data for the pavement measures is drawn from PennDOT's Roadway Management System (RMS) and data for the bridge measures is drawn from PennDOT's Bridge Management System (BMS).
Calculation Methods	Condition assessments as reported in the RMS and BMS are based on periodic inspections. The inspections address criteria specified in the rulemaking and National Bridge Inventory Standards.
Target Setting	PennDOT maintains a Transportation Asset Management Plan (TAMP) . Targets for PM2 Pavement/Bridge performance measures are set through the development of the TAMP, and may be adjusted at the midpoint of the reporting period. SEDA-COG supports PennDOT's statewide targets and evaluates regional trends to ensure the region is contributing to the statewide target achievement.
Reporting and Progress	Data is reported to FHWA annually in October. Reported trends and targets can be viewed on FHWA's Transportation Performance Management (TPM) dashboard . SEDA-COG's LRTP provides a System Performance Report that summarizes PennDOT's progress toward meeting targets and regional information.

Table 26. System (PM3) Performance Measures

Overview	On February 17, 2017, FHWA enacted its final rule requiring states to establish targets for six system performance measures intended to assess performance of the National Highway System (NHS), freight movement on the Interstate Highway System, and the Congestion Mitigation and Air Quality (CMAQ) Improvement Program.
Goal	Assess and improve performance of the Interstate and non-Interstate NHS; assess and improve freight movement on the Interstate Highway System; and assess and improve traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ Program.
Federal Measures	<ol style="list-style-type: none"> 1. Interstate Highway Reliable Person-Miles Traveled 2. Non-Interstate NHS Reliable Person-Miles Traveled 3. Freight Reliability Measure: Truck Travel Time Reliability (TTR) Index <p>The following PM3 measures are not applicable to the SEDA-COG region because the region attains all current air quality standards and does not receive CMAQ funding:</p> <ol style="list-style-type: none"> 4. CMAQ Traffic Congestion: Annual Hours of Peak-Hour Excessive Delay 5. CMAQ Traffic Congestion: Percent of Non-Single-Occupancy-Vehicle Travel 6. CMAQ On-Road Mobile Source Emissions: Total Emission Reductions
Data Sources	Data for the reliability measures is drawn from the Regional Integrated Transportation Information System (RITIS) software platform that houses the National Performance Management Research Data Set (NPMRDS) travel time values across all days and hours.
Calculation Methods	Reliability for the Interstate and non-Interstate reliability measures is defined as Level of Travel Time Reliability (LOTTR). LOTTR considers the travel times for each segment and identifies the 80th percentile travel time and the 50th percentile travel time. LOTTR is the ratio of the 80th percentile travel time divided by the 50th percentile time. Ratios of 1.5 or more mean that the segment is considered unreliable.
Target Setting	PennDOT has developed conservative targets for the reliability measures due to limited historical information and uncertainty related to the variances and factors influencing reliability. SEDA-COG supports PennDOT's statewide targets and evaluates regional trends to ensure the region is contributing to the statewide target achievement.
Reporting and Progress	Reliability data is reported to FHWA annually in June for the previous reporting year. Reported trends and targets can be viewed on FHWA's Transportation Performance Management (TPM) dashboard. SEDA-COG's LRTP provides a System Performance Report that summarizes PennDOT's progress to meeting targets and regional information.

Table 27. Transit Asset Management Measures

Overview	The Transit Asset Management (TAM) Final Rule and recent changes to the National Transit Database (NTD) reporting requirements require transit agencies to submit asset inventory, condition assessments, performance targets, and a narrative report annually in addition to developing a TAM plan. PennDOT has developed a TAM Group Plan covering the transit agencies in Pennsylvania. All transit agencies in the SEDA-COG region fall under this group plan.
Goal	To strengthen transit agency asset management processes and to promote financial sustainability and high-quality services.
Federal Measures	<ul style="list-style-type: none"> • Rolling Stock – Percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life benchmark. • Equipment – Percentage of non-revenue, support-service, and maintenance vehicles that have met or exceeded their useful life benchmark. • Facilities – Percentage of facilities within an asset class rate below condition 3 on the Transit Economic Requirements Model (TERM) scale. • Infrastructure – Percentage of fixed guideway track segments with performance restrictions (only applies to qualifying Tier 1 transit agencies and is not applicable in the SEDA-COG region).
Data Sources	Transit agencies use the statewide Capital Planning Tool (CPT) to provide current information on assets and the PennDOT Bureau of Public Transportation (BPT) uses this information along with anticipated funding levels to set performance targets on an individual and statewide basis.
Target Setting	PennDOT annually updates statewide performance targets based on the prior year performance of each agency and anticipated/obligated funding levels. The targets are provided in PennDOT's TAM Group Plan that is prepared in coordination with Pennsylvania's Tier 1 and Tier 2 transit agencies.
Reporting and Progress	<ul style="list-style-type: none"> • PennDOT provides asset performance reports to transit agencies by August 31 of each year that measure performance against established targets for the previous fiscal year. • Transit agencies review content for accuracy and confirm with PennDOT that information related to transportation asset performance is accurate. • Transit agencies share performance data with their respective MPO/RPO by the end of each calendar year, or earlier as decided between the partners. • New performance goals for the upcoming fiscal year are established no later than September 15 of each year and communicated to transit agencies. • Transit agencies continue regular coordination regarding the local TIP and other planning initiatives of the local planning partner.



5.4 Transportation System Performance Report

MAP-21 and the FAST Act require that the LRTP include a System Performance Report that evaluates the condition and performance of the transportation system with respect to performance targets and documents the progress achieved in meeting the targets. The report must address each of the PM1, PM2, PM3, and transit measures discussed in the previous section. The following SEDA-COG LRTP System Performance Report includes information on each of the following items:

- Current statewide targets
- Latest regional trends related to each applicable measure
- An assessment of the level of progress made toward meeting the target
- Examples of completed projects and strategies that address the performance measure

5.4.1 Safety Performance Measures

5.4.1.1 Statewide Targets

PennDOT establishes annual targets for each of the safety performance measures. In previous years, PennDOT's targets were based on a 1 percent reduction in fatalities and serious injuries, which was derived from the actions listed in the Strategic Highway Safety Plan (SHSP), crash data analysis, and the intent to support the national initiative "Toward Zero Deaths." The latest PennDOT targets for 2021 reflect a 2 percent annual fatality reduction and maintaining the level of serious injuries. The 2021 statewide targets are based on a 5-year rolling average and are provided in Table 28. PennDOT has also developed supporting target values for the SEDA-COG MPO region based on the same methodology that was used at the state level. Meeting these targets is not required by PennDOT; they are provided as a guide to support state goals.

"Supporting Values" are not a requirement but are provided by PennDOT as a guide to support the statewide targets.

The 2021 statewide targets are based on a 5-year rolling average and are provided in Table 28. PennDOT has also developed supporting target values for the SEDA-COG MPO region based on the same methodology that was used at the state level. Meeting these targets is not required by PennDOT; they are provided as a guide to support state goals.

SEDA-COG has agreed to plan and program projects in support of the established statewide targets. The MPO aims to reduce fatalities and serious injuries to the greatest extent possible through the portfolio of safety projects included in the TIP and LRTP.

Table 28. PennDOT 2021 Statewide Targets and SEDA COG Supporting Values

Performance Measure	Statewide Targets		SEDA-COG MPO Supporting Values	
	Baseline 2015-2019	Target* 2017-2021	Baseline 2015-2019	Target 2017-2021
Number of Fatalities	1,154.8	1,088.2	47.8	38.8
Fatality Rate**	1.135	1.059	1.283	1.035
Number of Serious Injuries	4,166.6	4,551.2	166.0	169.0
Serious Injury Rate	4.097	4.431	4.456	4.508
Number of Non-Motorized Fatalities and Serious Injuries	741.6	800.8	21.2	23.1

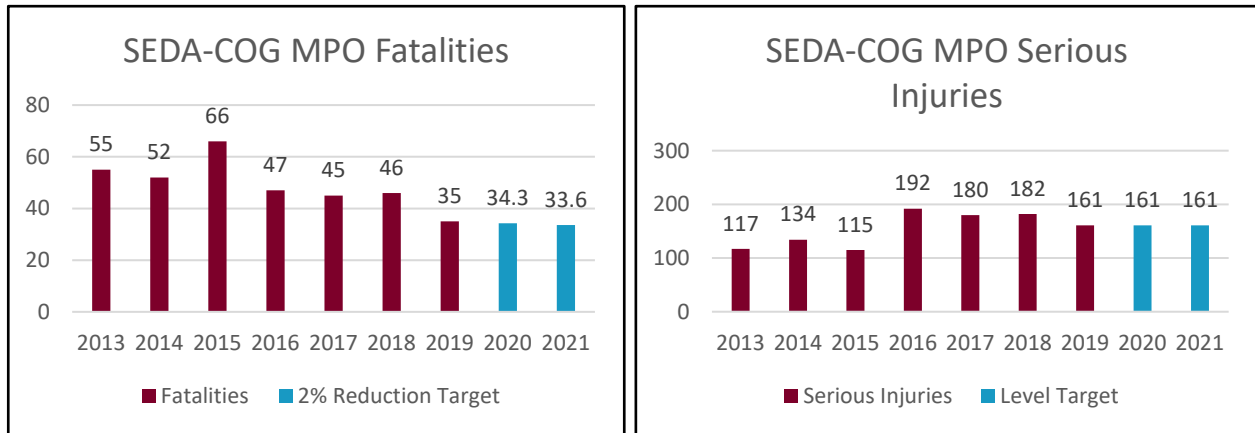
* Future VMT estimated to be 0.5 percent higher per year starting in 2020

** Rate of Fatalities per 100 million vehicle-miles traveled

5.4.1.2 Regional Trends

SEDA-COG tracks fatalities and serious injury crashes using PennDOT's Crash Reporting Tool and using regional data provided by PennDOT each year. Figure 28 displays 2013-2019 fatality and crash data and 2020 and 2021 regional targets based PennDOT's statewide goals. SEDA-COG also evaluates and identifies specific roads of safety concern through the Corridors of Opportunity mapping.

Figure 28. Fatality and Serious Injury Trends and Targets, SEDA-COG MPO Region



5.4.1.3 Assessment of Progress

Preliminary data indicates PennDOT did not meet its 2019 statewide safety performance targets and will be required to submit an implementation plan that identifies gaps; develops strategies, action steps, and best practices; and includes a financial and performance review of all HSIP-funded projects. The plan is due June 30, 2021. In addition, PennDOT will be required to obligate in Federal Fiscal Year (FFY) 2022 an amount equal to the FFY 2017 HSIP apportionment. FHWA will conduct future evaluations to determine whether PennDOT meets its 2020 and 2021 targets.

Fatalities in the SEDA-COG region have been decreasing since 2015. Serious injuries, including non-motorized injuries, have not seen a clear reduction trend. For these measures there was a slight increase in the number of injuries based on the latest 2015-2019 five-year rolling average trend data. Tracking these measures will help to estimate the effectiveness of future SEDA-COG transportation investments, as reflected in the TIP.

5.4.1.4 Projects and Strategies

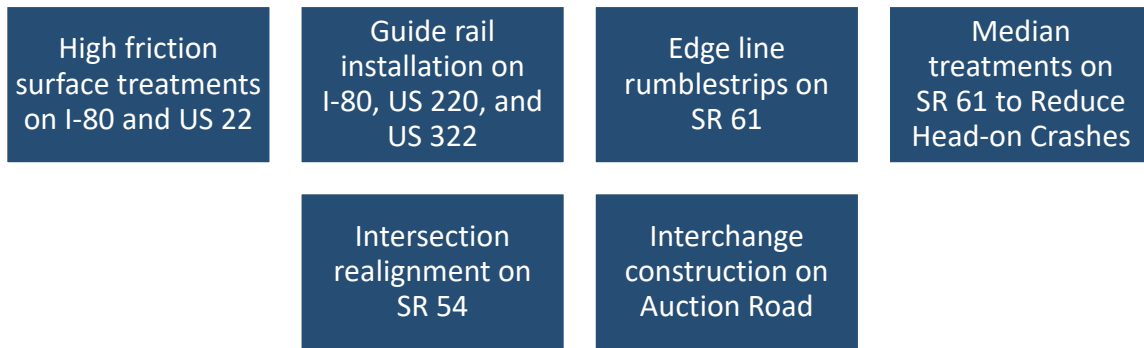
PennDOT Central Office is emphasizing systemic safety improvements that have greater probability of reducing fatalities and serious injury crashes. Systemic improvements are low-cost countermeasures such as rumble strips, curve treatments, and low-cost intersection improvements that are applied to roadways or intersections with similar characteristics, as opposed to infrastructure-related safety improvements at particular locations or intersections. That emphasis, along with the shift to data-driven decision-making, is expected to change the way that candidate safety improvement projects are identified, evaluated, and prioritized for funding on the TIP. Additional guidance will be needed from PennDOT to select safety improvements that have a greater probability of reducing fatalities and serious injury crashes.

SEDA-COG will continue to include safety as a key component of its project prioritization process. The L RTP aligns with the goals and strategies identified in PennDOT's SHSP and HSIP programs. PennDOT's

HSIP establishes a continuous and systematic process that identifies and reviews traffic safety issues throughout the state to identify locations with potential for improvement. The goal of the HSIP process is to reduce the number of crashes, injuries, and fatalities by eliminating certain predominant types of crashes through the implementation of engineering solutions. The LRTP also identifies and prioritizes other projects focused on systemic or infrastructure-related roadway safety issues, pedestrian and/or bicycle safety enhancements, and traffic operation improvements to address the region's goal to reduce fatalities and serious injuries.

Since 2015, 13 HSIP and three innovative safety projects have been constructed in the SEDA-COG region directed at improving regional safety performance. Example projects are listed in Figure 29.

Figure 29. Recently Completed SEDA-COG Safety Project Examples



5.4.2 Pavement and Bridge (PM2) Performance Measures

5.4.2.1 Statewide Targets

PennDOT has established four-year (2021) statewide targets for each of the bridge and pavement PM2 measures. In addition, two-year targets were developed for select measures as designated by the performance rulemaking. Targets for the PM2 performance measures are set in the statewide Transportation Asset Management Plan (TAMP). Table 29 summarizes the current statewide targets.

Table 29. Statewide Targets for Pavement and Bridge Performance Measures (PM2)

Measure	Baseline 2017	Two-Year Target 2019	Four-Year Target 2021
Pavement Targets			
% of Interstate pavements in Good condition	67.2%	N/A	60%
% of Interstate pavements in Poor condition	0.4%	N/A	2%
% of non-Interstate NHS pavements in Good condition	36.8%	35%	33%
% of non-Interstate NHS pavements in Poor condition	2.3%	4%	5%
Bridge Targets			
% of NHS bridges by deck area in Good condition	25.6%	25.8%	26.0%
% of NHS bridges by deck area in Poor condition	5.5%	5.6%	6.0%

In addition to the statewide targets, PM2 guidelines specify a minimum condition threshold. For



pavements, the threshold is a maximum of 5 percent NHS Interstate pavement in Poor condition. For bridges, the threshold is a maximum of 10 percent of NHS bridges by deck area in Poor condition. PennDOT has further committed to a voluntary target of having zero NHS Interstate bridges posted with weight restrictions.

The SEDA-COG MPO voted to support the statewide targets, and to plan and program projects that contribute to meeting the PM2 targets.

5.4.2.2 Regional Trends

PennDOT provides the Planning Partners annual information on the bridge and pavement conditions in their respective region. Data is currently available through the end of 2019 and is shown in Table 30. PennDOT establishes regional goals that support the statewide targets as part of the annual PennDOT performance reporting process. These regional goals are shown in the last column of the table. Regional goals are dependent on the baseline conditions; and as a result, may vary widely from the statewide targets. The SEDA-COG performance measures are based on 154 miles of Interstate, 189 miles of non-Interstate on the NHS system, and 137 total NHS bridges in the region.

Table 30. SEDA-COG Bridge and Pavement Performance Measures (PM2)

Measure	2017	2018	2019	Regional Goal
% of Interstate pavements in Good condition	92.14%	90.62%	93.80%	84%
% of Interstate pavements in Poor condition	0.00%	0.01%	0.01%	1%
% of non-Interstate NHS pavements in Good condition	60.34%	57.05%	51.34%	46%
% of non-Interstate NHS pavements in Poor condition	0.51%	0.41%	0.68%	1%
% of NHS bridges by deck area in Good condition	43.34%	43.95%	44.00%	----
% of NHS bridges by deck area in Poor condition	0.90%	0.61%	0.61%	2.75%

5.4.2.3 Assessment of Progress

As of the mid-performance period (2019) of the four-year performance period through 2021, PennDOT had met the statewide two-year targets for all pavement and bridge condition performance measures. The SEDA-COG region has remained generally consistent for Interstate pavement condition between 2017 and 2019. Over that period, non-Interstate NHS pavement conditions have worsened slightly, but still remain within the specified regional goals established by PennDOT. Bridge conditions within the SEDA-COG region have improved with reductions in Poor-condition deck area.

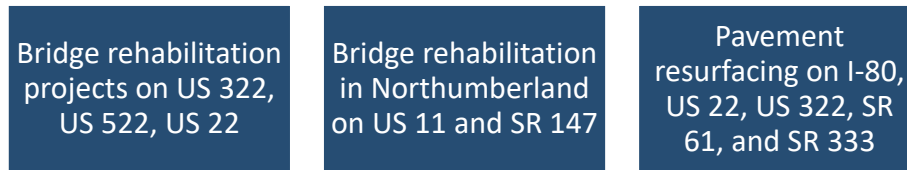
SEDA-COG continues to monitor the locations of Poor bridges and pavement. These locations have been mapped using the Corridors of Opportunity mapping tools established for this LRTP. The data is used to evaluate future investment needs and is evaluated with environmental justice data to ensure both the benefits and burdens of the transportation system are shared fairly across all populations in the region.

5.4.2.4 Projects and Strategies

The SEDA-COG LRTP aims to address system preservation, identify infrastructure needs within the metropolitan area, and provide funding for targeted improvements. The LRTP coordinates closely with

the priorities and goals established in PennDOT’s TAMP and the transition to the lowest-life cycle cost approach to project investment. Through the 2015 and 2017 regional TIPs, the region has focused on completing bridge and pavement condition improvement projects that support meeting the established statewide targets. Figure 30 highlights some of these recently completed projects.

Figure 30. SEDA-COG Bridge and Pavement Condition Project Examples



5.4.3 System Performance Reliability Measures (PM3)

5.4.3.1 Statewide Targets

PennDOT has established four-year (2021) statewide targets for each of the PM3 measures. In addition, two-year targets were developed for select measures as designated by the performance rulemaking. PennDOT has set conservative targets due to the limited historical information available and uncertainty related to the variables influencing the PM3 measures. Only the reliability measures are applicable to the SEDA-COG region and are included within this LRTP. Reliability in this context means the predictability of travel time.

The Mid Performance Period Progress Report (as submitted by PennDOT in October 2020) offered an opportunity for PennDOT and its Planning Partners to review and adjust the four-year targets for each of the PM3 performance measures. Adjustments were made to the Interstate reliability and truck travel time index targets to reflect the impacts of construction activities due to Interstate improvement projects. Table 31 summarizes the updated statewide targets for the PM3 reliability measures. The SEDA-COG MPO voted to support the updated statewide targets for the PM3 measures applicable to the region.

Table 31. Statewide Baseline and Target Values for PM3 Measures

Measure	2017 Statewide Baseline	2019 Two-Year Statewide Target	2021 Four-Year Statewide Target
Interstate Reliability	89.8%	89.8%	89.5%
Non-Interstate NHS Reliability	87.4%	N/A	87.4%
Truck Reliability Index	1.34	1.34	1.40

5.4.3.2 Regional Trends

SEDA-COG tracks regional reliability measures using travel time data from the National Performance Management Research Data Set (NPMRDS). SEDA-COG also evaluates and identifies specific roads with high levels of congestion or excessive reliability issues through the Corridors of Opportunity mapping. This may include roadways for which the federal measures do not apply. Table 32 summarizes the regional trends for the national reliability and truck index measures.

Table 32. SEDA-COG MPO Region Reliability Trends

Measure	2017 Baseline	2018	2019	2020
Interstate Reliability	100%	100%	100%	100%
Non-Interstate NHS Reliability	95.7%	96.4%	96.2%	97.5%
Truck Travel Time Reliability Index	1.11	1.11	1.12	1.11

Note: For Interstate and non-Interstate NHS reliability, the higher the percentage, the better the reliability. For the truck travel time index, the lower the value, the higher the reliability.

5.4.3.3 Assessment of Progress

PennDOT's primary goal in developing the statewide targets was to maintain baseline reliability throughout the performance period. Therefore, SEDA-COG periodically evaluates its regional measures to determine whether the region has maintained consistent reliability over the four-year performance period. The trends provided above indicate that roadways in the SEDA-COG region have maintained or improved reliability since 2017.

Through analysis conducted as part of the LRTP update process, SEDA-COG continues to monitor the specific causes and locations of traffic congestion within the region. The national measures are impacted by construction activities; as such, they must be interpreted carefully. Also, it typically takes several years before TIP investments in roadway improvements are reflected in reliability data. Recent trends have also been impacted by COVID. Reduced travel has improved performance measures in 2020 and early 2021. The longer-term impacts on system reliability are not known but reliability can be expected to decrease as traffic volumes increase. SEDA-COG has identified some key congestion locations that most likely play a role in the non-Interstate NHS reliability numbers for the region. These include:

- SR 54 in Danville,
- US11/15 in Shamokin Dam,
- US11/PA 147 intersection in Northumberland,
- US 15 in Lewisburg,
- PA 487 in Bloomsburg, and
- PA 254 in Milton.

Data indicates that reliability of roadways in the SEDA-COG region has remained steady or improved since 2017.

Highway improvement projects can negatively impact reliability statistics in the short term due to construction-related traffic delays.

5.4.3.4 Projects and Strategies

Recent transportation investments have aimed to improve system reliability within the region. Since 2017, completed projects have included the installation of incident response infrastructure including closed circuit television cameras (CCTV), digital message signs (DMS) and highway advisory radio (HAR) along US 322 and I-80. Interconnected and adaptive traffic signal systems have been recently implemented in Lewistown and along US 15 in areas where there are higher levels of congestion. These projects have



contributed to the SEDA-COG region maintaining or improving system reliability.

However, transportation investments may contribute negatively to system reliability in the short term. Construction activity related to our bridge, pavement, and safety projects since 2017 is reflected in the performance data. The benefits and corrections for these activities may be seen in future performance measures. SEDA-COG will continue to track and monitor the reliability measures. PennDOT is working with SEDA-COG and the other state Planning Partners to provide enhanced data sources to better identify the impacts of our investments on each of the measures.

5.4.4 Transit Asset Management Measures

5.4.4.1 Statewide Targets

The transit asset management rule established two tiers for transit agencies receiving federal funds. The groups are based on the level of federal funds received, agency size, and mode, with larger agencies designated as Tier I and smaller agencies forming Tier II. The majority of providers within the SEDA-COG region, including Call-A-Ride Service, LATS, and STEP fall into Tier II, with rabbittransit attaining Tier I status. The rule also requires states to participate in a group plan for Tier II agencies receiving Section 5310 and Section 5311 funds, and allows other Tier II agencies to participate in the plan. The three Tier II providers in the SEDA-COG MPO region participate in the group plan.

PennDOT's group plan established statewide transit asset management performance targets. Table 33 provides the statewide targets from the latest group plan version updated in September 2020.

Table 33. Statewide Targets for Transit Performance Measures

Asset Class	FY 2019-20 Target	Current Performance	FY 2020-21 Target
Rolling Stock (Revenue Vehicles) met or exceeded Expected Service Life			
Automobile	38%	16%	16%
Over-the-Road Bus	12%	12%	12%
Bus	28%	29%	29%
Cutaway	39%	42%	42%
Van	63%	64%	64%
Sport Utility Vehicle	33%	17%	17%
Non-Revenue-Generating Equipment met or exceeded Expected Service Life			
Automobile	45%	46%	46%
Trucks and other Rubber-Tire Vehicles	50%	50%	50%
Facilities with a rating of 3 or below on TERM scale			
Administrative / Maintenance Facilities	39%	30%	30%
Passenger / Parking Facilities	66%	83%	83%

MPOs are required to establish performance targets 180 days after PennDOT establishes the statewide performance targets. The SEDA-COG MPO voted to support the statewide targets, and to plan and program projects that contribute to meeting the transit asset management targets.



5.4.4.2 Regional Data and Assessment of Progress

An assessment of trends for transit agencies in the SEDA-COG region was conducted using the Pennsylvania Transit Asset Management Group Plan for Fiscal Year 2018-19 through 2022-23. The agencies are on track to meet the FY 2020-21 performance targets.

5.4.4.3 Projects and Strategies

Recent transit projects have included the purchase of small transit buses and other vehicles for shared-ride providers, purchase of computers and furnishings for administrative facilities for shared-ride providers, and the purchase of three buses for the LATS system in 2019.

5.4.4.4 Public Transportation Agency Safety Plans

Through the Public Transportation Agency Safety Plan (PTASP) regulation (49 C.F.R Part 673), FTA requires transit agencies to implement a Safety Management System (SMS) to manage safety risk, which can help agencies maintain or improve their safety performance. As noted, the majority of the transit providers within the SEDA-COG region are Tier II providers receiving Section 5310 and Section 5311 funds, and they are not subject to the PTASP regulation. rabbittransit is a Tier 1 provider, and receives Section 5307 funds for some of its operations, but not for the operations within the SEDA-COG region. On this basis, it is expected that the transit providers with the MPO region will not be subject to the PTASP regulation, and will not complete Agency Safety Plans or set safety performance targets for operations in the MPO region. MPO staff will monitor this issue, and if future guidance from FTA indicates that the plans should be completed, the MPO will move to reference the plans in future TIP and LRTP updates, and will consider action necessary to support the targets established therein.

5.5 Other Performance-Based Planning Concerns

The infrastructure condition in the SEDA-COG MPO region has generally been improving since the 2016 plan update and performance targets are being met, as will be discussed in later chapters. The following section provides a snapshot of infrastructure condition through the end of 2019. Although more detailed discussion of how current conditions reflect compliance with performance measures criteria follows in a later chapter, for quick comparisons in this chapter data are provided for 2015 and 2019 when available.

5.5.1 Safety

5.5.1.1 Fatalities

The PM1, PM2, and PM3 performance measures are evaluated on a statewide basis. The targets established for the SEDA-COG MPO region are likewise evaluated on a regional basis. To provide some perspective on how those measures are distributed across the individual counties within the SEDA-COG Region, fatalities for the period from 2014-2018 are summarized in Table 34. While there is a wide variation across the counties, the distribution of fatalities appears to roughly reflect the variation in daily miles traveled and across the region.

Table 34. Fatalities by County, 2014-2018

County	Total Fatalities	Pedestrian & Bicyclist Fatalities
Clinton	37	4
Columbia	47	1
Juniata	27	2
Mifflin	21	4
Montour	18	0
Northumberland	52	7
Snyder	29	1
Union	25	1
TOTAL	256	21
Per Year	51.2	4.2

Source: Pennsylvania Crash Facts and Statistics Books, 2014-2018, and PennDOT, Pennsylvania Crash Information Tool, Fatality Statistics Report, <https://crashinfo.penndot.gov/PCIT/welcome.html>

5.5.1.2 Suspected Serious Injuries

Starting in 2016 the terminology “Suspected Serious Injury” was adopted by PennDOT to meet recently updated federal and PennDOT requirements. (Agencies must use the definition for “Suspected Serious Injury (A)” from the Model Minimum Uniform Crash Criteria (MMUCC), 4th edition.) PennDOT has noted that this change in reporting definition has resulted in approximately 1,000 more suspected serious injuries than past years’ data, which previously used the classification of “major injuries.” As a result, the targets for serious injuries and serious injury rate appear to be increasing statewide through 2020 even though the 2 percent annual reduction target is in effect.

As shown in Table 35, 803 total suspected serious injuries occurred during the 2014-2018 time period, with 103 of those being pedestrian or bicyclist serious injuries. Yearly suspected serious injuries totals and targets from 2013-2021 and overlapping five-year rolling averages of suspected serious injuries between 2011 and 2018 are shown in Figure 28, above. The trend of these averages reflects the changes in terminology and classification as described above.

Table 35. Suspected Serious Injuries by County, 2014-2018

County	Total Suspected Serious Injuries	Pedestrian & Bicyclist Serious Injuries
Clinton	99	5
Columbia	169	17
Juniata	63	8
Mifflin	100	16
Montour	40	2
Northumberland	182	31
Snyder	82	13
Union	68	11
TOTAL	803	103
Per Year	160.6	20.6

Source: PennDOT, Pennsylvania Crash Information Tool, Reportable Crash Suspected Serious Injury Statistics Report, Accessed 4-13-2020.

<https://crashinfo.penndot.gov/PCIT/welcome.html>

5.5.1.3 Non-Motorized Crashes (Plain Sect/Amish/Old Order Mennonite)

As described in an earlier section, the SEDA-COG MPO region is home to a significant population of Plain Sect groups—Amish and Old Order Mennonites. As VMT increases in the future, safety concerns can be expected to grow, with increased horse-and-buggy and bicycle and scooter crashes. As noted in the 2016 LRTP update, Plain Sect crash-prone areas deserve heightened attention in the project development process—especially for safety improvements. Issues specific to Plain Sect safety concerns include rumble strips, shoulder width, limited sight distances, speed limit concerns, dusk/dawn light conditions, and other elements that are often difficult to effectively address with existing infrastructure.

Table 36 shows the total number of crashes involving horse-and-buggy combinations across the region from 2015-2019.

Table 36. Horse and Buggy Crashes with Motorized Vehicles, 2015-2019

County	2015	2016	2017	2018	2019	Total
Clinton	3	1	2	2	1	9
Columbia	2	2	0	0	0	4
Juniata	0	0	0	3	2	5
Mifflin	1	3	3	2	4	13
Montour	0	1	1	0	1	3
Northumberland	1	0	0	0	0	1
Snyder	1	0	0	2	0	3
Union	3	0	0	2	0	5
Total						43

Source: PennDOT PCIT, 2015-2019

This plan recommends increased attention to highway and bridge design for the safe accommodation of horse-and-buggy travel, including mitigation of existing crash issues in the corridors where crash trends are noted. Further study should be undertaken to identify the roadways and pathways most frequently used by Plain Sect residents, and key locations of conflict (intersections, bridges). Sensitivity to the potential negative impacts of edgeline rumble strips and/or the need for adequate shoulder widths will be prioritized for improvements. As a preliminary step in identifying areas frequented by horse-and-buggy travelers, Table 37 lists corridors where more than one crash involving a horse and buggy combination occurred between 2015 and 2019.

This plan recommends increased attention to highway and bridge design for the safe accommodation of horse-and-buggy travel.



**Table 37. Corridors with Concentrations of Horse-and-Buggy Crashes, 2015-2019**

County	Municipalities	Roadway	Crashes
Clinton	Greene Township	SR 0477	2
Columbia	Greenwood & Madison Township	SR 0254	2
Juniata	Walker Township	SR 3002	2
Mifflin	Armagh Township	T-818 Siglerville Pike	3
Mifflin	Menno, Union, Brown Townships	SR 0655	6
Mifflin	Brown & Union Townships	SR 4006	2
Montour	Anthony Township	SR 0044	3
Union	Union Township	SR 2002	2

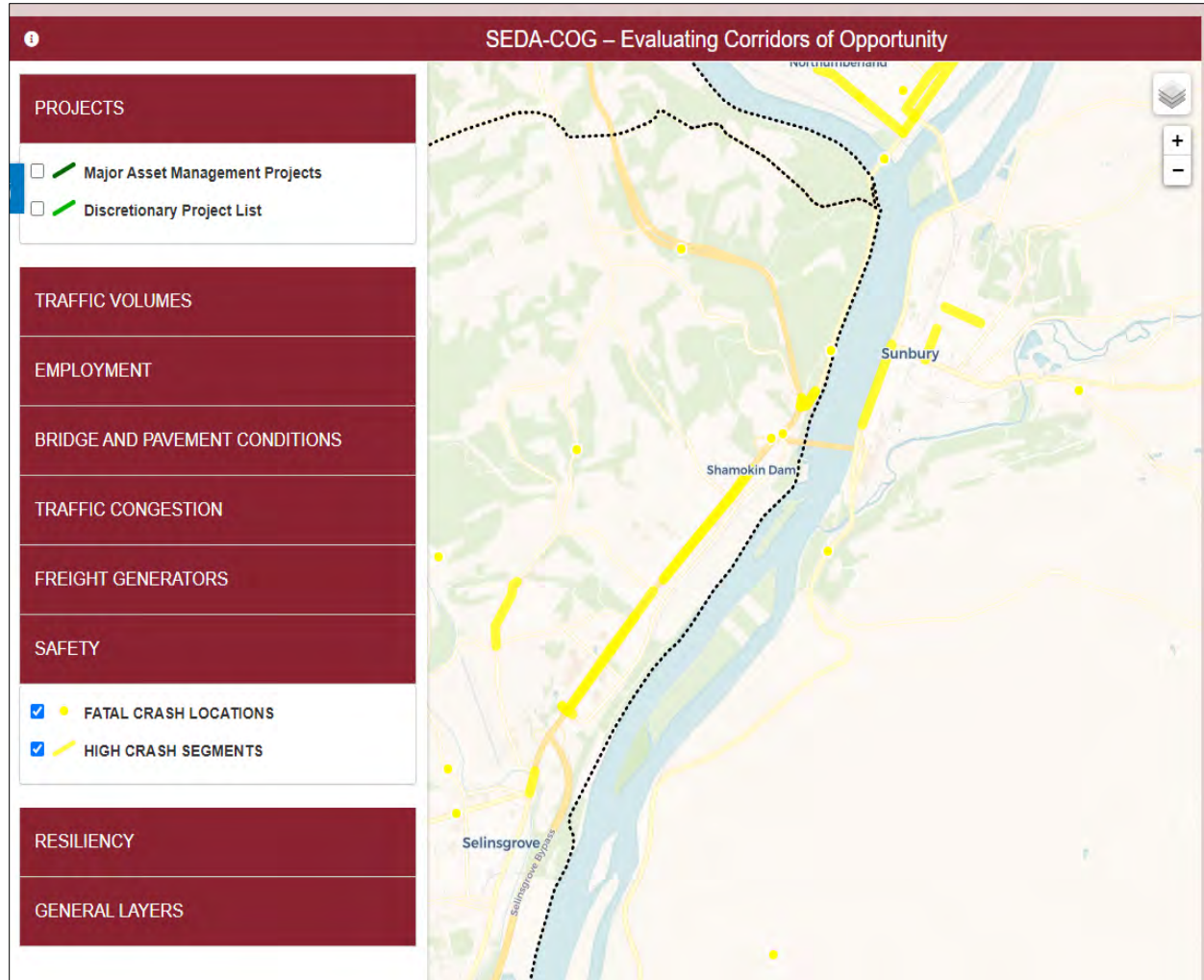
Source: PennDOT PCIT, 2015-2019

5.5.2 Corridors of Opportunity Approach

For this LRTP update, SEDA-COG downloaded crash data for the period from 2013-2019, available through the Pennsylvania Crash Information Tool (PCIT), and included the data in the mapping for the Corridors of Opportunity approach. To provide insight into potential safety issues on specific corridors, locations of fatal crashes were mapped, and the 150 segments across the region containing the highest number of crashes were identified as “high-crash segments.”

Selected high-crash segments were included in the February 2021 online public survey, and respondents were asked to indicate which of the corridors they considered to have the greatest safety concerns. US 15 in Lewisburg, the intersection of US 11 (Walnut Street) and PA 54 in Danville, and US 11/15 from Mall Drive to Mill Road in Shamokin Dam were selected as the corridors of highest concern.

Figure 31. Corridors of Opportunity – Safety



5.5.3 Bridges of Special Concern

Figure 32 through Figure 36 map numerous bridges of special concern in the SEDA-COG MPO region. These maps identify and illustrate the following:

- Large bridges, including:
 - Bridges longer than 500 feet
 - Bridges longer than 1,000 feet

Large bridges are identified because of their high value, both in terms of the connectivity they provide and the costs associated with repair and replacement. These bridges also tend to be more exposed to extreme weather events. Unexpected damage or loss to one or more of these structures would have serious impacts for the MPO's transportation improvement program (TIP).

- Weight-restricted (posted) state and local bridges

These bridges are generally older than state-owned bridges and have limitations on the amount

of weight they can carry, whether due to their design or progressive deterioration of the structure. Many of these bridges are barely rated above Poor condition and may be inspected more often to affirm their integrity.

- Poor condition state and local bridges

Local bridges are generally older than state-owned bridges and have additional limitations on the amount of weight they can carry. Some are closed and others may be closed immediately if an inspection deems it necessary. These bridges are most in need of rehabilitation or replacement.

- Covered bridges

The SEDA-COG MPO region features several covered bridges. Most are considered historic and receive special protection from modification or replacement.

- Closed bridges and bridge bundles to be removed

The SEDA-COG MPO received a 2017-2020 TIP allocation for removing five bridges. The bridges were either closed previously or carried very low traffic volume and have the owner's endorsement for removal. Work on removing these bridges has included preliminary design and coordination with the bridge owners and owners of adjoining parcels. The projects are expected to be completed during the 2021-2024 TIP.



Figure 32. Bridges of Special Concern: Clinton County

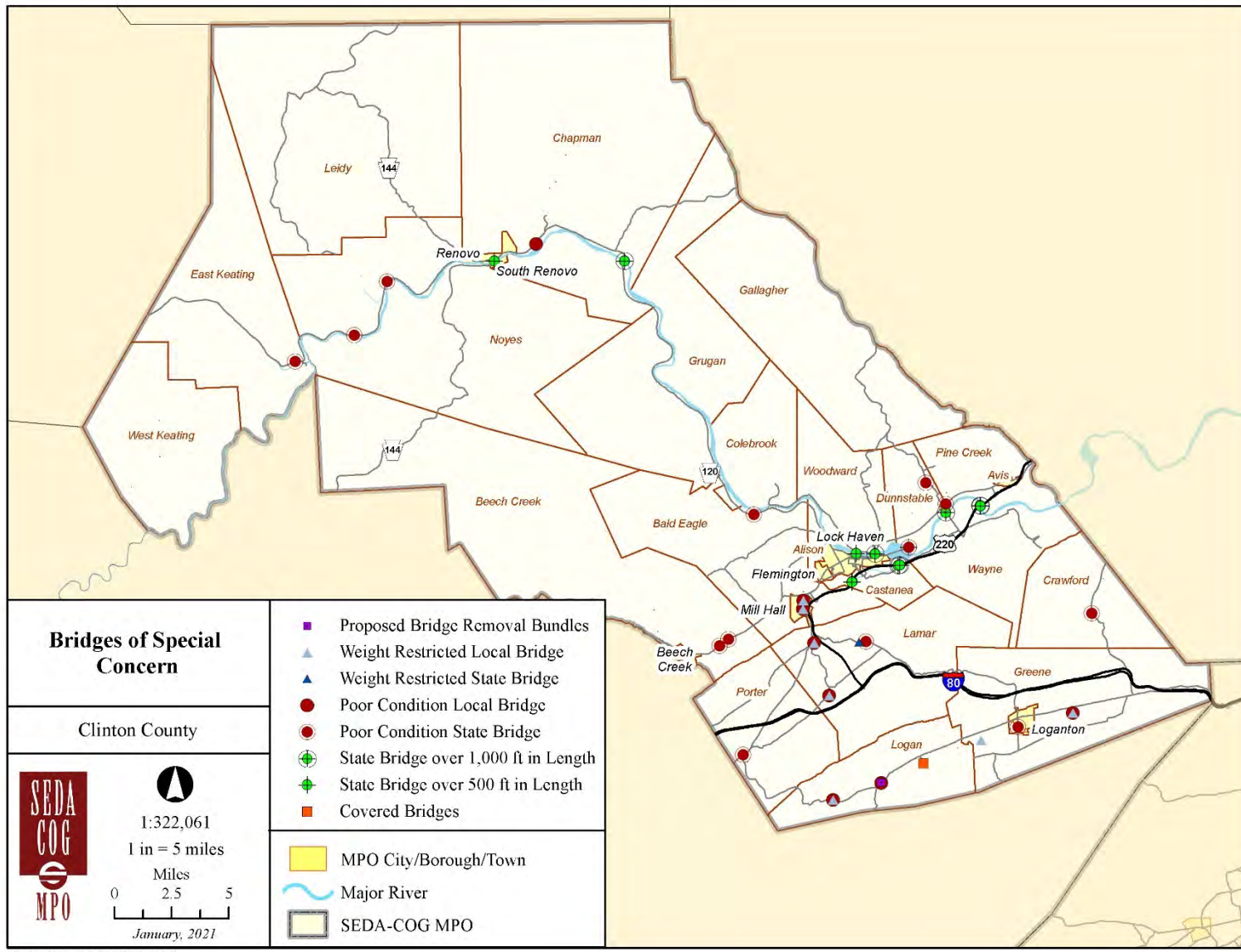
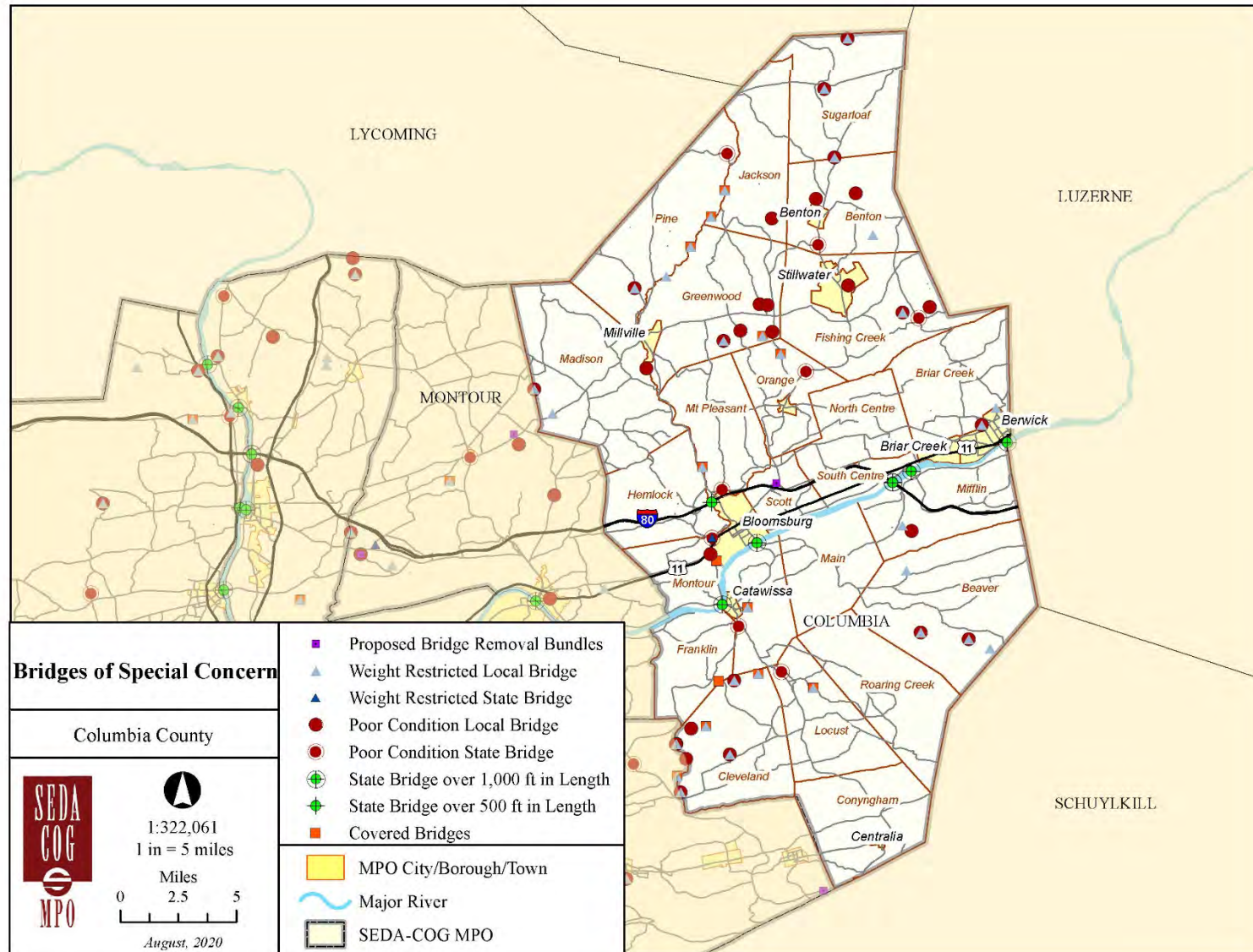
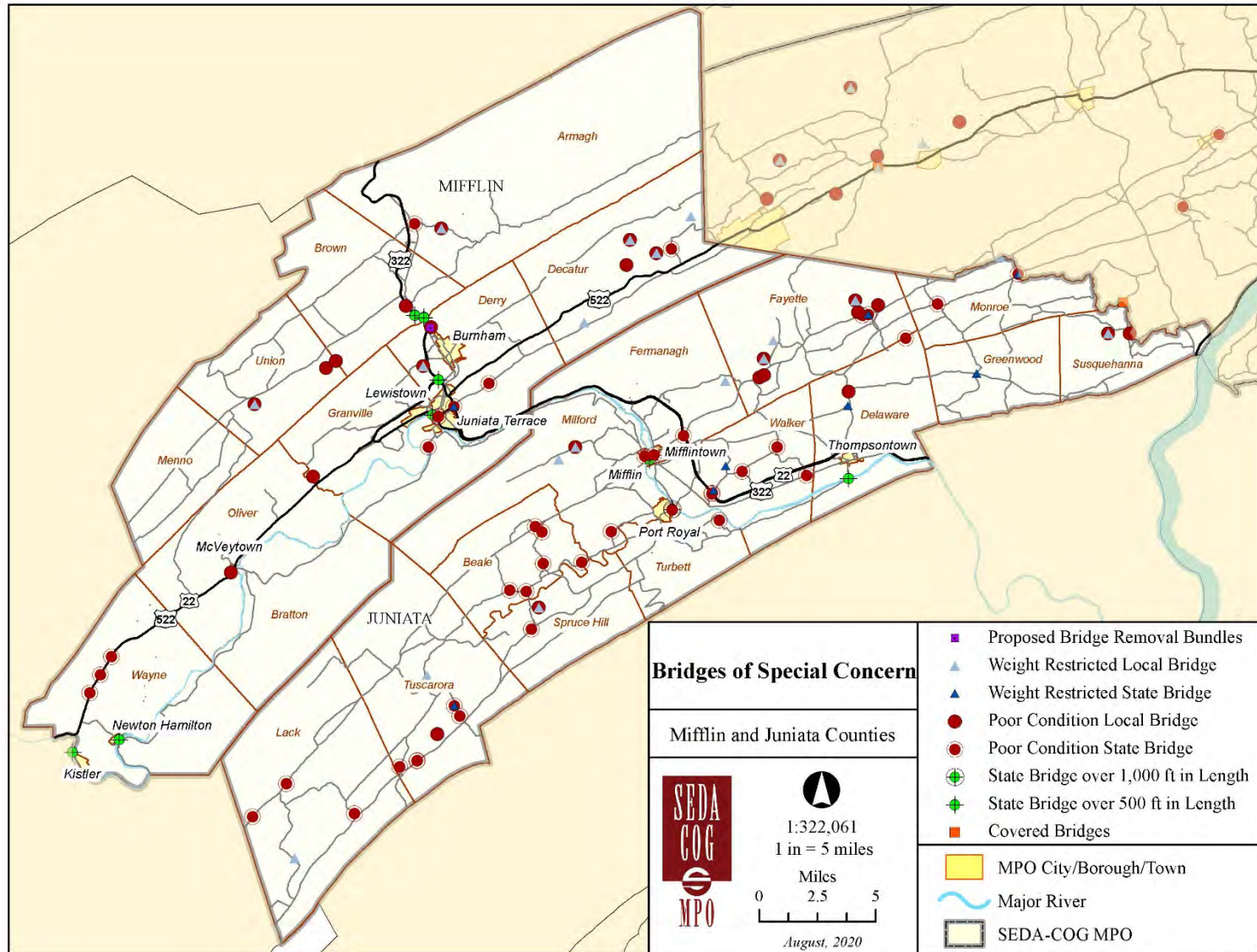


Figure 33. Bridges of Special Concern: Columbia County



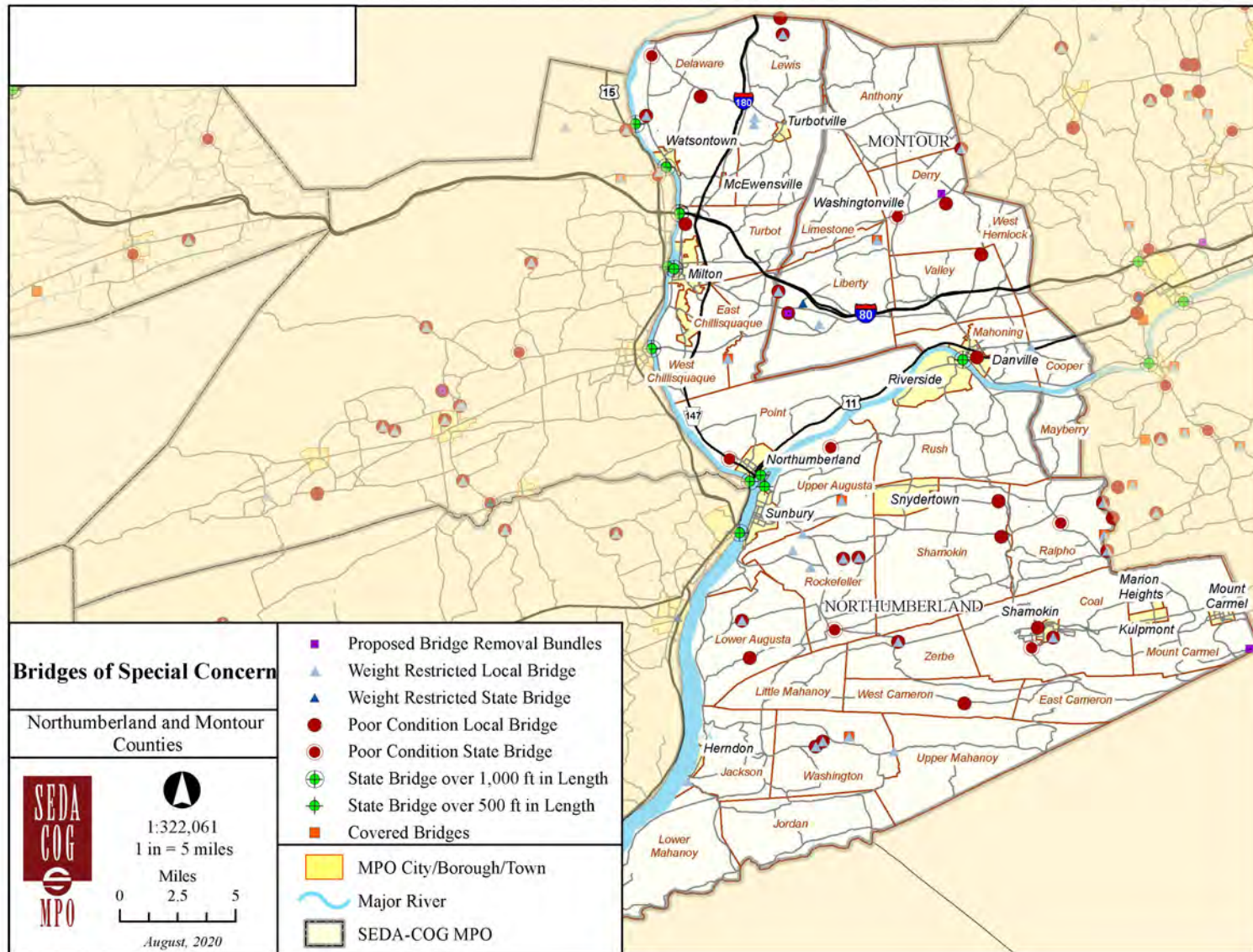
Data: PennDOT, SEDA-COG

Figure 34. Bridges of Special Concern: Juniata and Mifflin Counties



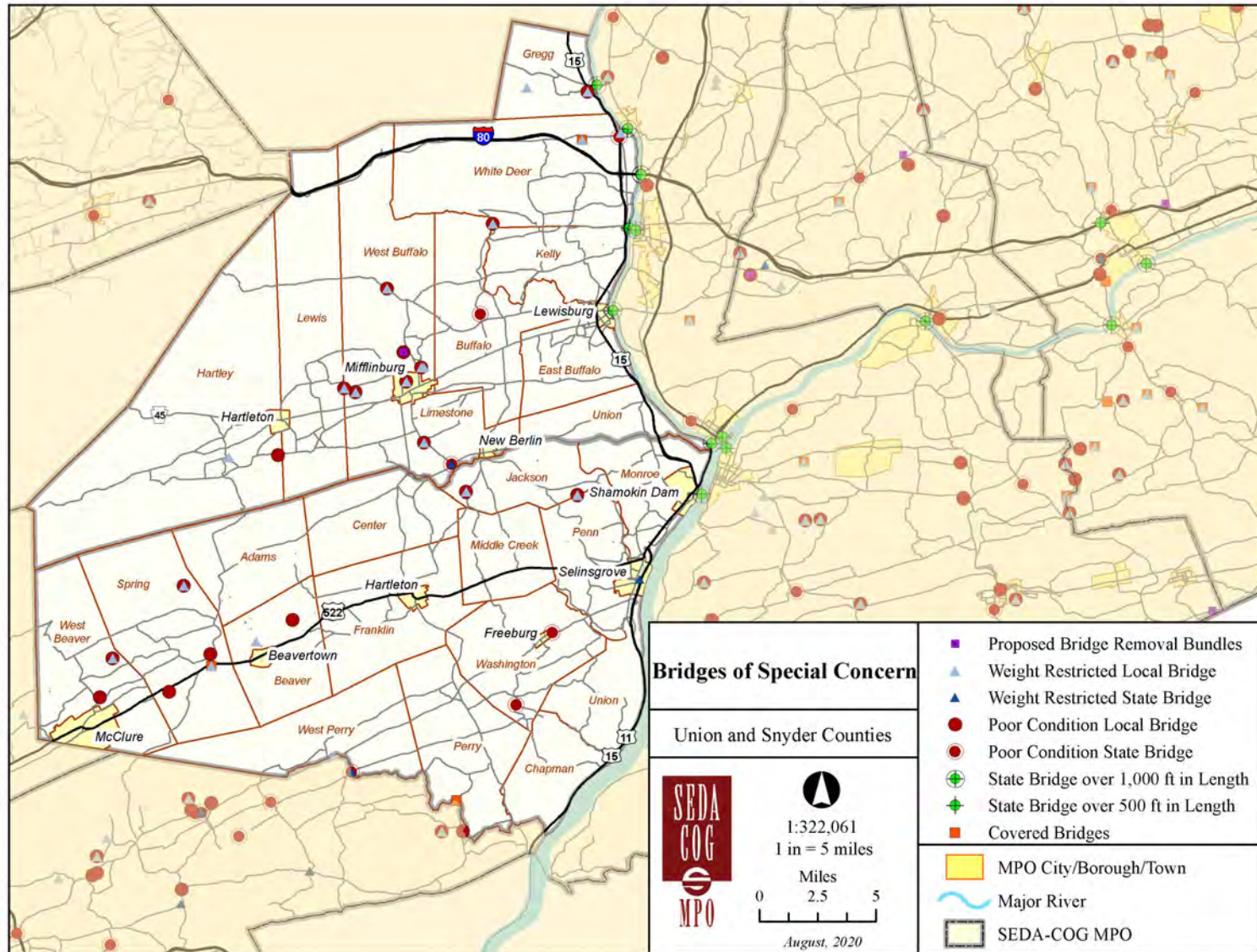
Data: PennDOT, SEDA-COG

Figure 35. Bridges of Special Concern: Northumberland and Montour Counties



Data: PennDOT, SEDA-COG

Figure 36. Bridges of Special Concern: Snyder and Union Counties



Data: PennDOT, SEDA-COG



5.5.4 State Bridges

The current TPM approach focuses on the bridges included in the NHS, as required by federal law. Within the SEDA-COG region, NHS bridges make up about 21 percent of the total bridges by count and about 50 percent of the bridge deck area. While the NHS bridges account for the majority of the daily vehicle miles traveled and major river crossings, the remaining state-and-local-owned bridges serve as important connections, linking businesses, agricultural producers, and residents with services, markets, and jobs.

PennDOT has sustained its target-setting process for the condition of facilities not included in the NHS. PennDOT District staff consider projects at all levels of the network as part of the project development process for the TIP and TYP update cycle, and performance statistics for the non-NHS network are included in the annual performance measure reporting process.

Table 38 and Table 39 as well as Figure 37 and Figure 38 show for the years 2015 and 2020 the number of bridges on state routes greater than eight feet in length within each of the SEDA-COG MPO counties. As shown, there has been a significant reduction (improvement) since 2015 in both the number of Poor condition bridges and the amount of deck area in Poor condition.

Table 38. Status of Bridges on the State Route System by County, 2020

County	Total Count	Total Deck Area (msf)*	Closed Bridges	Posted Bridges	Poor Count	% Poor by Count	Poor Deck Area (msf)*	% Poor by Deck Area
Clinton	249	1.3688	0	2	13	5.2%	0.0287	2.0%
Columbia	304	1.1720	0	1	8 32	2.6%	0.0271	0.5%
Juniata	253	0.5965	0	7	29	11.5%	0.0342	4.3%
Mifflin	183	0.8517	0	2	10	5.5%	0.0151	2.3%
Montour	134	0.3291	0	1	1	0.7%	0.0033	1.0%
Northumberland	342	1.4762	0	0	7	2.0%	0.0038	0.3%
Snyder	241	0.4699	0	1	2	0.8%	0.0013	0.3%
Union	198	0.4257	0	1	3	1.5%	0.0095	2.6%
SEDA-COG MPO	1,904	6.6899	0	15	73	3.8%	0.1230	1.9%

Source: State Bridge Reports, Report A1-STATE_PUBLIC, PennDOT, 3/31/2020

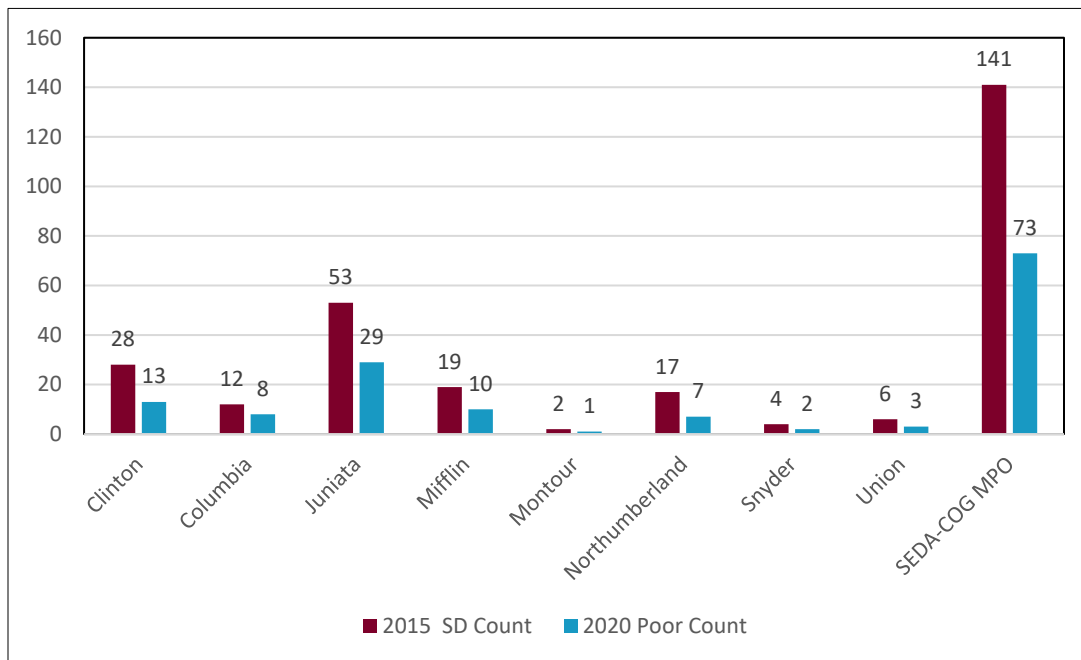
* msf = million square feet

Table 39. Poor-Condition Bridges on the State Route System by County, 2015 and 2020

County	2015 Total Count	2020 Total Count	2015 SD* Count	2020 Poor Count	2015 % SD by Deck Area	2020 % Poor by Deck Area
Clinton	249	248	28	13	4.6%	2.0%
Columbia	304	304	12	8	0.9%	0.5%
Juniata	253	249	53	29	11.4%	4.3%
Mifflin	183	182	19	10	3.9%	2.3%
Montour	134	134	2	1	0.8%	1.0%
Northumberland	342	342	17	7	0.8%	0.3%
Snyder	241	241	4	2	2.2%	0.3%
Union	198	198	6	3	3.5%	2.6%
SEDA-COG MPO	1,904	1,904	141	73	3.2%	1.9%

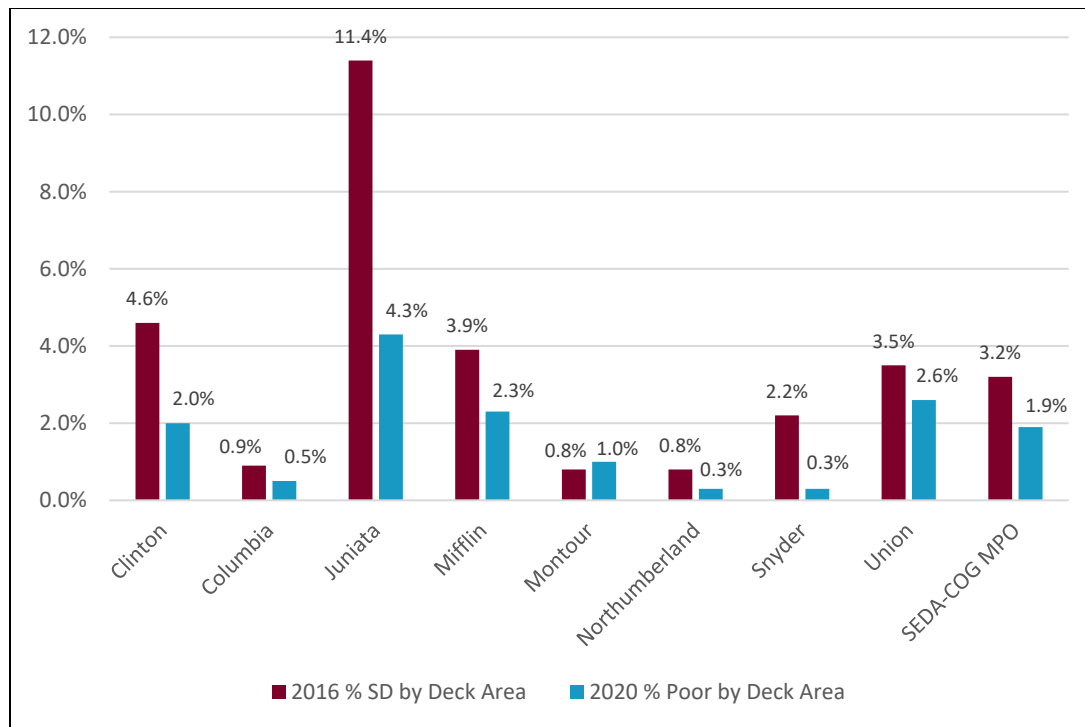
*SD = structurally deficient¹⁸

Figure 37. Number of Poor-Condition Bridges on State Route System, 2015 and 2020



¹⁸ In 2017, the Pavement and Bridge Condition Performance Measures final rule recommended a change in assessing bridge conditions. After this point, bridges are considered to be in Poor condition if a major component (Deck, Superstructure, Substructure, or Culvert) is rated condition 4 or worse. Prior to this point, bridges were considered structurally deficient if the same major components were rated 4 or worse, or if the Structural Evaluation or Waterway Adequacy were rated 2 or less.

Figure 38. Percentage of Poor-Condition Deck Area of Bridges on State Route System, 2015 and 2020

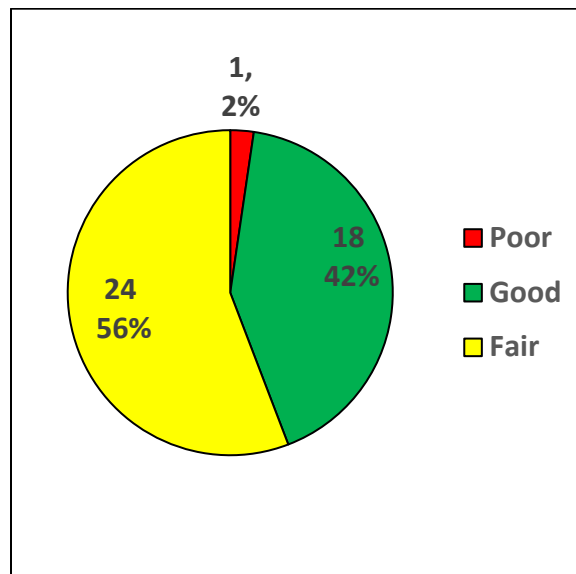


Bridges more than 500 feet long (all state-owned) merit special attention in this LRTP. A significant number (58 percent) of these 43 bridges in the MPO counties are currently rated as in either “Fair” or “Poor” condition (see Table 40 and Figure 39). Planning extensively and in a holistic manner now for their rehabilitation is critical to being able to finance the work successfully and in an appropriate timeframe. These bridges will require multi-year, multi-million-dollar investments that will comprise the core of new projects for the next several years. Identifying and including them as high-priority projects in the LRTP will make sequencing them into the TIP easier.

More than half of the region's major bridges will require rehabilitation in coming years. Planning for these multi-million-dollar investments well in advance is critical.

Table 40. Number of Poor and Fair State-Owned Bridges 500 Feet or Longer by County, 2020

County	Total Count	Poor and Fair by Count
Clinton	12	10
Columbia	8	1
Juniata	3	2
Mifflin	8	6
Montour	1	0
Northumberland	11	6
Snyder	0	0
Union	0	0
SEDA-COG MPO	43	25

Figure 39. Condition Rating of State-Owned Bridges 500 Feet or Longer, 2020


5.5.5 Local Bridges

Table 41 and Table 42 as well as Figure 40 and Figure 41 show the number of county- and municipal-owned bridges greater than 20 feet in length within each of the SEDA-COG MPO counties, in 2015 and 2020. Included in these tables are the total number of closed and posted bridges as well as the number of bridges with “Poor” ratings. As shown, both the number of Poor-condition bridges and the amount of deck area in Poor condition has been reduced (improved) significantly since 2015.



Table 41. Status of Local Bridges 20 Feet or Longer by County, 2020

County	Total Count	Total Deck Area (msf)*	Closed Bridges	Posted Bridges	Poor Count	% Poor by Count	Poor Deck Area (msf)*	% Poor by Deck Area
Clinton	19	0.0332	1	7	8	42.1%	0.0228	68.7%
Columbia	77	0.1068	2	28	25	32.5%	0.0301	28.2%
Juniata	36	0.0292	0	10	12	33.3%	0.0088	32.5%
Mifflin	53	0.0761	1	7	12	21.2%	0.0161	22.2%
Montour	24	0.0293	2	4	5	34.7%	0.0042	14.3%
Northumberland	87	0.1157	4	23	22	25.3%	0.0212	18.4%
Snyder	32	0.0407	1	7	8	25.0%	0.0104	25.5%
Union	39	0.0574	2	13	10	25.6%	0.0113	19.7%
SEDA-COG MPO	367	0.4884	13	99	102	27.8%	0.1249	25.9%

Source: State Bridge Reports, Report B1-LOCAL_PUBLIC, PennDOT, 3/31/2020

*msf = million square feet

Table 42. Poor-Condition Local Bridges 20 Feet or Longer by County, 2015 and 2020

County	2015 Total Count	2020 Total Count	2015 SD Count	2020 Poor Count	2015 % SD by Deck Area	2020 % Poor by Deck Area
Clinton	20	19	12	8	80.7%	68.7%
Columbia	89	77	37	25	36.1%	28.2%
Juniata	36	36	15	12	39.9%	32.5%
Mifflin	50	53	12	12	21.0%	22.2%
Montour	27	24	9	5	34.7%	14.3%
Northumberland	92	87	16	22	15.6%	18.4%
Snyder	33	32	8	8	16.3%	25.5%
Union	42	39	11	10	23.3%	19.7%
SEDA-COG MPO	389	367	120	102	29.0%	25.9%

Figure 40. Number of Poor-Condition Local Bridges 20 Feet or Longer by County, 2015 and 2020

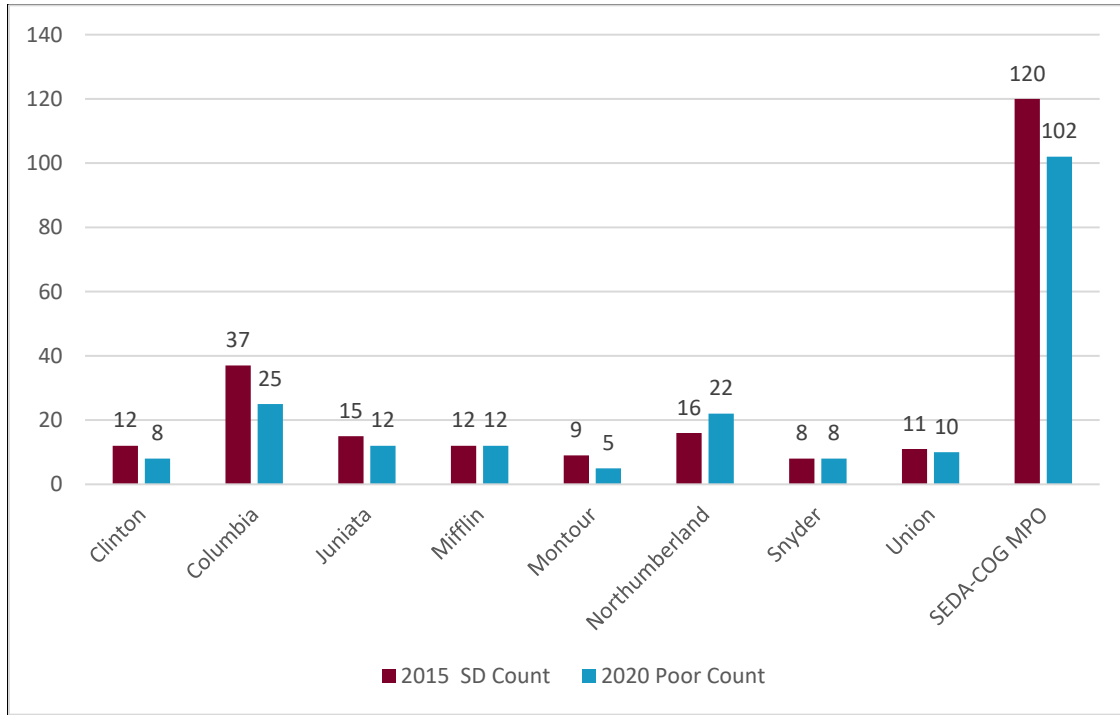
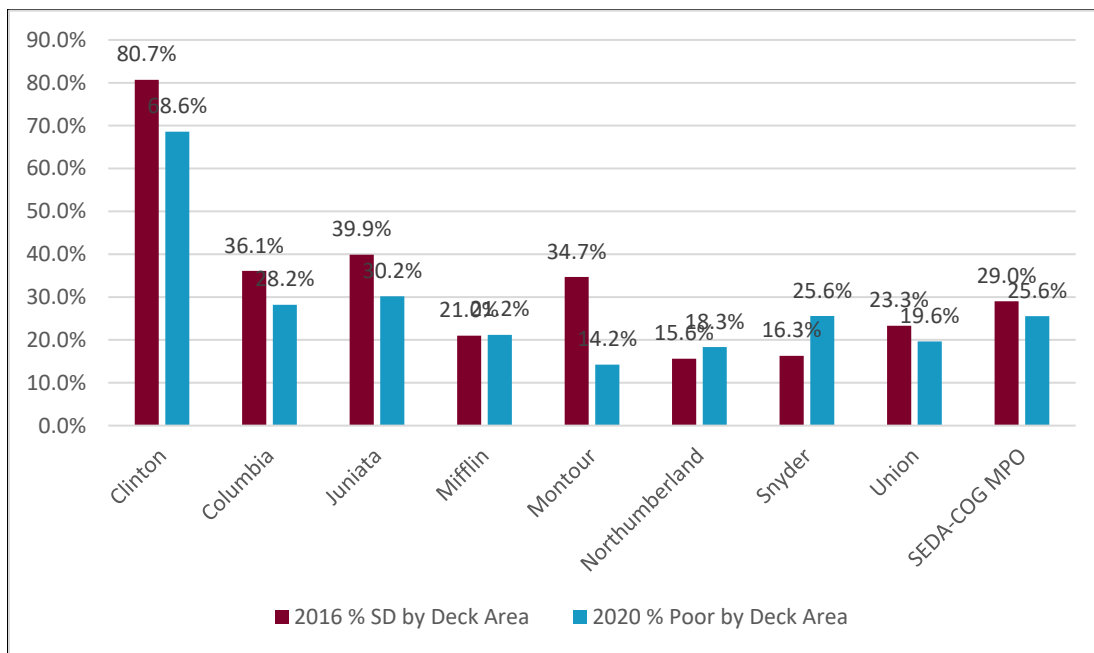


Figure 41. Percentage of Poor-Condition Deck Area on Local Bridges 20 Feet or Longer by County, 2015 and 2020



Since the passage of Act 89 in November 2013, the amount of funding dedicated to transportation projects has increased, and some of those dollars have been dedicated to improving Poor-condition bridges in the SEDA-COG MPO region. The overall funding situation for replacing bridges has not improved

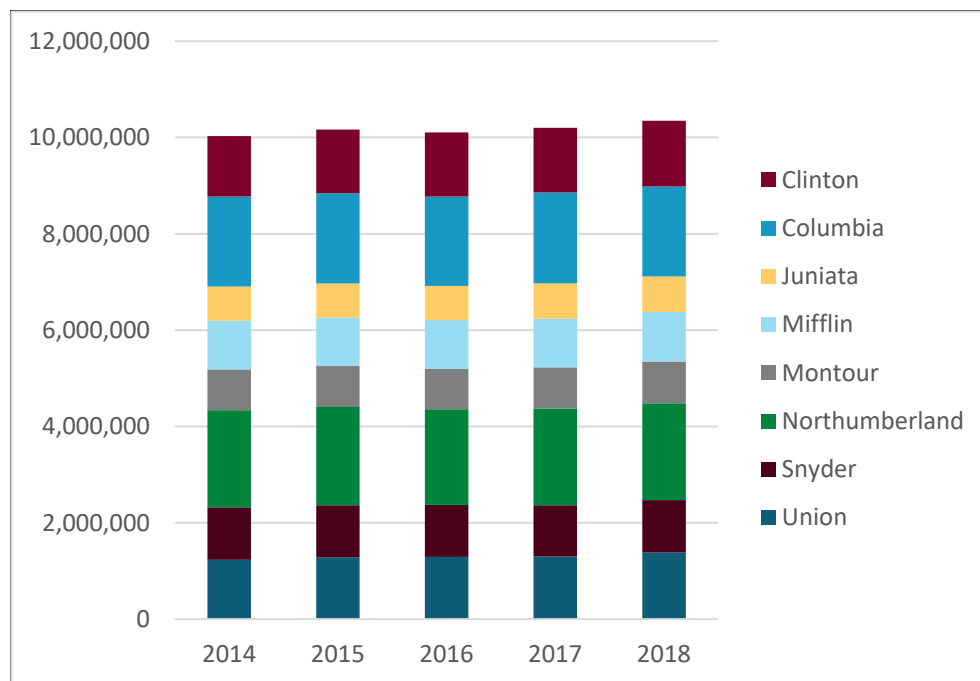
since the 2016 LRTP update, however. The federal versus state funding share for bridge replacement has essentially reversed from 75 percent federal and 25 percent state, to 75 percent state/25 percent federal. This issue is discussed in Section 8.3.

5.5.6 Infrastructure Demand and Performance

5.5.6.1 Highway

The demand for highway facilities is most commonly expressed in terms of traffic volume. It is convenient to summarize traffic volume in terms of total traffic volume during one day (a 24-hour period), which accounts for a full cycle of daily travel activity. To account for travel distance, the volume is statistically normalized according to the roadway mileage and expressed in terms of Daily Vehicle Miles Traveled (DVMT). Figure 42 illustrates the trend of DVMT during the five-year period from 2014 to 2018. A total increase of about 3 percent was observed, compared to the 4 percent decrease seen during the period 2010-2014.

Figure 42. Daily Vehicle Miles of Travel by County, 2014-2018



Source: Pennsylvania Highway Statistics Reports, 2015-2018 Highway Data, PennDOT PUB 600

Figure 43 through Figure 46 illustrate total traffic volume and heavy truck traffic volume, respectively, in terms of average daily volume for 2020 and 2015. Figure 47 displays the 2020 daily truck percentage. Total traffic volume is expressed here as Average Daily Traffic (ADT) volume, while truck traffic volume is expressed as Average Daily Truck Traffic (ADTT). The highest traffic volume corridors (depicted in dark red on the map), representing volumes greater than 15,000 ADT, are portions of I-80, US 11, US 15, and PA 150. Within the more urbanized areas, traffic volume intensifies on the major thoroughfares. However, as a predominantly rural area, most roadway mileage in the SEDA-CO MPO region falls into the 2,000 to 10,000 ADT range (green and orange on map). These are mostly two-lane roads and include the two-



three-, and four-digit state routes. Traffic volumes on locally owned roadways are not shown.

For ADTT, the corridors having the highest truck traffic (more than 1,000 vehicles per day, shown in dark red on the map) include the entirety of I-80, I-180, US 11, and US 15, plus portions of US 220, PA 54, and PA 61.

Corridors with notable increases in ADT between 2015 and 2020 include:

- Interstate 80, especially in Union and Clinton counties.
- US 15 between Lewisburg and Selinsgrove, Union and Snyder counties
- US 522 between Selinsgrove and Middleburg in Snyder County
- PA 54 between Danville and Elysburg

Notable increases in ADTT between 2015 and 2020 include:

- Interstate 80, across the MPO region
- US 15 between the Union–Lycoming line to Sunbury
- PA 54 between Interstate 80 and Shamokin
- PA 61 between Sunbury and Shamokin
- PA 147 around Sunbury
- PA 150 between Lock Haven and Salona
- PA 880 from Loganton to Lycoming County

These are some of the same segments identified as key congestion locations in Section 5.4.3.3.

Figure 43. 2020 Total Daily Traffic Volume, SEDA-COG MPO Region

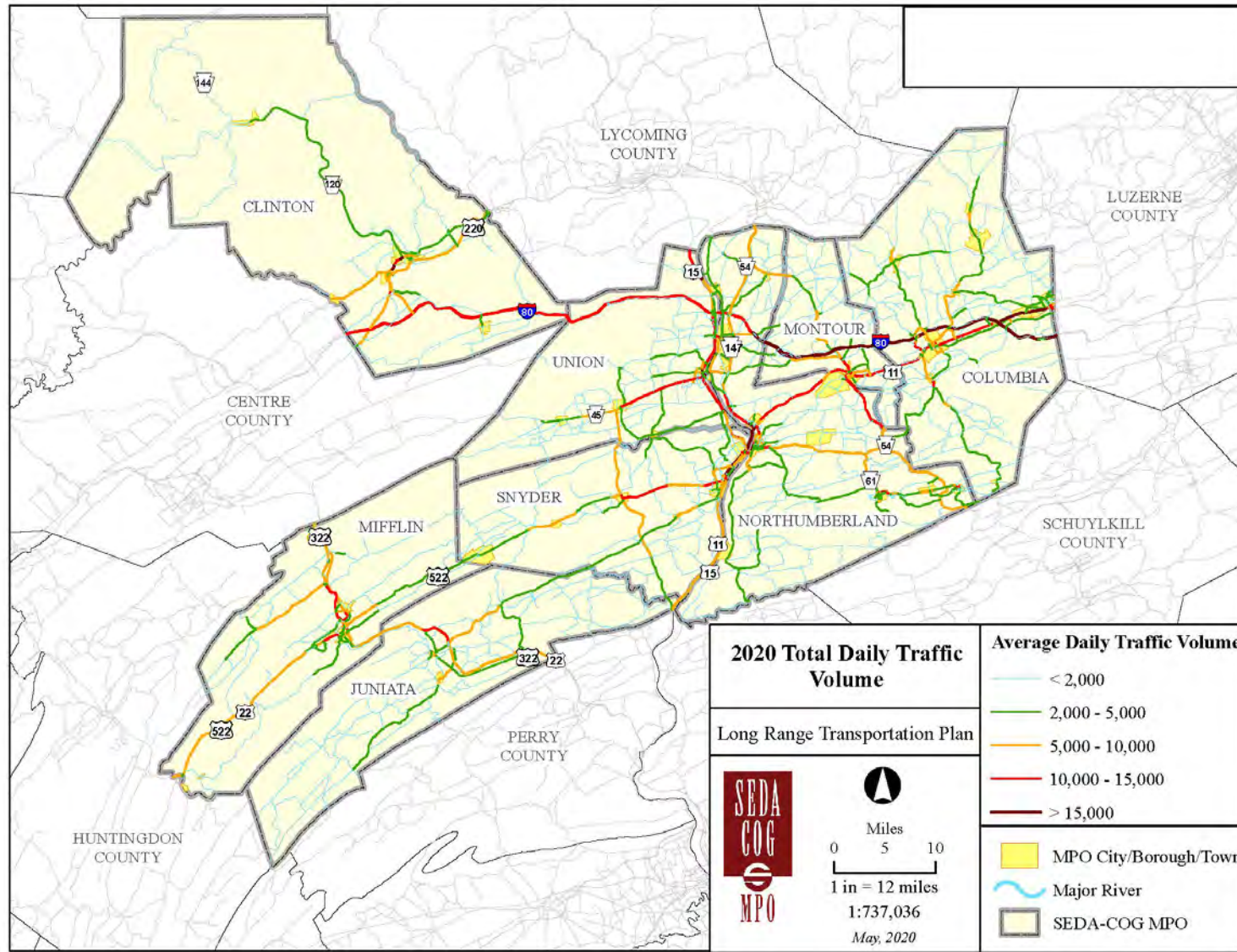


Figure 44. 2015 Total Daily Traffic Volume, SEDA-COG MPO Region

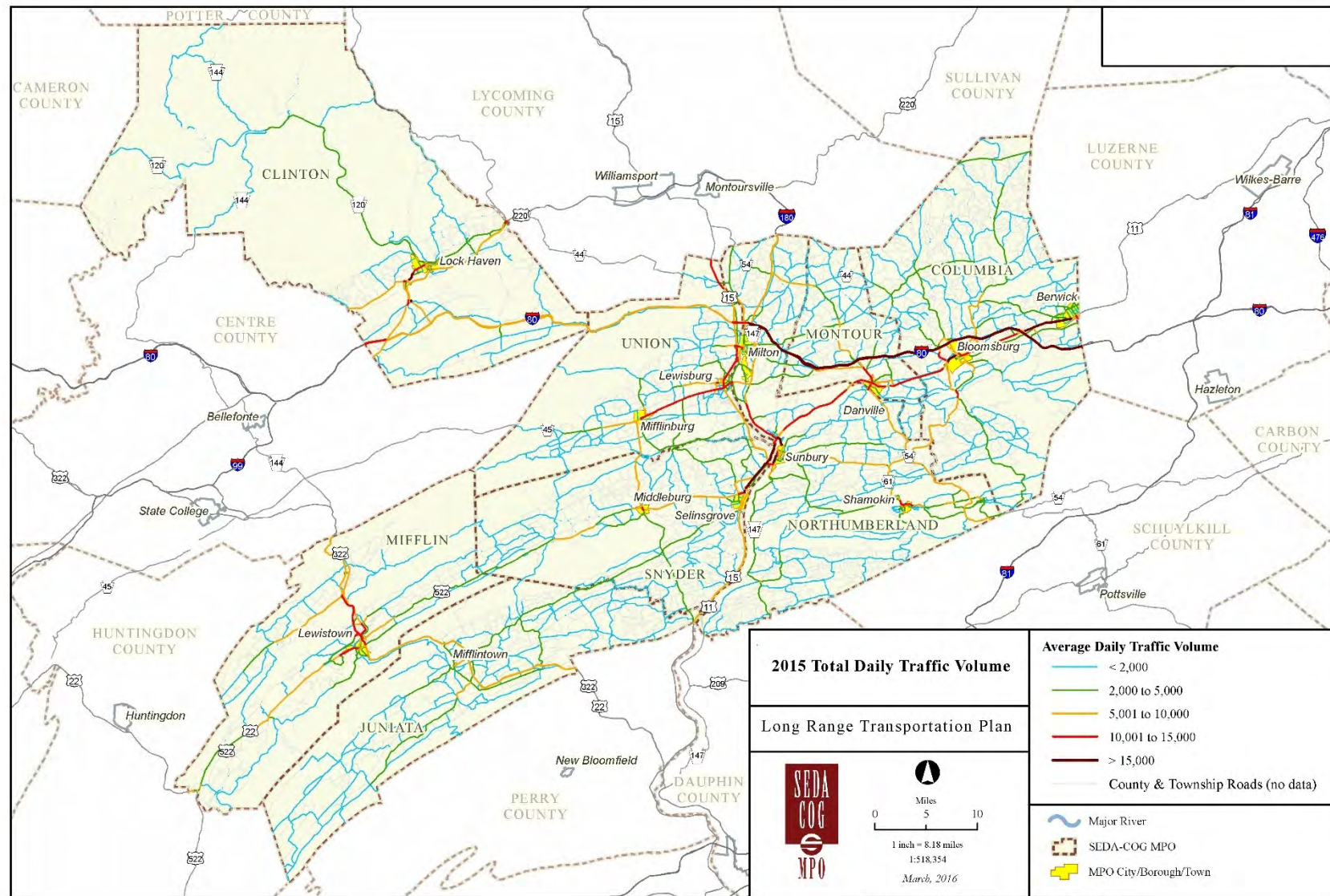


Figure 45. 2020 Daily Truck Traffic Volume, SEDA-COG MPO Region

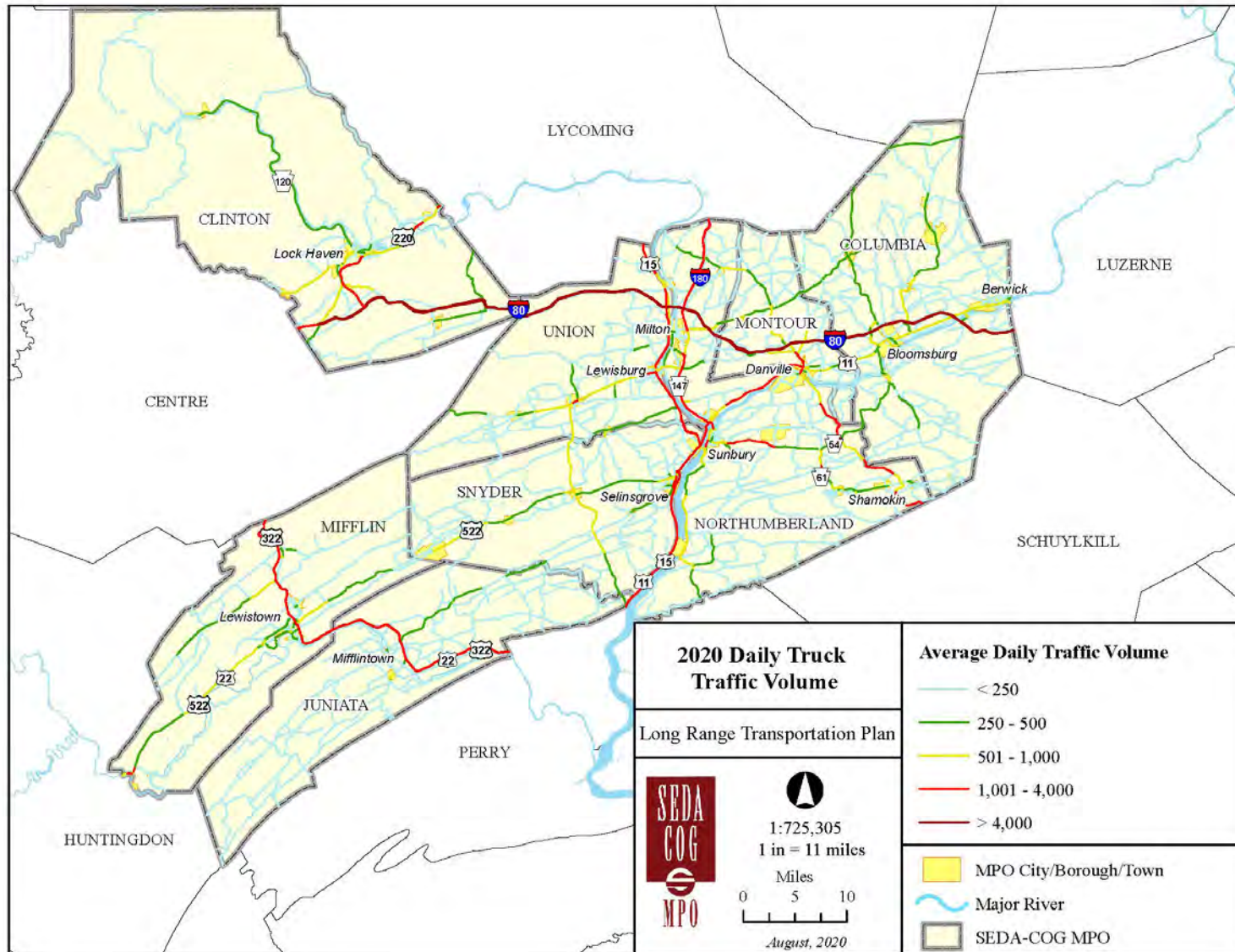


Figure 46. 2015 Daily Truck Traffic Volume, SEDA-COG MPO Region

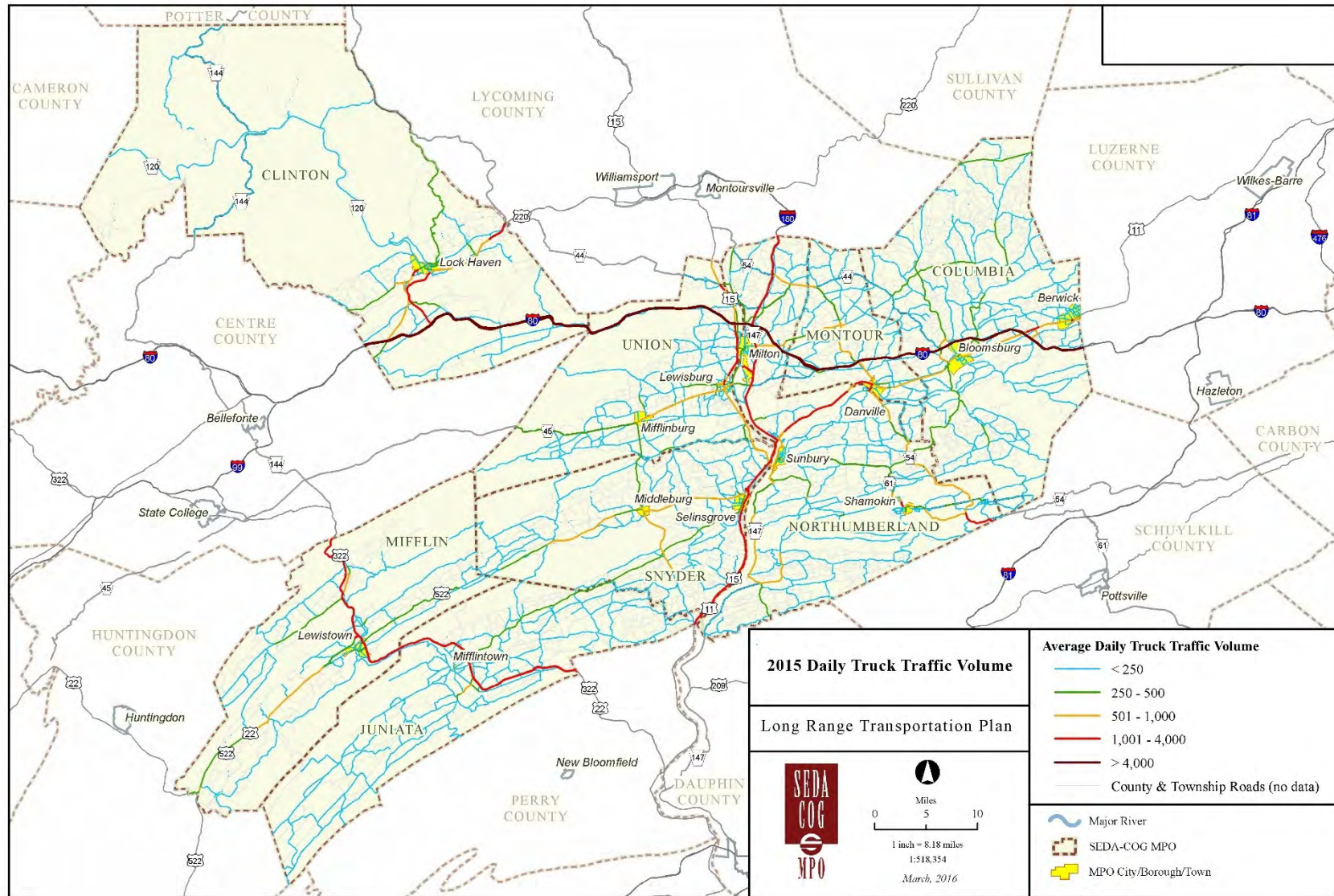
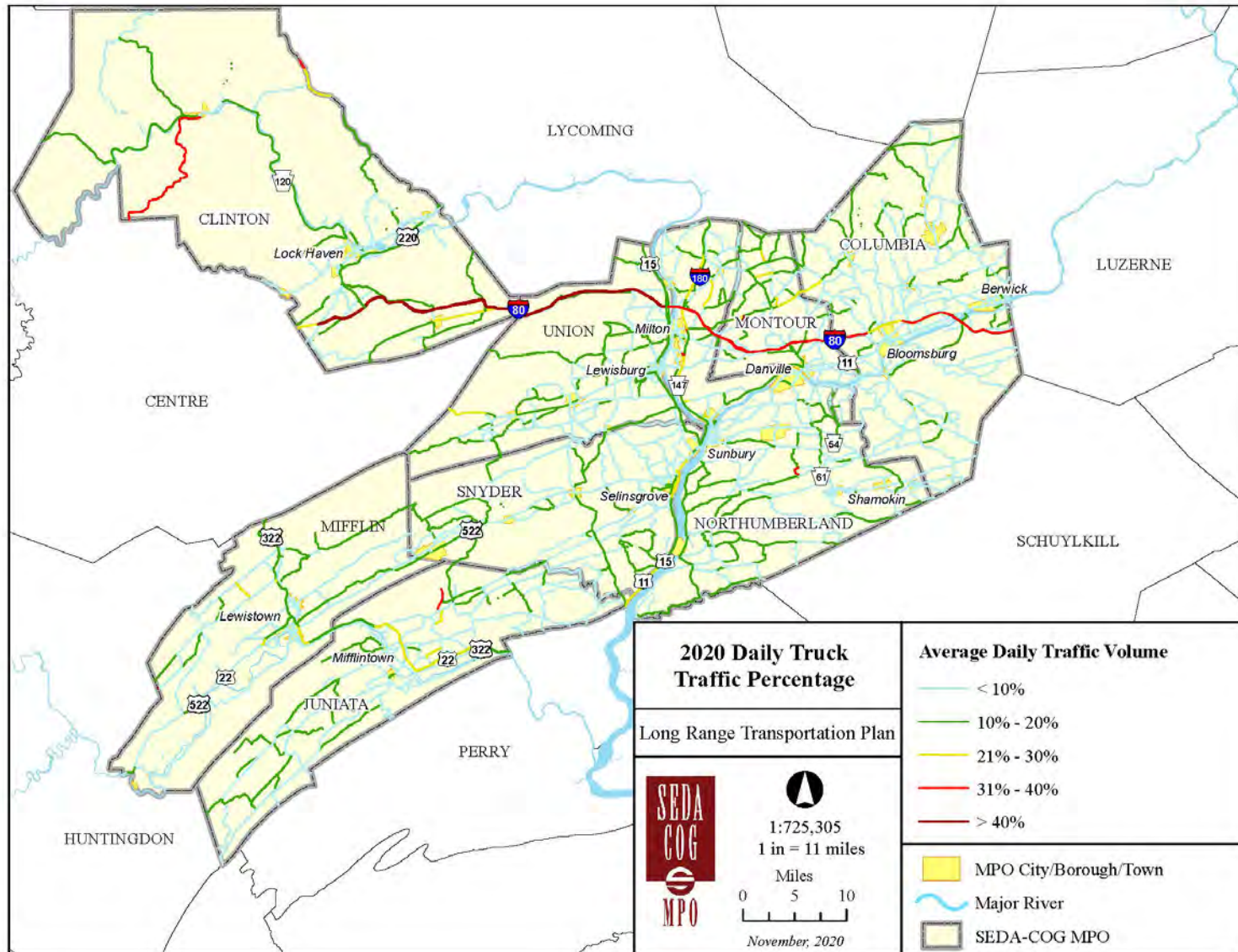


Figure 47. Daily Truck Traffic Percentage, SEDA-COG MPO Region



The current volumes of heavy trucks shown¹⁹ in Figure 46 illustrate the primary pathways followed by freight-moving vehicles. The highest-volume corridors generally mirror those with high total volume—i.e., I-80, I-180, US 15, US 11, and PA 147. Added to these corridors are US 322, US 220, and parts of PA 54 and PA 61 in the easternmost part of Northumberland County. A large proportion of the heavy truck traffic on the major routes (I-80, I-180, US 11, and US 15) are through truck trips, having neither an origin nor a destination within the MPO area. Also, the volume of truck traffic is a key indicator in the lifespan and performance of roadway pavement. Where truck traffic is high, the required pavement designs are more substantial and costly, and pavement maintenance investments (e.g., joint repair, overlays, reconstruction) are needed more frequently.

The major expected near-term change to truck traffic during the planning horizon of this LRTP is the opening of the Central Susquehanna Valley Transportation Project “missing link.” The new highway will draw through traffic off the existing US 11/ 15 corridor between Lewisburg and Selinsgrove, reducing congestion there, but may create congestion in other areas, especially at interchanges.

5.5.7 Operational Capacity and Level of Service

The SEDA-COG MPO does not maintain a travel demand model for the region. In previous updates, traffic congestion was evaluated using data from the PA Statewide Travel Demand Model. When needed, models are developed on an as-needed basis to inform particular projects, working from the PA Statewide Travel Demand Model. Modeling for the US 15 and PA 147/Interstate 180 corridors is being carried out as part of the CSVT Impact Study being carried out in cooperation with the Williamsport MPO, and will be summarized as part of that study later in 2021.

Other than updates completed for specific projects, the most recent projections from the PA Statewide Travel Demand Model, as revised in 2014,²⁰ are still the most current information available. The 2040 volumes developed using that model do not include the impacts of several major highway projects now completed or underway. Most notably, the completion of the CSVT is not included in the 2014 model runs. The model runs indicate that continued growth in traffic and freight volumes along Interstate 80 will result in a substantial number of segments along Interstate 80 operating with a volume-to-capacity (v/c) ratio greater than 1 by 2040. This appears to be a result of regional and national trends, and the heavy truck traffic already present on the corridor.

Figure 48 illustrates 2040 forecasted model network roadway segments according to v/c ratio ranges. The v/c ratio provides a planning-level analysis tool for assessing congestion. At v/c less than 0.80, congestion is not likely to be a recurring issue. At v/c between 0.8 and 1.0, congestion begins to manifest itself, especially during peak hours where the corridor is signalized, is within an urbanized area, has steep grades, or carries a high volume of heavy trucks. At v/c greater than 1.0, congested conditions are evident during the day, and peak hours are particularly problematic. This does not necessarily mean that traffic comes to a standstill, but it does indicate that the flow is less stable. Distances between cars close up, speeds decrease, and minor disturbances (e.g., a signal that does not clear the entire queue during a cycle, disabled cars along the roadside) can result in disproportionately large backups. Roadway reliability declines, as it becomes harder to predict travel time. For this reason, the segments of I-80 through Montour and Columbia counties should be monitored, as the combination of heavy trucks and roadway grades may generate congested conditions.

¹⁹ Heavy trucks include vehicles with more than two axles, such as tractor trailer combinations, certain buses, garbage and recycling trucks, dump trucks, concrete trucks, and other service and construction vehicles.

²⁰ The PA Statewide Model is currently being updated to incorporate the CSVT in the 2040 future year model.

Figure 48. 2040 Travel Demand and Projected Congestion

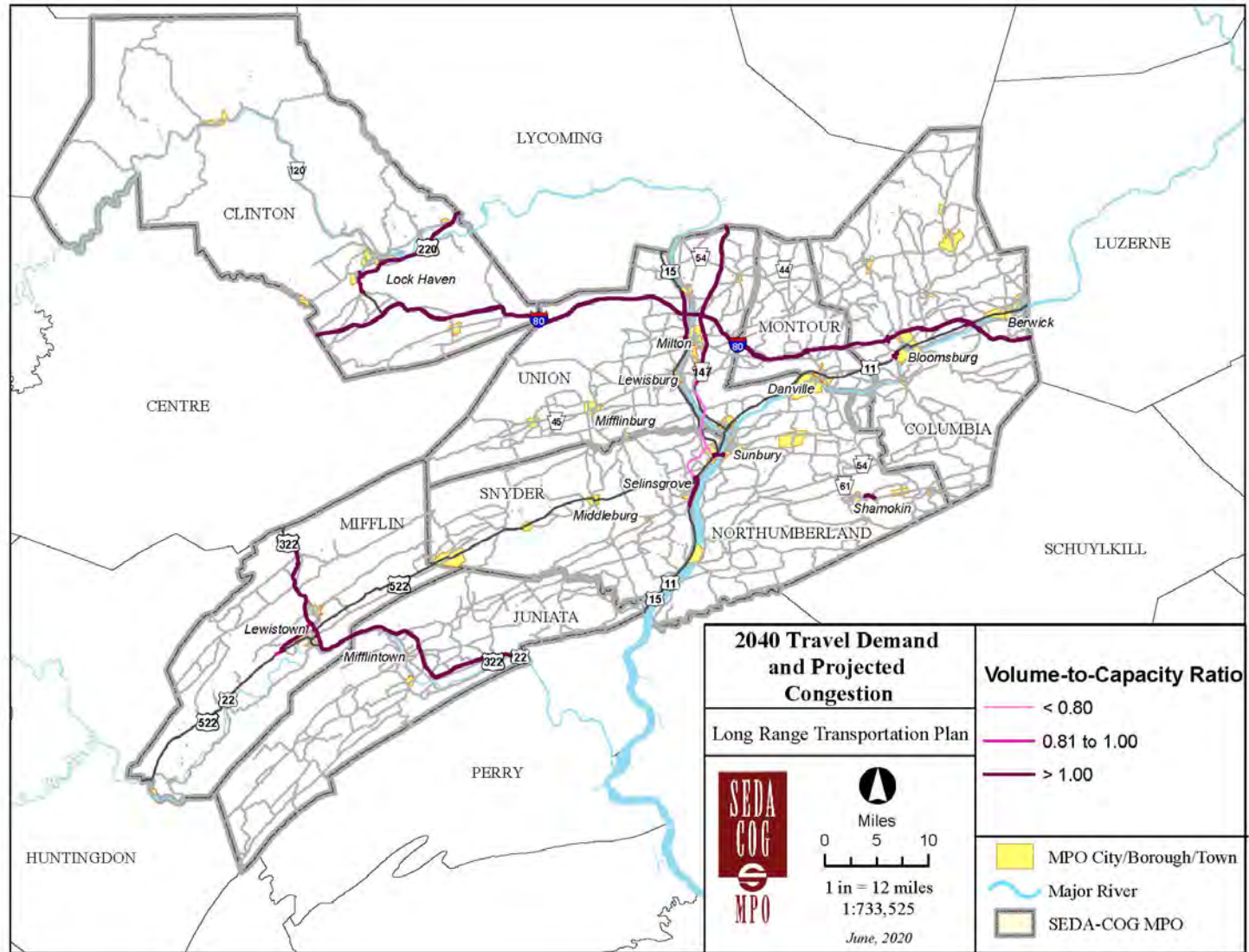


Table 43 summarizes the 2012 and 2040 v/c ratios on roadway links (groups of segments) with projected congestion—i.e., where the projected 2040 v/c ratio is 1.0 or greater. The rate of change in v/c ratio is an indication of the traffic volume growth trends on the network.

Table 43. Roadway Segments with Projected Congestion in 2040

Route	Segment	County	Volume-to-Capacity Ratio	
			Base Year 2012	Future Year 2040
I-80	PA 26 to PA 64	Centre/Clinton	1.00	1.12
	PA 64 to US 220	Clinton	0.93	1.05
	US 220 to PA 477	Clinton	0.95	1.04
	PA 477 to PA 880	Clinton	0.94	1.07
	PA 880 to Mile Run	Clinton/Union	0.96	1.10
	Mile Run Road to US	Union	0.97	1.10
	PA 147 to PA 254	Northumberland	0.84	1.04
	US 11 to PA 339	Columbia	0.87	1.02
US 11	US 522 to US 11/15	Snyder	0.77	1.06

Source: PA Statewide Travel Demand Model, 2014

One potential tool for monitoring conditions on the Interstate 80 corridor is truck reliability data available through RITIS. Figure 49 shows a regional review of changes in truck reliability data for Federal performance-measure segments—segments that were reliable in 2017, but not 2019. Figure 50 shows the areas in Union and Northumberland counties that were measured to be reliable in 2017 and unreliable in 2019. The most notable changes are along the US 11 and US 15 corridors. The change may be attributed to a multi-year resurfacing project through Northumberland Borough that impacted major truck routes, and required a detour of trucks onto US 15. Figure 51 shows only segments on the Interstate 80 corridor that were determined to be unreliable in 2019. These segments also appear to coincide with maintenance projects that would have caused traffic delays. District 3-0 considers the impact of construction on Interstates carefully, and designs traffic control for projects on the segments in Columbia, Montour and Northumberland counties to maintain two lanes of through traffic at all times. Nevertheless, some impacts are unavoidable.

Operational capacity at a regional scale is measured using tools such as travel demand modeling and systemwide performance measures. Models built at that scale may not accurately capture local-scale dynamics. A larger-area model may be routing trips to the center of the traffic analysis zone rather than the actual street location, it may not include all of the local-scale links in the transportation network, and it may not model the signal operations as precisely as a small-scale model. Other techniques are used to capture local-scale congestion more accurately. The techniques used and results obtained are summarized Section 8.4.3.1.2.

Figure 49. PA Changes in Reliability on Roadway Segments Covered by Federal Performance Measures, 2017-2019

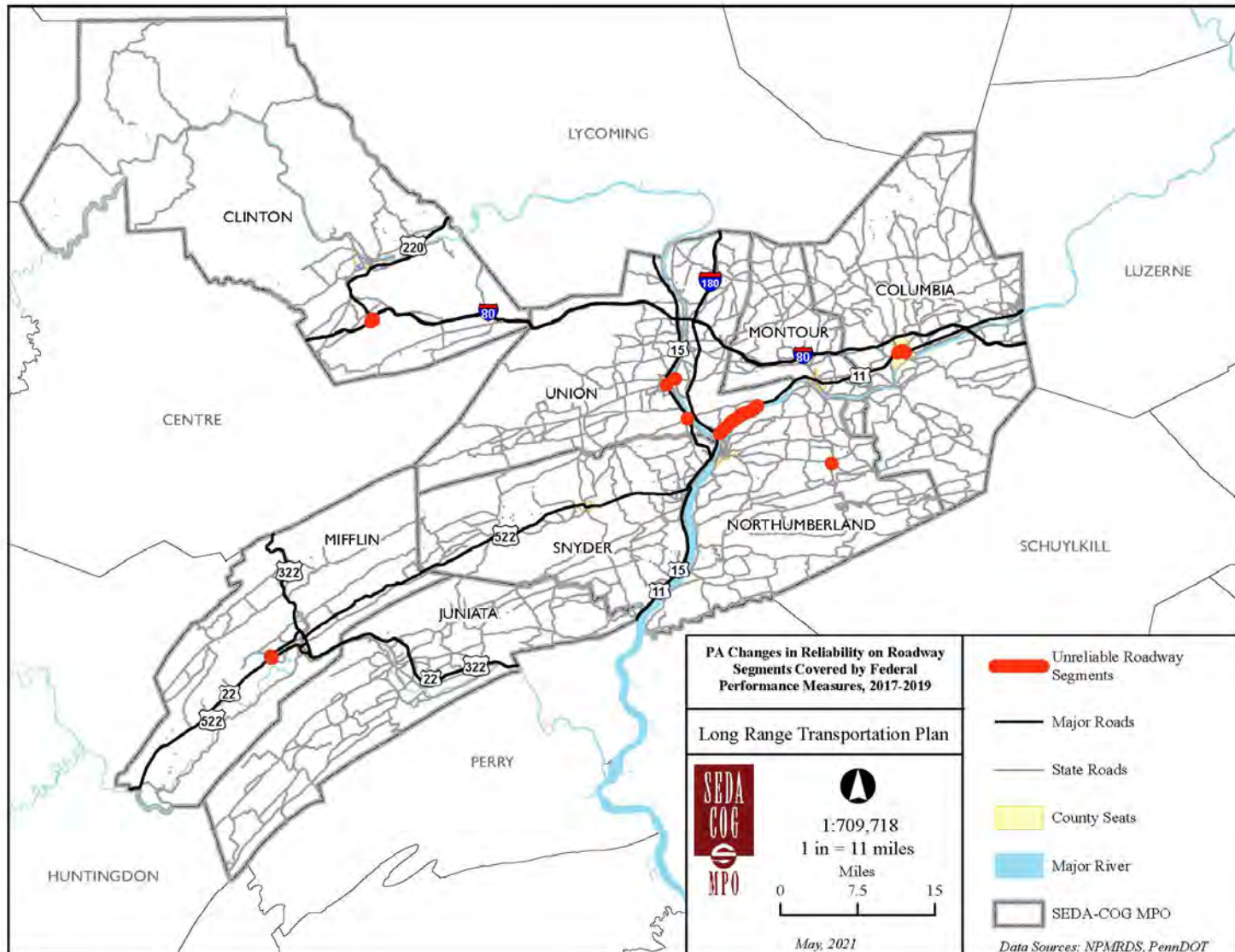


Figure 50. SEDA-COG MPO Region Changes in Reliability on Roadway Segments Covered by Federal Performance Measures, 2017-2019

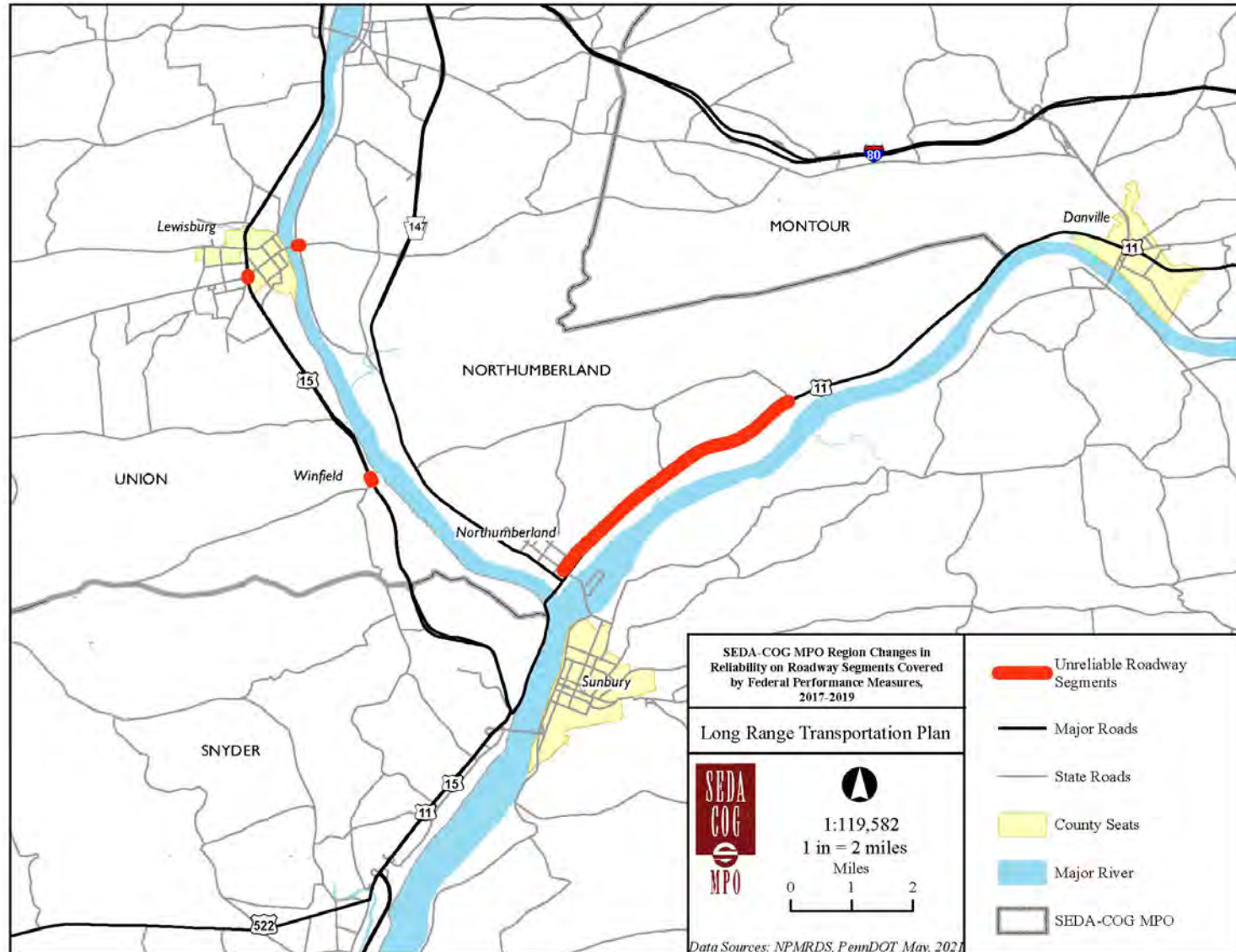


Figure 51. PA Changes in Truck Reliability on Interstates, 2017-2019

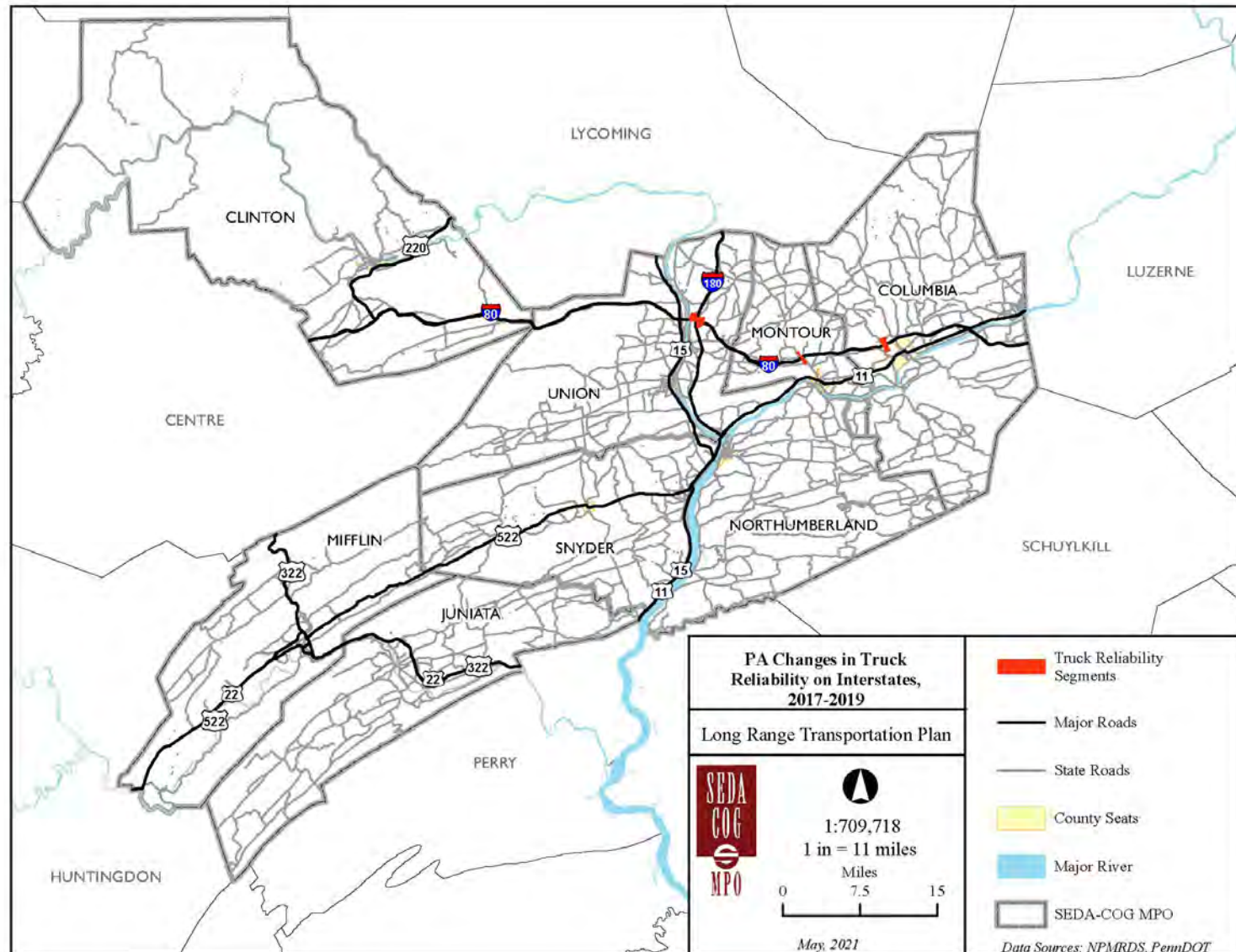
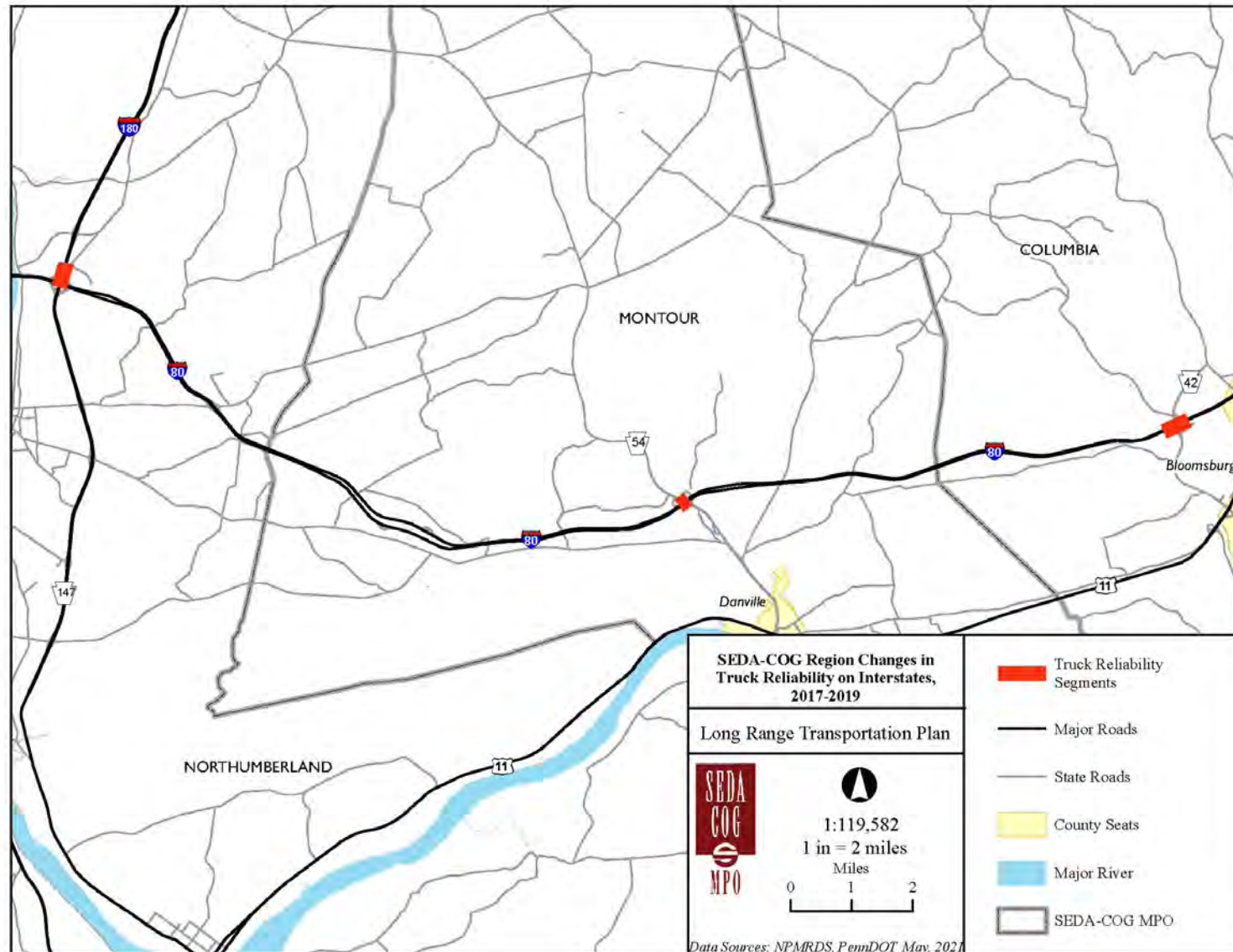


Figure 52. SEDA-COG Region Changes in Truck Reliability on Interstates, 2017-2019





6. PUBLIC AND STAKEHOLDER INVOLVEMENT

6.1 Outreach Efforts

Public outreach efforts were completed in accordance with SEDA-COG MPO Public Participation Plan. Efforts began with a review of the public participation plan. As with the 2016 update, an additional early phase of public input was programmed to facilitate meaningful input on major aspects of the plan.

Due to the workplace and public gathering limitations put in place to address COVID-19, several modifications were made:

- Additional resources were created to facilitate Web-based review of plan materials, including a GIS Hub website, and an online version of the plan was created as a story map.
- An online survey was developed and available through the GIS Hub Web site to collect opinions on transportation issues and choices. The survey and a summary of the results are included in Appendix B.
- Steering committee, stakeholder outreach, and public input meetings were held in virtual formats.
- Printed copies of the plan are typically made available during the public comment period at the offices of MPO members, transit providers and the SEDA-COG offices. For this update, members were polled leading up to the comment period to determine if their offices were open to the general public, open on an appointment basis only, or closed to the general public. All locations will be asked to post a link to the plan during the comment period on their website, but only



offices open to the general public will be requested to host printed copies.

Outreach to the general public and relevant specific groups was important to solicit input for the LRTP as well as broad feedback on personal transportation choices. The following sections describe outreach efforts that were conducted and summarize the results, which were used as part of the Corridors of Opportunity Approach and implementation plans.

6.1.1 Public Outreach Web Site

A public outreach GIS-enabled “hub” Web site (Figure 54) was developed to present the LRTP Vision, as well as an overview of the following resources:

- Asset Management and Discretionary projects, accompanied by a description of their characteristics and an interactive map showing individual projects. The map allowed the user to click on a project point to retrieve summary data about that project, including route number/road name, project type and source, cost, and other descriptive information.
- Corridors of Opportunity, introduced with a description of how they were defined and selected, along with descriptions of data that supported their identification, including:
 - Traffic Volumes:
 - High Traffic Volume Corridors
 - High Truck Volume Corridors
 - Employment:
 - High Employment Areas
 - Bridge and Pavement Conditions:
 - Poor Condition Pavement
 - Poor Condition State Bridges
 - Poor Condition Local Bridges
 - Traffic Congestion:
 - High Congested Corridors
 - Freight Generators
 - Areas with High Freight Employment
 - Areas with High Overweight Permits
 - Areas with High Mining Activity
 - Safety:
 - Fatal Crash Locations
 - High Crash Segments
 - Resiliency:
 - High Risk Flood Segments
 - Historical Rockfall Closures



- Rockfall Warning Signs

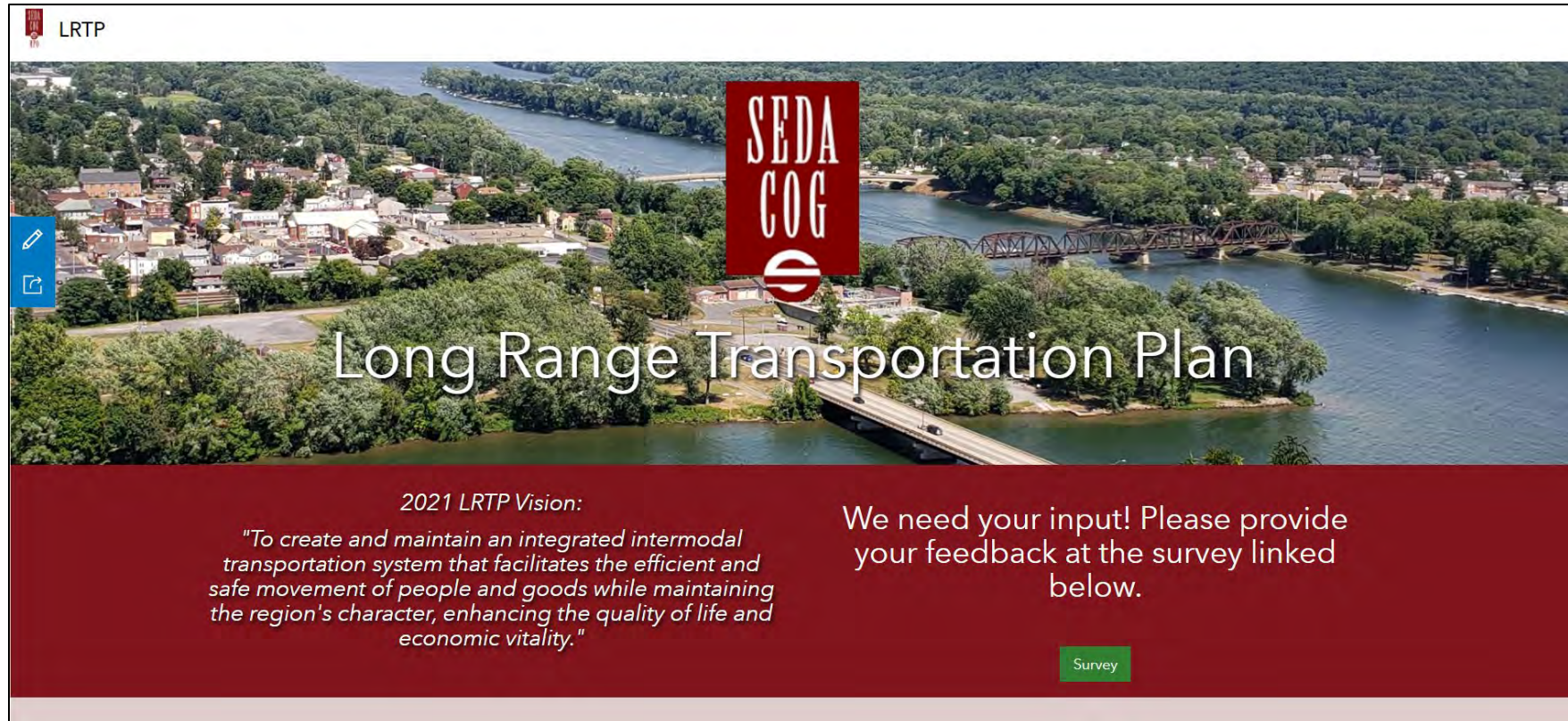
Users were able to turn these layers off and on and for these themes could select individual features that were identified as meeting defined criteria or thresholds for significance related to performance measures. Individual feature descriptions could be retrieved by clicking on that feature.

- Information on performance measures, targets, and trends could be retrieved by clicking on another section of the Web site.
- Links to other miscellaneous information were also provided, as well as Contact Us information.

Web site users were invited to complete an online survey (Appendix B) to collect feedback and additional information on their personal transportation choices.

The Hub site will remain available through the public comment period for this update to provide easy access to the data, projects, and identified Corridors of Opportunity.

Figure 53. Screenshot from Public Outreach GIS-based Web “Hub” Site





6.1.2 Outreach to Human Services Groups

As part of the LRTP public outreach initiative, SEDA-COG MPO staff conducted online meetings with two human services groups:

- Central Region PREP (Partners for Regional Economic Performance) (February 2, 2021)
- Greater Susquehanna United Way Basic Needs Subcommittee (February 17, 2021)

An LRTP overview presentation was made to each group. Both groups were invited to participate in the LRTP project by viewing the public outreach Web site and completing the online survey; some attendees had already done so and provided useful feedback on both.

6.2 Summary of Public Input

6.2.1 Human Services Groups

The United Way subcommittee provided comments on perceived barriers affecting transportation services. Areas discussed included:

- Employment:
 - Lack of available public transportation to low-income workers.
 - Need for a workforce vanpool program; the MPO will coordinate with the Enterprise program sponsored by PennDOT.
 - Increased education of employers on the need for and benefits of providing transportation options.
 - Consideration of establishing a new ridesharing pilot program through Waze.
 - Ride-hailing services such as Uber and Lyft are not effective in the region because longer travel distances make fares too expensive.
- Quality-of-Life Trips:
 - Clients of the Area Agency on Aging groups are often not seeking employment but still experience transportation barriers. Expansion of shared-ride programs would be beneficial.
 - Rural populations need more transportation options that include access to quality-of-life events, not only destinations that are medical and food-related. The current rabbittransit shared-ride program does not provide adequate flexibility.
 - Shared-ride barriers are also experienced by low-income clients of Community Action, especially the inability to get clients to the meeting point for the main ride.
- Food Access:
 - Many individuals often need food deliveries due to the inability to reach grocery stores or food banks.
 - Large groups are seen carpooling to the food distribution centers, in numbers that limit the amount of food they can carry.



- Many SNAP-eligible clients have funds but are unable to access transportation to a grocery store. SNAP has been working with food delivery service groups because of the COVID pandemic.
 - Internet access is also an issue when it comes to ordering food.
 - Grocery delivery services are often not available to the rural community or may be too expensive.
 - There are some companies that contract grocery delivery services to supermarkets in denser environments. They may be open to conversations about partnering to reduce the cost for transportation-challenged customers, or it may be possible to use external funding to offset the costs.
- Education:
 - There is a need for a regional effort to educate the general public and elected officials on the importance of a multimodal focus, specifically to cover subjects such as transit-oriented development.
- Bike/Pedestrian Transportation:
 - Walking and bicycling is an issue. Many of our downtown areas lack the space and facilities to safely walk and bike. Sunbury scores well in the accommodation of bicycle and pedestrian modes (according to WalkScore), but individuals still need transit.
- Public Perspectives:
 - Identifying a common theme among individuals experiencing these issues using an interviewing process would be beneficial to improving services and programs. User data could be collected as an intern project.
 - Transportation needs are typically focused on people who have financial obstacles, but there are other reasons that people need transportation (age, illness, suspension).
 - Programs take time to develop, but individuals need help to address the problems they're facing right now. A missing piece is meeting people where they are. Real-life stories and experiences should be considered in addition to collecting data to help others to understand what people really need.

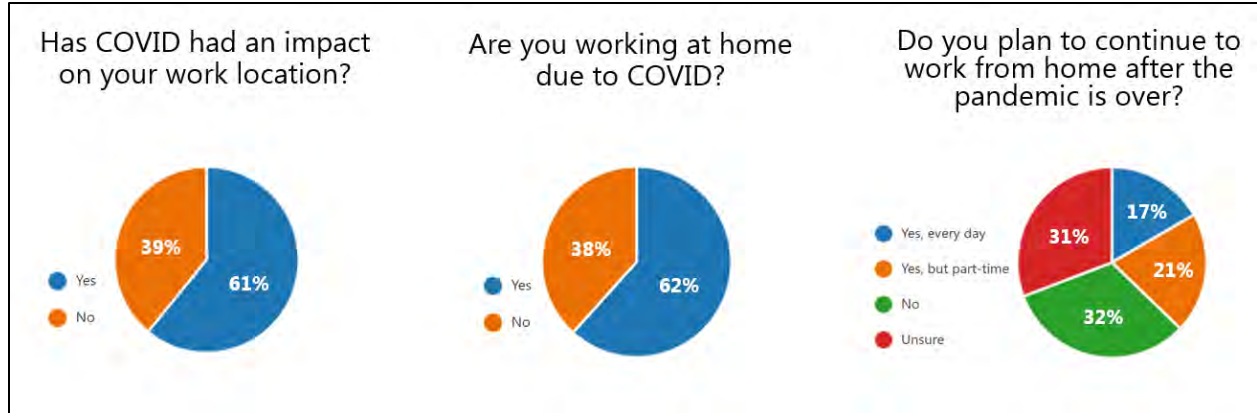
6.2.2 Survey Data from Public Outreach Web Site

The online public input survey yielded 212 responses during February and March 2021. Highlights follow.

6.2.2.1 COVID Impacts

Three questions on transportation-related COVID effects were included in the survey. Sixty-one percent (61 percent) of respondents indicated that COVID has had a definite effect on changing their work location, and 62 percent responded they were working from home. A total of 38 percent plan to work at least part-time from home after the pandemic is over; an additional 31 percent said they were unsure whether they would. Figure 54 shows these results graphically.

Figure 54. SEDA-COG LRTP Online Survey Results: COVID Impacts



6.2.2.2 Modes of Travel

About 95 percent of respondents reported they “Drive Alone” as their primary mode of travel (see Figure 55). The next three most common choices were Walk, Bike, and Carpool. Almost 70 percent said they never use public transportation. A total of 48 percent of those responding own two vehicles, while 37 percent own three or more. (see Figure 56). A majority of those surveyed (56 percent) said they would walk or bike more frequently if those types of facilities were more available.

Figure 55. SEDA-COG LRTP Online Survey Results: Modes of Travel

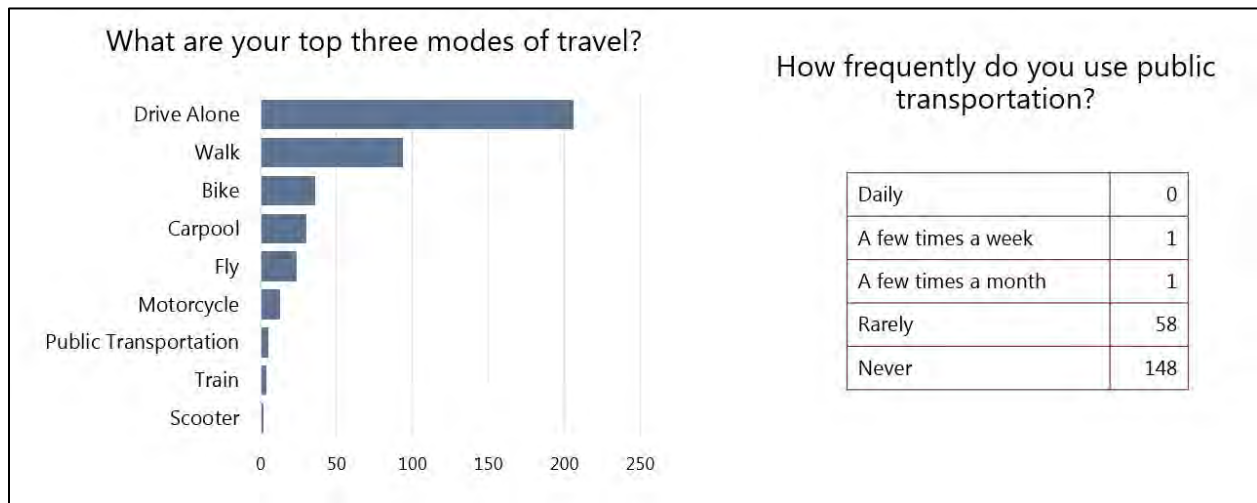
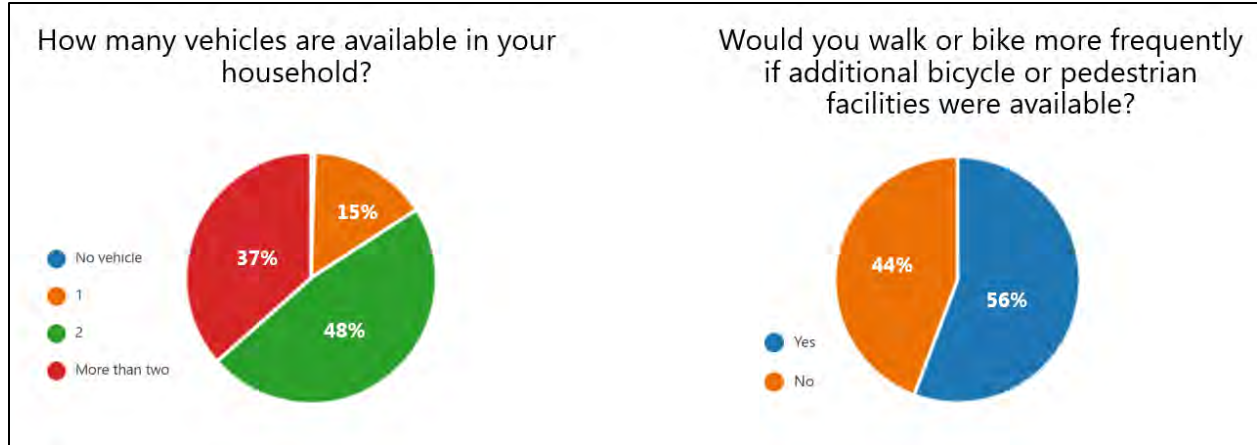


Figure 56. SEDA-COG LRTP Online Survey Results: Vehicle Ownership/Walk-Bike



6.2.2.3 Corridors of Opportunity

The top three choices of identified Corridors of Opportunity by type were:

Safety:

1. US 15 in Lewisburg
2. US 11 (Walnut Street) / PA 54 in Danville
3. US 11/15 from Mall Drive to Mill Road in Shamokin Dam

Freight:

1. I-80
2. I-180
3. US 15

Resiliency:

1. PA 147 (Bridge Avenue) in Northumberland
2. PA 61 (Market Street) between Shamokin Creek and Little Shamokin Creek in Sunbury
3. PA 522 (Main Street) at Middle Creek in Middleburg

Congestion:

1. PA 147 (Bridge Avenue) in Northumberland
2. PA 61 (Market Street) between Shamokin Creek and Little Shamokin Creek in Sunbury
3. PA 522 (Main Street) at Middle Creek in Middleburg

6.2.2.4 Project Impact Rating Factors

Respondents were asked to rank in order the listed project impact rating factors. Results (in order) were as follows:

1. Reduces traffic congestion
2. Improves safety



3. Improves pavement and bridge conditions
4. Supports economic development
5. Improves high-risk flooding locations

6.2.2.5 Funding Priorities

Respondents were asked to rank in order the listed project funding priority factors by type. Results (in order) were as follows:

1. Road Pavement – Repairing, restoring, reconstructing, and maintaining state and local roadways to improve your travel
2. Traffic Flow – Using technology to improve traffic flow and construct new roads and additional travel lanes to safely move people and goods more efficiently
3. Bridges – Repairing, replacing and maintaining state and local bridges
4. Interstate Highway – Specific, prioritized investments in reconstructing the region’s Interstate highway mileage
5. Walking – Accessible and connected routes to get you where you need to go safely

6.2.2.6 Safety Improvements

Respondents were asked to rank in order the listed project funding priority factors by type of safety improvement. Results (in order) were as follows:

1. Make intersection improvements
2. Reduce emergency response times
3. Improve access to public transportation
4. Conduct emergency management and evacuation planning
5. Improve work zone safety



7. ISSUES AND IMPLICATIONS

7.1 SEDA-COG MPO Strategic Plan: 2019-2023

In March 2019, the SEDA-COG MPO completed an updated Strategic Plan for the region. Similar to the 2015 Strategic Plan process, the 2019 Strategic Plan process afforded MPO members the opportunity to assess the current planning program's direction as well as identify specific issues demanding MPO attention. Some of the issues remained essentially comparable between the 2015 and 2020 Strategic Plans. Progress made in addressing issues identified in the 2015 Strategic Plan was noted, along with remaining challenges. The 2020 Strategic Plan included six specific strategic issues and identified strategies for addressing each. In addition, one “Localized Priority” issue was identified:

- Issue 1: Transportation funding is inadequate and inconsistent.
- Issue 2: Asset management and performance measurement must address local needs.
- Issue 3: System improvements must address resiliency to weather events.
- Issue 4: Modern travel patterns and technology have outdated some corridors.
- Issue 5: Operations are essential to systematic traffic incident management.
- Issue 6: Our region’s system must be conveniently multimodal and service-supported.
- Localized Priority: The CSVT must be integrated with local land use and transportation.

The following sections summarize the findings of the Strategic Plan and present additional information, where appropriate and available, that was collected or has emerged since plan completion.



7.1.1 Issue 1: Transportation Funding is Inadequate and Inconsistent

The 2020 SEDA-COG Strategic Plan notes that there are two aspects to this issue. First, the amount of funding is inadequate to address local needs (with a goal of placing as many projects on the TIP as possible). The Strategic Plan notes that:

...addressing this issue may entail a better understanding of the relationship between the types of transportation needs and other funding agencies and programs. Use of economic development funding programs or recreational development sources for projects or project components can streamline demand for traditional state and federal transportation dollars. Ultimately, transportation needs must be sorted by type and program eligibility and prioritized for the limited funding available. Local funding can be used directly for transportation projects or can be used as local match for state and federal funding. Partnerships for infrastructure investment are becoming increasingly necessary as public solutions become more constrained.

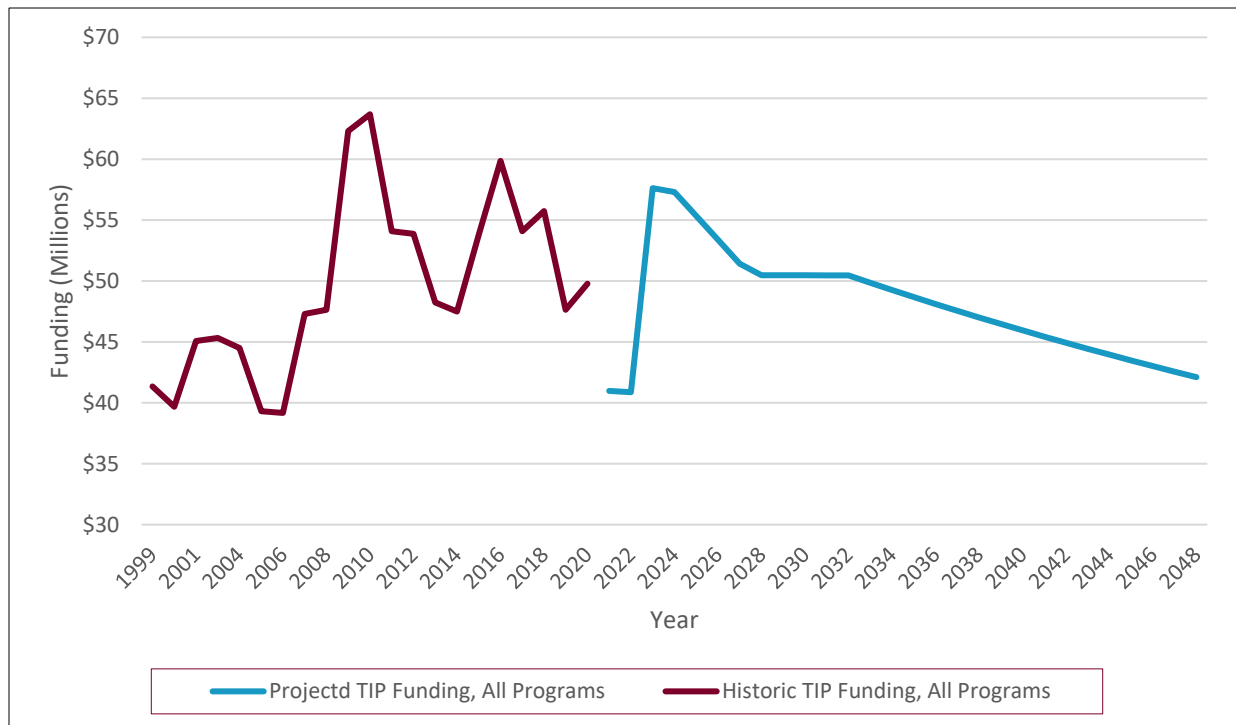
As part of the 2011 LRTP update, SEDA-COG performed an estimate of the annual investment required to maintain the transportation network, using unit costs by class of asset and extents of the network, excluding the cost of the Interstate system and the continuing backlog of deferred maintenance. The calculated figure was approximately \$195 million per year, with TIP funding at the time (\$60.5 million per year) sufficient to cover about 31 percent of the total cost. Over the past decade the required annual investment has increased to approximately \$245 million per year, when adjusted for 3 percent annual inflation and an increase in the National Highway Construction Cost Index from 1.5 to 1.89. While many simplifications were made in this assessment, it has typically served as a benchmark sufficient to illustrate that base TIP funding allocations fall far short of the total maintenance need for the region.

The second funding concern is long-term inconsistency in funding. Federal and state-level programs and requirements present a moving target with differing levels and guidelines. The Strategic Plan comments that:

...programs are created, revised, merged, and eliminated with each federal transportation funding bill, often impacting state programs. Communities in the region lack an understanding of current programs, eligible projects, selection criteria, match requirements, and application periods, as well as the resources to prepare competitive applications.

Figure 57 illustrates how funding for the base formula programs included in the TIP has varied since 1999, and compares it to projected funding levels through 2045. Major points of inflection in the historical funding curve relate to passage of federal transportation funding bills, state funding initiatives, and changes in the agreed-upon mechanisms for allocated funding within the state.

Figure 57. Total Base TIP Funding for SEDA-COG MPO Region, 1999-2048



As of Spring 2021, the long-term reauthorization of the federal FAST transportation legislation (which was extended for one year in September 2020) is uncertain. This lack of clarity has been exacerbated by wide-ranging negative effects from the COVID-19 epidemic, which has resulted so far in decreased overall travel, a significant economic downturn, less transportation fuel tax and toll revenues, and delays in transportation project design and construction. (See also “COVID-19 Impacts” discussion in Section 7.3.1.)

The PennDOT Pathways effort underway in Spring 2021 is a coordinated effort at the statewide level to quantify transportation funding needs, as well as gaps between the needs and available funding, and to propose viable methods for providing additional funding. Governor Wolf convened established a Transportation Revenue Options Commission, and PennDOT is also conducting a Planning and Environmental Linkages Study as part of a Major Bridge P3 proposal made under the Public Private Partnership process at PennDOT.

Information collected under the PennDOT Pathways process²¹ identified unmet needs for Year 1 of \$1.9 billion for the National Highway System, including \$700 million for annual Interstate funding needs. Year 1 unmet needs of \$2.1 billion exist for system modernization and upgrades of the NHS. Including non-NHS maintenance and operations, facilities, and multimodal needs, the Year 1 unmet funding needs total \$9.35 billion. This is projected to grow to \$14.505 billion by Year 10.

Implementation of the funding measures identified will require collaborative support from a broad base of transportation stakeholders, and may prove exceedingly difficult to achieve in the current environment.

Barring significant innovation in providing new funding sources, the current situation is likely to result in long-term decreased overall transportation funding at all levels of government, including at the local/MPO level. This scaling back of available revenue will force the MPO and its member local governments to more

²¹ <https://www.penndot.gov/about-us/funding/Pages/default.aspx>

rigorously justify proposed projects in a manner that emphasizes actual need based on performance measures.

7.1.2 Issue 2: Asset Management and Performance Measurement Must Address Local Needs

Section 5 introduced TPM as a strategic approach that uses data to make investment and policy decisions to achieve performance goals. “Performance measurement” is the current emphasis from FHWA for state, regional, and local governments to follow to effectively manage their transportation assets in this time of decreasing funding.

Related to this guidance related to TPM, the SEDA-COG MPO 2019-2023 Strategic Plan noted that:

MPO Board members have several concerns:

1. That performance measures may influence project selection toward those projects that will yield the best scores without regard for the projects that are needed most but may not contribute to the established measures.
2. That performance measurement, particularly in combination with asset management, will focus on current infrastructure without sufficient attention to needed alternative or additional infrastructure.
3. That performance measurement drives funding toward hard infrastructure, making less funding available for operations and transportation services.
4. How to develop local measures that will demonstrate that needs are being met

Performance measure reporting should include information on local assets in addition to the measures required by federal legislation.

These concerns can be addressed through the MPO’s selection of performance measures. Some measures are required by PennDOT and/or FHWA, but others should be determined. If the completion of local projects is a concern, then one or more locally determined performance measures can be used to measure investment in this area.

Current guidance from FHWA suggests that the MPO concentrate on a basic system performance approach, such as a summary tracking report that can be updated easily and regularly. With declining transportation budgets, effectively communicating this information to decision-makers and those at the state and federal levels could help to better focus available funding on needed projects.

Similar to what many state DOTs have implemented, this information could also potentially be included in an online transportation dashboard application, should the MPO decide to develop that type of tool.

As noted in an earlier section, significant improvements in the number of Poor-condition bridges have been achieved since the 2016 LRTP update, both on the state and local systems. Performance measure reporting should include information on local assets and locally prioritized programs, as well as the measures required by federal legislation, to provide the information necessary to continue to facilitate local asset management efforts.



7.1.2.1 Regional Local Bridge Prioritization Efforts

Beginning in 2015, for the 2017-2020 TIP update, SEDA-COG began conducting a regional prioritization process for local bridges as part of the update process. This built on the existing practice of convening meetings with each County within the MPO and PennDOT District personnel to confirm candidate projects. The candidates are ranked through a prioritization process that includes condition, land use, local priority, and consideration for innovative construction techniques. The process includes review by members and local input about context and local usage. This does not guarantee that high ranking projects will be programmed, but facilitates a clear conversation about priorities, repair, and financing strategies.

As more pressure mounts on the resources available for local bridges, this process should continue, to ensure that the few local bridge projects that are programmed have the greatest possible chance of proceeding to construction, and that there are clear expectations about what projects will and will not be programmed.

7.1.2.2 Act 89 Fee for Local Use

Act 89 of 2013 established a special fund within the state treasury called the “Local Use Fund.” As of January 1, 2015, any county may pass an ordinance to collect an additional \$5 fee at the time a vehicle is registered or renewed through PennDOT. These funds must be used by the county for transportation purposes or be allocated by the county in accordance with Section 9010 (c) of the Pennsylvania Vehicle Code. As of this writing, Mifflin County and Union County are among 25 counties statewide that have enacted Act 89 ordinances.

Union County is using the \$5 fee and a \$2 million “ROADMap” incentive match fund from PennDOT to replace and rehabilitate five county-owned bridges (#25, #9, #1, #21, and #13), for a \$4 million total investment.

In Mifflin County, the fee has been applied to replacement of the 110-foot-long T-439 bridge over Kish Creek, which is located on a dead-end road that serves about 300 homes in the “Lumber City” area of Brown Township. The township is also contributing up to \$500,000 in design and pre-construction costs. This project is a good example of leveraging various local sources of funds, including the local \$5 fee revenue from Act 89, to support projects.

In each case, the county obtained a Pennsylvania Infrastructure Bank (PIB) loan, and uses the income from the \$5 fee to address debt service. This approach allowed the counties to advance a package of projects, and provides them with the opportunity to plan for similar packages in the future as the debt is retired. This package approach allows the counties to consider preventive maintenance, bundling several small projects together, and leveraging local match for municipally owned bridges.

Discussions with counties that have passed the fee-for-local-use ordinances indicate that the initiative to provide up to \$2 million in ROADMap funds as an incentive was critical in the decision to pass the ordinance.

Although several other counties in the MPO area have considered passing the ordinance, those that have opened the issue to comments from the general public indicate the majority of comments received have been negative, and that there is a tendency to receive comments long after the initial passage due to the way the fee is explained in the renewal process.

The \$5 fee for local use has proved to be a versatile tool for addressing local bridge conditions. Although the initial round of projects secured by the program has yet to be completed, it is anticipated that the improvements made possible with this tool will significantly impact the condition of locally owned bridges over the life of this LRTP update.



SEDA-COG MPO staff urges PennDOT to consider whether federal or state funds could be allocated to match counties passing the \$5 fee in the future. SEDA-COG staff also advocates the completion of an after-action report or similar mechanism for documenting the results for counties that have implemented the fee.

7.1.2.3 Act 13 At-Risk Bridge Funding

Act 13 of 2012 established a Marcellus Legacy Fund and allocated a portion of the Marcellus Shale Impact Fee to be distributed to counties on the basis of population for the purpose of replacing or repairing at-risk deteriorated bridges. In 2020, the SEDA-COG MPO region allocation ranged from \$40,000 for Juniata and Montour counties to \$128,000 for Northumberland County.

The funds must be used on Poor-condition bridges to address the Poor-condition status. National Bridge Inspection Standards require highway bridges over 20 feet long to be inspected at least once every two years, and the resulting inspection report can serve as documentation of a bridge's Poor-condition status. There are no regular inspection requirements for bridges under 20 feet long. This can require the owner to pay for a bridge inspection to document that the bridge is in Poor condition. Beyond that, the funds are flexible. They can be used on county- or municipality-owned bridges, they can serve as match to a variety of other state and federal funding programs, and/or they can be accumulated over a number of years in order to fund larger projects.

After the county has decided on the allocation, the use of the funds has to be reflected on the regional TIP. This step is undertaken to document the usage of the funds and does not constitute a review or approval by the MPO on the use of the funds.

Since the passage of Act 13, this funding stream has served as an important resource for member counties, and has resulted the advancement of a number of small and innovative repair projects, including the development of local bundle projects, and beam and deck replacements led by municipal road crews that delivered critical repairs more quickly and for much lower costs than typical TIP-funded repairs. SEDA-COG MPO members and staff support additional funding sources using a similar distribution model.

7.1.3 Issue 3: System Improvements Must Address Resiliency to Weather Events

In April 2017, in part to respond to mandates from the federal FAST Act, PennDOT's Central Office completed the Phase 1: PennDOT Extreme Weather Vulnerability Study report as the initial step in a multi-phase effort aimed at better anticipating the consequences and potential impacts of extreme weather events and identifying funding priorities and strategies to improve transportation system resiliency. The study builds upon principles outlined in FHWA's Climate Change & Extreme Weather Vulnerability Assessment Framework to maintain compliance with the new FAST Act planning factor for "Resilience and Reliability."

In the past 15 years, more than \$140 million of emergency funds have been obligated on the Federal-Aid Highway System in Pennsylvania. In recent years, tropical storms and hurricanes including Irene, Lee, and Sandy have resulted in flooding that has washed out roadways, damaged bridge abutments, and caused significant traffic and safety impacts. The SEDA-COG MPO region has experienced its share of these events, whether a one-time issue or via recurring events at the same location. Because all of the SEDA-COG MPO region lies within the immediate or upstream watershed of the Susquehanna River basin, and contains significant hilly and mountainous topography, it is particularly vulnerable to flooding.

The PennDOT study analyzed the transportation system's vulnerability to extreme weather events involving flooding, snow and ice, heat, tornadoes/high winds, earthquakes, and landslides. PennDOT



mapped vulnerable locations, based in large part from roadway closure data retrieved from its Road Conditions Reporting System (RCRS). The study included development of a risk assessment framework to promote understanding of potential consequences and costs of extreme weather impacts on specific locations, help PennDOT determine priority locations for more detailed further study, and to provide information to support planning and programming of projects (including potential integration into the DOT/MPO/RPO project prioritization processes). PennDOT then developed historical and future risk assessment online maps to promote visualization and analysis of flooding vulnerability. The report also presented strategies and case studies for improving resiliency and compiled a “toolbox” of strategies to support resiliency. The examples cited included the District 2 Slide Rating System. One of the major recommendations of the report most relevant to the SEDA-COG MPO was to develop PennDOT vulnerability mapping and data report products for PennDOT and MPO/RPO use.

The Pennsylvania Climate Impacts Assessment Update, completed by the Pennsylvania State University in 2015, also evaluated available global climate models to identify potential climate scenarios within the state, and concludes that Pennsylvania’s increasing temperature and precipitation trends will continue at an accelerated rate and will include an increase in the number and level of extreme precipitation events.

The SEDA-COG MPO 2019 Strategic Plan comments:

In cases of repetitive damage, project scoping should consider a design that can withstand the next and likely stronger storm event, e.g., by resizing the bridge; improving the roadway drainage capacity; and stabilizing slides, sinkholes, and geotechnical issues. In addition, analysis of weather trends and impacts would help define the scale of improvement needed to withstand future storms over some predictable period.

The identification of natural and man-made hazards, including weather events and impacts, and the planned mitigation approaches, are discussed in hazard mitigation plans, prepared by each county in the Commonwealth. They address the vulnerability of the county and critical facilities to specific hazards; identify evacuation routes, as relevant to known hazards; and recommend mitigation approaches to reduce damages, including the loss of life and property.

Several steps to further the consideration of resiliency in project development were included in this LRTP update. To further awareness, flooding and rockfall data were included in the Corridors of Opportunity approach. Mapped data for flooding risk was added, as was historical data for closures due to rockfalls and the location of existing falling rock warning signs. Areas with the highest risk of flooding, or most consistent history of rock falls, were identified as Corridors of Opportunity, and it is the intent of MPO staff that the data layers will continue to be available to staff and other stakeholders for discussion in future project development efforts.

As part of the planning process SEDA-COG MPO staff have had the opportunity to participate in several Hydraulics and Hydrology (H & H) studies, and flooding issues were considered in the Danville Area Traffic Study. The flooding and stormwater projects recommended from these efforts were included in the discretionary project development process. Staff will continue to seek out efforts to participate in this type of study, and work to increase coordination with PennDOT District staff as part of scoping, analysis, and implementation efforts.

7.1.4 Issue 4: Modern Travel Patterns and Technology Have Outdated Some Corridors

The overall focus on transportation throughout the state and the SEDA-COG MPO region has been transitioning from the previous narrow focus on small, local jurisdictions to a more regional focus on



corridors that cross jurisdictions (including MPOs) and the implications of those corridors on much broader areas. Much of this changing focus has centered on how to "modernize" strategically important corridors to better serve communities, regions, and economic development centers. The MPO's 2019 Strategic Plan states:

Modern travel patterns and technology have outdated the current design and operations of some regional highways. Roundabouts are now commonly considered for intersections that meet certain criteria. Many one-way pairs are being converted to two-way travel in favor of traffic-calming and pedestrian safety. Signals can now operate as a system and respond to changes in traffic flow.

Appreciation for the walkability of the region's historic cities and small towns is growing in an era of concern for inadequate physical activity related to chronic disease. Yet, decades focused on vehicular circulation have overlooked the need for continuous pedestrian networks and created discontinuous sidewalk networks.

In addition, communities and their business areas in the region are growing, generating more traffic. Intersections that are askew and once carried low traffic volumes now carry more vehicles daily and put more travelers at risk.

Since the 2016 LRTP update, notable efforts to address this issue include the programming and advancement of coordinated traffic signal systems in the Lewistown and Lock Haven areas, and the installation of an adaptive traffic signal system on the US 15 corridor in Lewisburg. With support from PennDOT District 3-0 and local stakeholders, the MPO was also able to secure funding for the Danville Area Traffic Study (DATS) through the PennDOT Connects program.

In the DATS, existing transportation conditions and future development plans were assessed, and potential solutions were identified, to be addressed through future project development. The solutions identified ranged from planning practices such as access management studies and master plans, to capital and intersection improvements. The location of Geisinger Medical Center in a geographically constrained area and a neighborhood setting was identified as a major factor. Capital improvements ranging from intersection improvements to more regional projects such as the construction of a new river bridge or a new interchange with Interstate 80 were identified as potential solutions, and considered in the discretionary project development process of this update for establishment as regional priorities. Consideration of the projects identified included prioritization, eligibility for potential funding streams, and a recommendation on the next step in project development.

The overall approach to the study—consulting local stakeholders and regional context to identify root causes and potential solutions for persistent transportation issues—represents a proof of concept for the PennDOT Connects process. The process and techniques learned through the study will be developed and refined through future efforts.

To facilitate clear identification of areas where similar projects and studies should be considered, traffic volume and congestion data was incorporated into the Corridors of Opportunity approach. Traffic volumes were drawn from PennDOT's Roadway Management System (RMS). Congestion data was based on an analysis of the Travel Time Index (TTI) data for the AM and PM peak hours available through the RITIS platform. Thresholds of 1.3 and 2.0 were used to establish areas of medium and high congestion, respectively. As with other areas of the Corridors of Opportunity of Approach, the intent of staff is to continue to make this data available to staff and area stakeholders for use in area project development.

The RITIS platform offers a range of other data for consideration, and future efforts should be made to incorporate this data into the planning process. Examples include:



- Historic average congestion (%)
- Historic average speed (mph)
- Comparative speed (%)
- Congestion (%)
- Speed (mph)
- Travel time index
- Buffer index
- Planning Time index

The impact of the CSVT on regional corridor operations must be considered, including the need for new traffic signals and/or coordination of traffic signal timings. As discussed in a later section, completion of the CSVT will significantly affect traffic patterns and operations throughout the region. These changing traffic patterns will need to be addressed on affected corridors through signal operations evaluations and improvements, and possibly additional ITS-type improvements. These operational-related needs will be discussed in more depth in the following section.

Another aspect of changing conditions related to modern travel patterns and technology is the continuing emergence of new transportation technologies. These include the shift to electric vehicles, development of technology for connected and autonomous vehicles, and ride-hailing and home delivery services. These growing changes in the transportation market are affecting transportation revenues and available project funding formulas, as described in an earlier section. They also alter demand and expectations for transportation networks. MPO staff will continue to monitor these technologies and their implications for the region. The following sections note some areas that may become focal points for staff efforts over the life of this LRTP update.

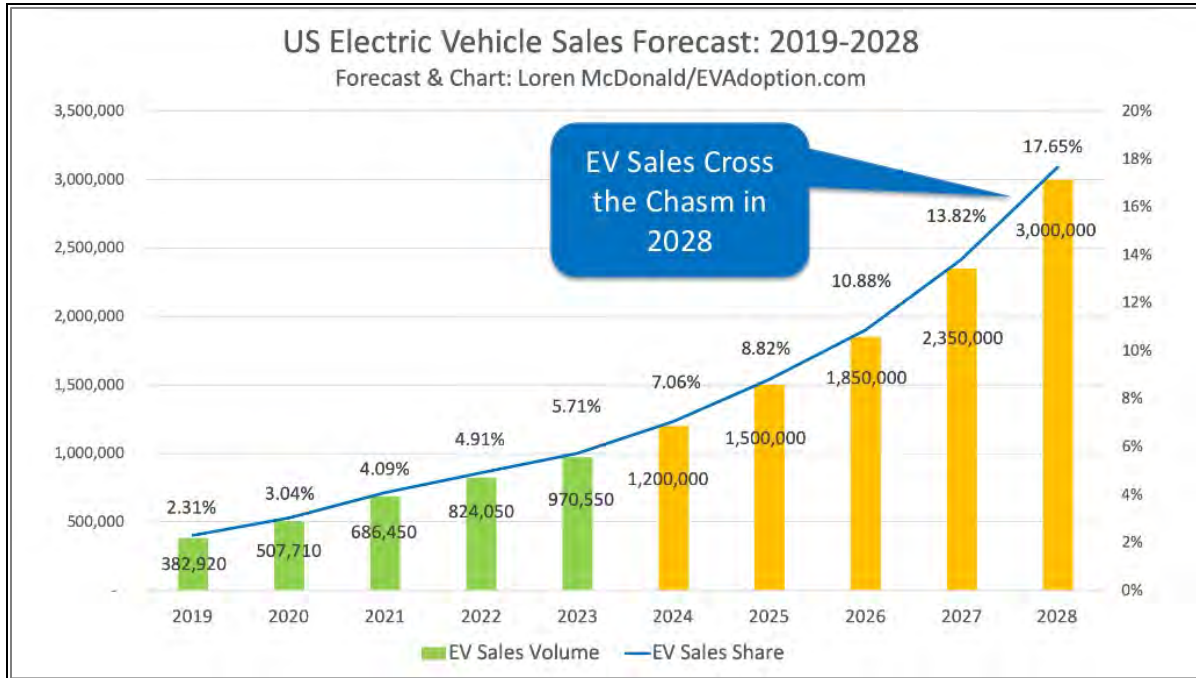
7.1.4.1 Electric Vehicle Use and Availability of Charging Stations

As the number of electric vehicles (EV) in use increases (see Figure 58), EVs are expected to become mainstream no later than 2028. There are various factors that could influence this projected date, including gas and battery prices, regulations, battery range, charger speed and availability, federal incentives, and supply of new EV models, but the trend is real and gathering momentum. As mentioned previously, how federal and state transportation taxes are levied could change significantly due to the increasing presence of EVs. In addition, the geographical range of EVs is increasing as batteries become improved and recharging requirements lessen. Public expectation of more publicly accessible charging stations will increase, especially as EVs providing commercial delivery services (as one example) become more common. The Biden Administration is expected to promote expanded adoption of EVs, along with a national EV charging infrastructure and increased research and development into improved storage batteries and related technologies. How PennDOT and its Planning Partners support and develop this service, and where charging stations should be located, needs to be considered in the very near future, especially with respect to standardizing the types of stations. The Pennsylvania Turnpike Commission (PTC), in partnership with the Pennsylvania Department of Environmental Protection, has already installed EV charging stations for travelers to use at five Turnpike service plazas (see <https://www.paturnpike.com/travel/electric.aspx>).

The Drive Electric PA Coalition (DEPA) has also led efforts to promote electric vehicle adoption. The Pennsylvania Department of Environmental Protection Energy Programs Office began collaborating in 2016 with PennDOT and stakeholders statewide in a planning process intended to increase the acceptance

and adoption of EVs by state government agencies, local governments, businesses, industry, and the general public in Pennsylvania.

Figure 58. U.S. Electric Vehicle Sales Forecast



Source: "When Will EVs "Cross the Chasm" into the Mainstream in the US?", EVAdoption.com, <https://evadoption.com/ev-sales/ev-sales-forecasts/>, accessed April 30, 2020

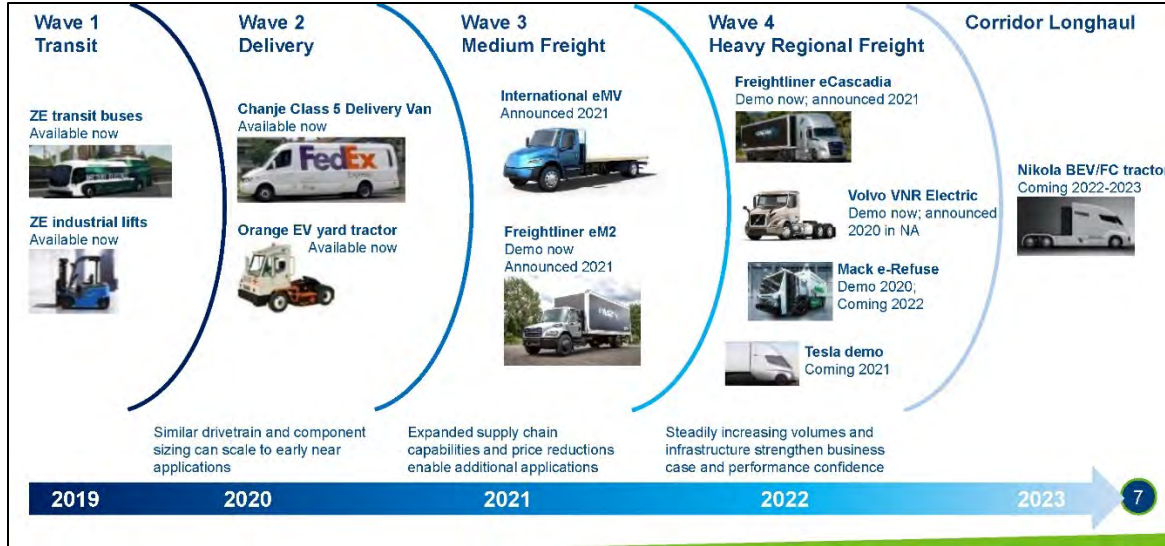
Some utilities offer incentives for installing charging stations. When multiple stations are installed in the same area, there is potential concern about overwhelming the local utility infrastructure.

Locations of alternative fuels fueling stations, including electric charging stations, can be viewed on several Web sites, including:

<http://www.depgis.state.pa.us/EPOAlternativeFuelsViewer/>, <https://www.plugshare.com/>, https://afdc.energy.gov/fuels/electricity_locations.html#/find/nearest?fuel=ELEC, and <https://chargehub.com/en/charging-stations-map.html>

Paralleling the growth in development and adoption of non-commercial electric vehicles, the commercial transportation sector is pursuing the same directions. By 2023, over 200 commercially available models of EV trucks will be available. Development and deployment of commercial EVs so far has largely begun with public transit vehicles, and will be followed by EVs for delivery fleets, medium freight haulers, heavy regional freight carriers, and long-haul/corridor fleets (see Figure 59).

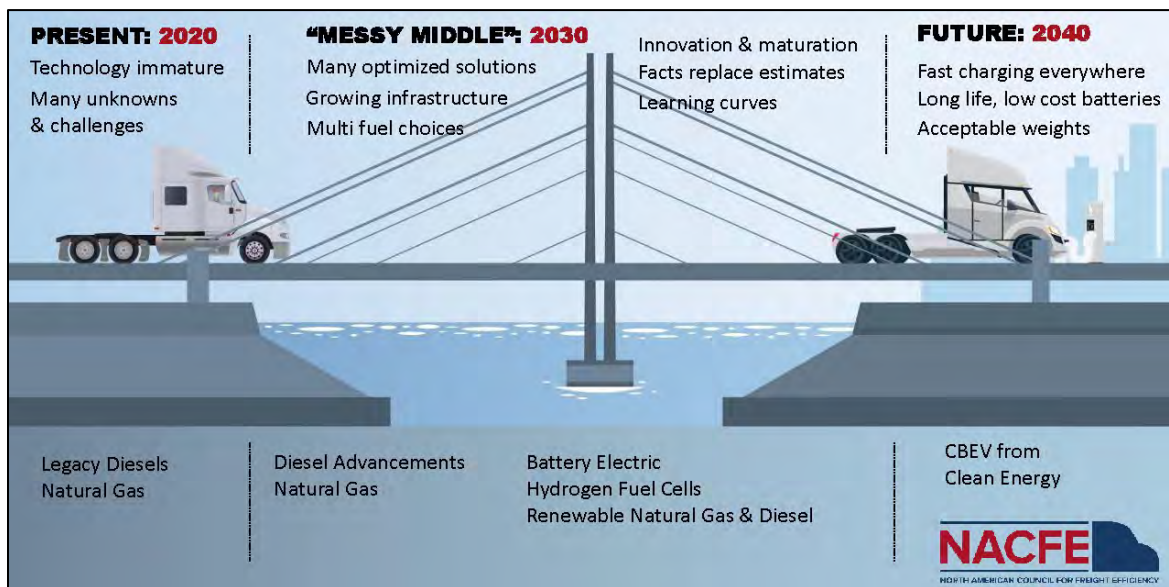
Figure 59. "Waves" of Commercial Electric Vehicle Development



Source: "Plugging In: Electric Trucks in the Northeast,"
Northeast Diesel Collaborative, June 25, 2020, Webinar

Similar to non-commercial EVs, the main limiting factors are range of vehicles and their cost. Much adoption in this sector will be due to provision of financial incentives to adopt the technology, which will primarily come from the federal and state governmental levels. The adoption process is being projected to have a "messy middle" by around 2030 where vehicle costs and economics, the pace of development, and range factors currently present barriers (Figure 60).

Figure 60. Commercial Electric Vehicles Adoption "Technology Bridge"



Source: "Plugging In: Electric Trucks in the Northeast,"
Northeast Diesel Collaborative, June 25, 2020, Webinar

There is also still competition from the propane/compressed natural gas (CNG)/liquefied natural gas (LNG) sector for commercial vehicle conversions, incentives, and cost economics. For now, it is expected that a “portfolio” of choices will be available for commercial haulers should they decide to convert their fleets.

The significance to the SEDA-COG MPO area of the transition of commercial vehicles to electric is twofold. First, as noted above in the section for non-commercial vehicles, provision of charging station locations and types will have to be considered. Second, impacts on federal and state transportation revenues must be evaluated.

7.1.4.2 Federal, State, and Private Sector Electric Vehicle Initiatives

In July 2019 FHWA announced an applied research funding opportunity for transportation agencies to assist with planning for the deployment of alternative vehicle fueling and charging facilities along Interstate corridors across the nation with the goal of filling gaps and designating corridors as “ready” as defined by the criteria established under FHWA’s Alternative Fuels Corridor (AFC) Program. The projects have three main goals:

1. Development of a Corridor Deployment Plan
2. Designation of Corridors as “Ready”
3. Development of Public-Private Partnerships



In October 2019, FHWA selected the Illinois Department of Transportation (IDOT) as one of five transportation agencies to receive applied research funding to develop deployment plans for alternative vehicle fueling and charging facilities along Interstate corridors. The plans are intended to help fill infrastructure gaps and enable targeted corridors to be designated as “Corridor-Ready.” Through the Mid-America Alternative Fuel Corridor Partnership led by IDOT, State DOTs (including PennDOT) and other partners including Clean Cities Coalitions, utilities, fuel providers, charging and fueling networks, large fleets, and OEMs will work together to evaluate infrastructure gaps along Interstate 80—the second-longest Interstate Highway in the United States, which runs east–west through the SEDA-COG MPO. IDOT aims to move “Pending” corridor designations to “Ready” by developing a deployment plan for natural gas and electric infrastructure along the stretch from New Jersey to Omaha, Nebraska, within one year.

Pennsylvania has also been selected by FHWA to participate in two of five Alternative Fuel Deployment plan projects. PennDOT coordinated the submission of an application to develop a plan to establish CNG and EV fueling infrastructure along parts of I-81 and I-78 in eastern PA (not in the SEDA-COG MPO region) in response to the Alternative Fuels Corridor Deployment Plan solicitation.²²

California has led a national effort to electrify trucks and buses.²³ Pennsylvania is a participant in this program. The goal is to have 100 percent of all new medium- and heavy-duty vehicle sales be zero emission vehicles by 2050, with an interim target of 30 percent zero-emission vehicle sales in these categories of vehicles by 2030. Participation in this program is not legally binding to meet these goals.

²² For more details on these initiatives, see

https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/webinars/summary_report/

²³

<https://files.dep.state.pa.us/Energy/OfficeofPollutionPrevention/StateEnergyProgram/PAElectricVehRoadmapBookletDEP5334.pdf>



7.1.4.3 e-Bikes

Electrically powered bicycles (“e-bikes”) are starting to become popular for personal use. Class I e-bikes have motors that engage only when the rider stops pedaling and disengage when a 20-mph speed is reached. The e-bike market in North America is expected to grow at an annual rate of 11 percent through 2028. To augment this trend, prices of e-bikes are declining and availability is increasing.

There will be growing, significant implications from e-bikes for the SEDA-COG MPO, especially with respect to assurance of safety and provision of appropriate facilities. A 2016 research study concluded that e-bikes do have a specific set of safety implications, and that transportation policymakers need to adapt accordingly. (Transportation Research Part F: “Traffic Psychology and Behaviour,” Volume 41, Part B, Pages 179-308 (August 2016)), <https://www.sciencedirect.com/journal/transportation-research-part-f-traffic-psychology-and-behaviour/vol/41/part/PB>. E-bikes often travel at faster speeds than regular bikes, and users may travel more frequently with e-bikes. There may be more frequent crashes, and conflicts with pedestrians and other cyclists may be more common. Rates of e-bike crashes with cars and trucks have been reported to be as much as 30 percent higher than those of non-motorized bicycles.

Consideration locally also should be given as to whether “regular” bike travel facilities (primarily bike lanes and paths) are suitable for e-bikes, whether modifications are needed, or if new facilities should be constructed or designated. Further studies are also needed on safety and facility-related issues with e-bikes.

7.1.4.4 Connected and Autonomous Vehicle (CAV)/Highly Automated Vehicle (HAV) Initiatives

Research and testing of connected and autonomous vehicles continues, including in Pennsylvania, and PennDOT commissioned an extensive Pennsylvania Joint Statewide Connected and Automated Vehicles Strategic Plan,²⁴ completed in 2016, which addressed the following goals for CAV planning and operations:

1. Inform leadership of CAV developments, including capabilities and limitations, projected timelines, predicted risks, and benefits for traffic management operations and public safety.
2. Present the approach and findings from the CAV Strategic Plan’s development process.
3. Establish the vision, mission, and goals of the PA CAV Program.
4. Set proactive objectives and actionable steps for PennDOT.
5. Outline pilot projects that demonstrate the benefit of CAV and advance the PA CAV Program.

The plan identified 45 implementable objectives with identified short- and long-term benefits.

Current CAV/HAV initiatives in the state include:

- The Automated Vehicle Transparency and Engagement for Safe Testing (AV TEST) Initiative (see <https://www.nhtsa.gov/automated-vehicles-safety/av-test-initiative-tracking-tool>). PennDOT was selected by the National Highway Traffic Safety Administration (NHTSA) in 2020 to join nine companies and seven other states as the first participants in a new pilot of the USDOT’s initiative to improve the safety and testing transparency of automated driving systems. The states included are California, Florida, Maryland, Michigan, Ohio, Pennsylvania, Texas, and Utah. The participating companies are Beep, Cruise, Fiat Chrysler Automobiles, Local Motors, Navya, Nuro, Toyota, Uber, and Waymo.

²⁴https://gis.penndot.gov/BPR_PDF_FILES/Documents/Research/Complete%20Projects/Operations/Pennsylvania_Automated_Vehicle_Strategic_Plan.pdf



- The Partners for Automated Vehicle Education's (PAVE) Public Sector Advisory Council. PennDOT is a member of this group of public sector organizations that will assist with PAVE's campaign to educate consumers about automated vehicles and their societal impacts.
- PennSTART, a collaboration among PennDOT, the Pennsylvania Turnpike Commission, and Penn State University to develop a state-of-the-art training and testing facility for CAV/HAV research.
- The Smart Belt Coalition, a collaborative effort that includes PennDOT, the PTC, Ohio DOT, the Ohio Turnpike, and Michigan DOT along with transportation agencies and universities in Pennsylvania, Ohio, and Michigan to focus on automated and connected vehicle initiatives.
- The Pittsburgh area testing self-driving cars. Five companies—Aptiv, Argo AI, Aurora, Carnegie Mellon University, and Uber—have been testing 55 driverless cars in 32 of Pittsburgh's neighborhoods and suburbs. All vehicles in the study use some combination of sensors, lidar sensors, cameras, GPS systems, telematics, and software to keep track of other vehicles and pedestrians.

Reaction and response to this testing and other initiatives within Pennsylvania and elsewhere has recently perhaps sounded a more cautionary note. The relative safety of such vehicles being put into the mainstream has been questioned, particularly with regard to detection of pedestrians. Continued development and research with CAVs may not result in mainstream, widespread deployment for some time, and may involve hybrid vehicles that are at least partially controlled by in-vehicle drivers. Nonetheless, the SEDA-COG MPO region is likely to begin seeing at least some limited deployment of CAVs/HAVs in the LRTP period, perhaps with fixed-route services such as campus buses and ride-hailing and home delivery services.

7.1.4.5 Unmanned Aircraft System (Drone) Usage and Regulation

Unmanned Aircraft Systems (UAS), or drones, have entered the transportation market as well and are being used for a variety of purposes nationwide such as disaster assessment and emergency management. PennDOT has participated in multiagency coordination to discuss cooperative efforts in using UAS and to regulate their safe use. Pennsylvania now has an Unmanned Aircraft Systems Law that regulates UAS. UAS use has also been cited as a method to promote social distancing in situations impacted by the COVID-19 pandemic. Each PennDOT District Office now has a UAS point of contact, and in 2019 PennDOT began certifying contractors to use drones on state projects.

7.1.4.6 Personal Delivery Device Vehicles

The ground-based version of drones is personal delivery device (PDD) vehicles. Act 106 was passed by the Pennsylvania Legislature and became law in December 2020. The legislation requires PennDOT to develop policy and an application process to authorize the operation of personal delivery devices within Pennsylvania. PDDs are authorized on the shoulder/berm of roadways posted at 25 mph or less and in pedestrian areas including sidewalks and crosswalks. Local municipalities and PennDOT may prohibit these devices on facilities under their jurisdiction if it is determined they would constitute a hazard, but local restriction can only occur after passing an ordinance or resolution. The implications for the SEDA-COG MPO transportation network may be limited to the more urbanized portions of the region but still bear monitoring, especially with regard to potential vehicular and pedestrian safety issues.

7.1.4.7 Ride-Hailing and Home Delivery Services

The SEDA-COG 2019 Strategic Plan notes that “ride-hailing services haven’t adapted to rural regions but are likely to overcome the challenges of distance and driver density with time and creativity.” Studies

indicate that for popular ride-hailing services such as Uber and Lyft there is an urban–rural divide of usage at present, with little availability of these types of services in the MPO region. Lower population densities, longer travel distances, and the relatively low cost of driving are often cited as potential hurdles in rural areas. Conversely, the lack of public transportation services can promote the use of ride-hailing services, or on-call or on-demand services such as that being implemented by the Geisinger Health System in and surrounding the Danville area (as described Section 4.2.3.6). Rural usage of ride-hailing services such as for the SEDA-COG MPO region can be expected to increase slowly but will continue to depend upon the relative cost economics for both users and providers.

7.1.5 Issue 5: Operations are Essential to Systematic Traffic Incident Management

PennDOT is responsible for operations planning at the statewide level. In 2018, PennDOT developed the TSMO Guidebook, Part 1: Planning, which described a new statewide approach to Transportation Systems Management and Operations. The new approach called for the development of regions for operations planning, and grouped the SEDA-COG MPO region and all of PennDOT Districts 2-0, 3-0, and 9-0 into the TSMO Central Region. A Regional Traffic Management Center (RTMC) is located at the PennDOT District 2-0 office in Clearfield.

In 2018, PennDOT completed a Regional Operations Plan for the central region. SEDA-COG MPO members and staff participated in the update as steering committee members, and helped to identify regionally significant facilities and issues, identify potential ITS projects to address issues, and prioritize the projects identified. The plan was adopted by the MPO in December 2018, and the projects were considered as part of the discretionary project process. PennDOT expects to update the ROP on a five-year cycle, with work on the next update beginning in late 2022 or early 2023.

The 2019 SEDA-COG Strategic Plan comments:

As traffic increases, the need for operational controls and the potential for traffic conflicts increase. This need is elevated when weather or other events result in road and bridge closures, further concentrating traffic on the remaining streets and highways.

Some operational needs can be anticipated, and responses can be formalized as protocol due to the repeated nature of the incident. But others require real-time communication and coordination among EMS/EMA, PennDOT, and state and local law enforcement during incidents and are valuable for after-action evaluation.

To assist in rerouting traffic from major highway corridors in Pennsylvania during emergency and incident situations, PennDOT has developed Emergency Detour Routes (EDRs). These routes are posted with trailblazer signs and are intended for travelers on limited-access highways and freeways. They mostly closely parallel the existing corridors and serve as alternative routes when roadways are temporarily closed between interchanges. In the MPO region, these corridors include Interstates 80 and 180 and US Routes 11/15, 22/322, and 220 (Figure 61). Routes are categorized by color/direction, where green=east, blue=north, black=west, red=south, and orange and brown mark overlapping routes.

Official PennDOT Detour Routes for Southeastern Pennsylvania are entered and updated in a Web-based application called IDRUM (Interactive Detour Route Mapping). The Delaware Valley Regional Planning Commission (DVRPC) developed the application on a secure Web site (www.idrum.us) that provides access to up-to-date digital PDF maps for all existing official DOT Emergency Detour Routes within Southeastern Pennsylvania and New Jersey.

Integrated, effective operation of traffic control signal systems is key to operations, promoting efficient traffic flows and safety—including for pedestrians. To facilitate improvements in existing traffic signal

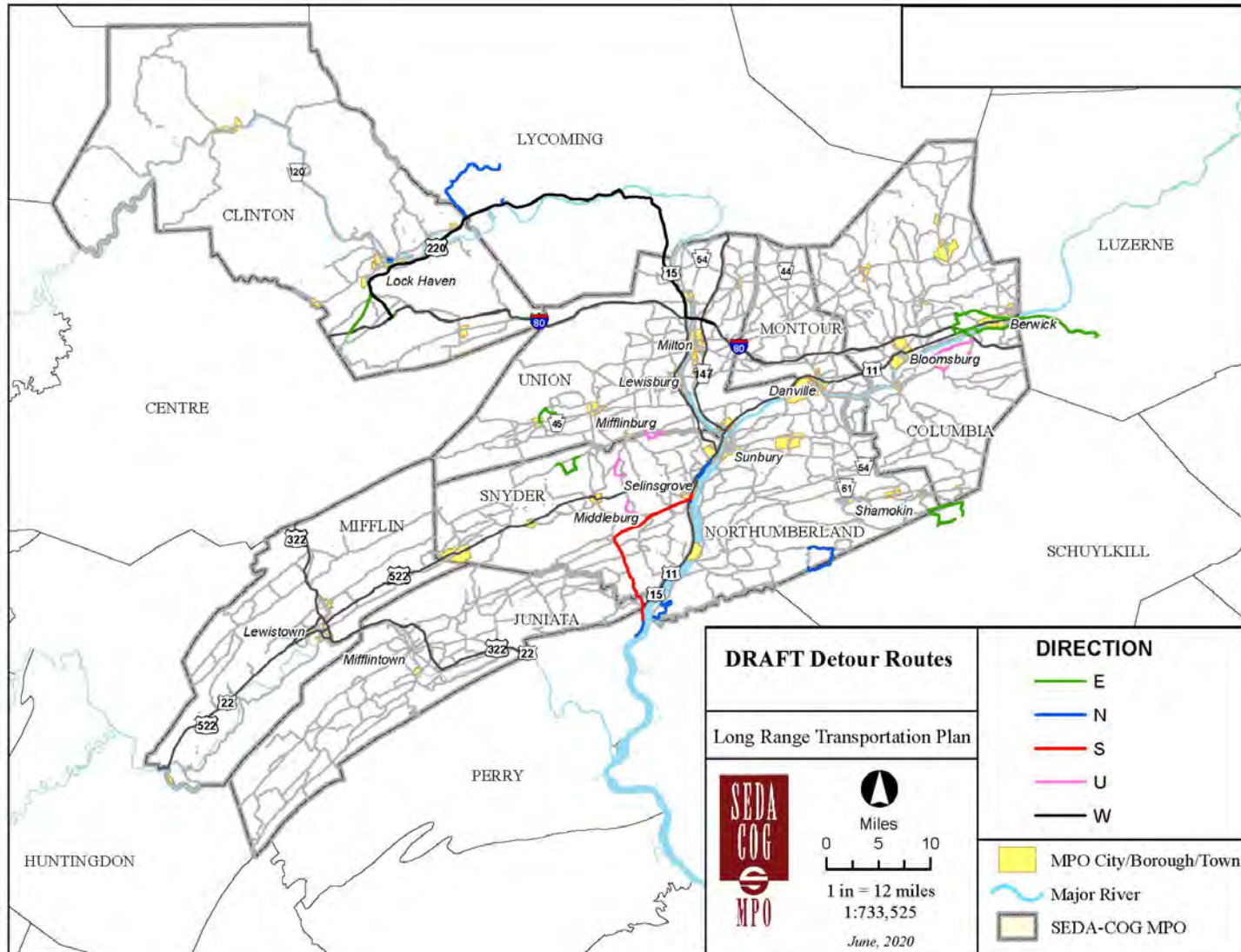


systems and corridors, PennDOT established dedicated funding for a municipal signal partnership program known as “Green Light-Go.” PennDOT launched the program in 2013 under the Act 89 legislation and revised it as part of Act 101 of 2016. Green Light-Go provides state funds for the operation and maintenance of traffic signals along critical and designated corridors on state highways. Applicants are required to provide 20 percent matching funds.

Due to revenue shortfalls in the Motor License Fund resulting from COVID-19, Green Light-Go funds for application year 6 (FY 2020-21) were not awarded. Grant contracts for earlier years for which no work had been performed were terminated. Projects which were in design, but had not started construction, were allowed to finish design, however no construction funding was awarded. When fiscal conditions allow the resumption of this program, the expectation is that the first priorities will be to continue or restart the projects paused due to the funding shortfall.

In the SEDA-COG MPO region, \$263,094 in Green Light-Go funding was awarded in October 2019 to Kelly Township, Union County, for traffic signal retiming, controller upgrades, and communication at seven intersections along US Route 15, and \$172,624 was awarded to the Town of Bloomsburg, Columbia County, for retiming traffic signals at nine intersections, upgrading controllers, and providing connectivity to the regional Traffic Management Center. Both projects were terminated before work began. The projects were considered in the discretionary project development process, and are considered near-term implementable regional priorities.

Figure 61. PennDOT Emergency Detour Routes, SEDA-COG MPO Region





7.1.6 Issue 6: Our Region's System Must be Conveniently Multimodal and Service-Supported

The SEDA-COG MPO region consists of small urbanized areas and villages dispersed across large rural counties. Employment and meeting household and personal needs commonly requires intercommunity travel. Households without access to a vehicle or residents seeking to follow a car-free or car-light lifestyle may use public transportation, ride-hailing or taxi services, or walking and bicycling.

In 2019, SEDA-COG completed an update to its Coordinated Public Transit–Human Services Transportation Plan. The update was a joint effort with the Williamsport MPO, and covered a nine-county area. Key areas covered in the update and strategies to address the gaps identified were discussed Section 4.2.3.6.

SEDA-COG MPO staff supports the Central Pennsylvania Transportation Coalition—a forum for planners, transit providers, and human service agencies to discuss transportation issues on a regular basis. Since 2018, SEDA-COG has also facilitated a regional Fixed-Route Transit Study Advisory Group to assist regional providers in responding to local requests and opportunities to expand fixed-route service. As discussed in Section 4.2.3.6, due to transit revenue shortfalls, PennDOT has been forced to prioritize preserving existing service over initiating new service, and the fixed-route initiative was tabled in late 2020. The two groups consist of an overlapping membership of public transit stakeholders, and an opportunity exists to reconsider the membership and organization of the groups, providing for a more efficient and comprehensive response to transit needs within the region. Discussions with stakeholders and providers on the most effective opportunities will be initiated as an implementation step to this LRTP.

Section 4.5.3.2 also discussed the formation of the MSATC to provide regular input on active transportation issues and aid in project development. SEDA-COG collaborates with the Susquehanna Greenway Partnership to staff the main committee and three subcommittees, and all four groups continue to meet quarterly, advancing the initiatives included in the pedestrian and bicycle plan.

The group completed a 2020 update to the regional bicycle and pedestrian project listing, and resulting projects were considered in the discretionary project development process. The group also continues to work on safety initiatives, working with municipalities and stakeholders to develop funding and support for audits and planning processes, and developing corridor-based mapping for bicycle and pedestrian concerns. This data, along with the bicycle level-of-stress analysis completed as part of the plan, may be added to the Corridors of Opportunity approach as opportunities allow.

Planning for railroad operations is carried out by the SEDA-COG JRA. The MPO and JRA benefit from close coordination and the sharing of resources and even staff in the planning process. JRA staff engage frequently and collaboratively with PennDOT at the state and District levels, and with MPO members and stakeholders at the project or regional levels. This unique arrangement streamlines much of the communication required in transportation planning, and results in effective dissemination of information to stakeholders and involved agencies.

7.2 Localized Priority: Integration of the CSVT with Local Land Use and Transportation

The CSVT Project (Figure 62) is one of the largest on the current State Transportation Improvement Program. It is part of Corridor P-1 of the Appalachian Development Highway System. As a major capacity-adding project, the project addresses a major freight and passenger bottleneck.

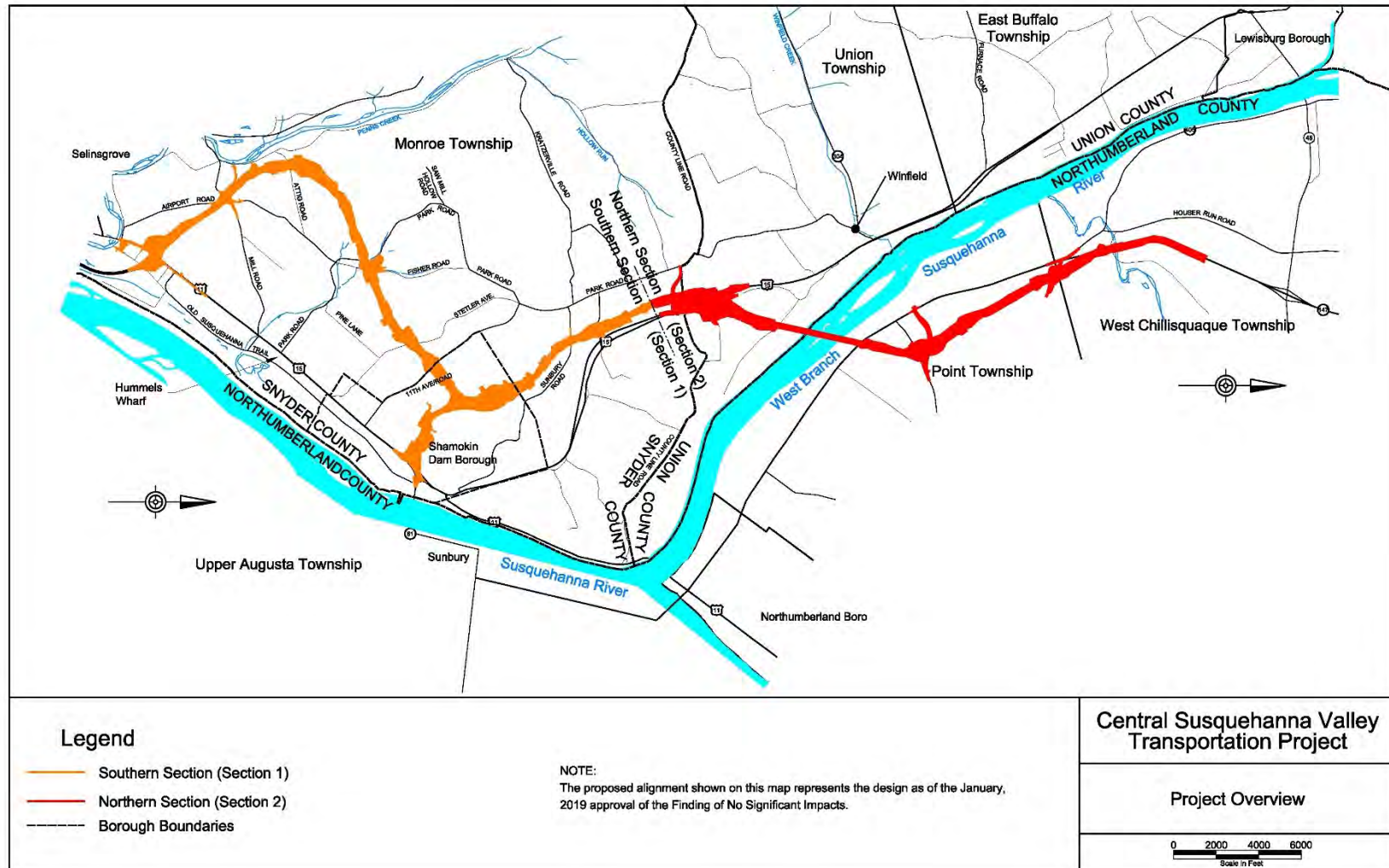
The CSVT corridor will bypass several town centers but will better connect communities with the National



Highway System and the markets it serves. The CSVT was identified as the highest priority project for the region in the 2016 LRTP and the top priority program area in the 2019 SEDA-COG Strategic Plan.

The CSVT project is split into two sections, as shown in Figure 62. The Northern Section starts at the planned US 15 Interchange at County Line Road south of Winfield and extends to the existing four-lane section of PA 147 south of Montandon. The Southern Section starts at the existing US 11/15 / US 522 Interchange north of Selinsgrove and extends to the Northern Section at the planned US 15 Interchange. An interchange and connector to PA 61 within Shamokin Dam Borough is included with the Southern Section. The PA 61 Connector is a critical element that helps accomplish the project's purpose by taking traffic off existing roadways, such as US 11/15 and PA 147, and onto CSVT. The project overall will construct approximately 13 miles of new four-lane, limited-access highway in Snyder, Union, and Northumberland counties. It is expected to improve safety, reduce congestion, and ensure sufficient capacity for growth, primarily by separating freight traffic (trucks) and through traffic from local traffic. As a project with a total estimated cost of \$865 million, the MPO recognizes that ongoing communication between the MPO and its member counties and municipalities will be important as the project moves from preliminary engineering to final design to construction to operation. Construction of the Northern Section, commencing with the new bridge over the West Branch Susquehanna River, began in 2016. The river bridge was completed in late 2020, and the Northern Section overall is anticipated to be completed and opened to traffic in 2022. Meanwhile, final design of the Southern Section is ongoing. The development of this section was delayed by the need to modify roughly two miles of the project alignment after geotechnical studies during final design identified unexpected conditions in the two fly ash waste basins that the new highway was previously proposed to cross. Following additional engineering/environmental studies and public outreach to evaluate alternative alignments for avoiding the ash basins, PennDOT completed a Supplemental Environmental Assessment, and FHWA issued a Finding of No Significant Impact (FONSI) that identified a selected alternative in January 2019. The FONSI represents environmental clearance for the Ash Basin Focus Area and has allowed final design, right-of-way acquisition, utility relocation, and permitting activities to proceed. Construction of the Southern Section is currently anticipated to begin in 2022 and to be completed in 2027.

Figure 62. CSVT Project Proposed Alignment



Source: PennDOT, April 2021

Figure 63. CSVT West Branch Susquehanna River Crossing Construction, Summer 2020



Looking west with the Winfield (SR 15) Interchange to the left, the River Bridge center, and the Ridge Road Interchange to the right.
Source: Central Susquehanna Valley Transportation Project Web site, <http://www.csvt.com>, accessed April 27, 2021



There are many significant implications and expected changes that will result from the completion of the CSVT. The 2019 SEDA-COG MPO Strategic Plan notes that:

In many cases, municipalities have neither the funding nor the planning expertise to adequately prepare for the coming changes in development pressure and patterns that will be introduced by the CSVT. The MPO needs to remain active in coordinating planning at the county and municipal levels to address changing patterns through the construction period and perhaps through at least the first years of operation.

Further consideration of the effects of the CSVT should include:

1. The need for land use planning and traffic operations support for directly affected and surrounding municipalities, including consideration for pursuit of PennDOT special-study funding to address secondary impacts along the corridor and around interchanges providing local access.

- Selinsgrove (US 522-US 11/15) Interchange:

This partial interchange exists today and will be completed as part of the CSVT project. It is a major gateway to the community of Selinsgrove and the extensive commercial development along the US 11/15 corridor through Hummels Wharf and Shamokin Dam. New demand for highway-oriented, easy-access development may place development pressure on parcels near the interchange.

- Shamokin Dam (PA 61-US 11/15) Interchange:

A new connection between the CSVT mainline and this existing grade-separated interchange will be created as part of CSVT's Southern Section. The interchange will become a confluence point for local access to Shamokin Dam and Hummels Wharf as well as traffic seeking a bypass route around these areas for access to CSVT (north and south), US 11 (to/from the east), and PA 61 (to/from Sunbury and points farther to the southeast). Each of these connections makes the area around the interchange more accessible and may intensify the interest in river frontage near the US 11 and US 15 intersection and the former PPL coal power plant property (which is now operating as a natural gas-powered facility) and redevelopment of surrounding property as an industrial park or similar. The interchange sits in the middle of a growth area designated by Snyder County.

- Winfield (US 15) Interchange:

This new local access interchange is situated near a high point along the existing US 15 highway. The area is largely forested with residential uses dominating the nearby area. The proposed interchange includes realignments of existing two-lane roads and a proposed park-and-ride lot. Topography of the area and zoning may limit the feasibility and desirability of larger-scale commercial development. However, considering the current residential subdivision patterns in the area, continuation of this development trend is likely, as the area becomes more accessible for persons employed in the larger activity centers and seeking a rural residential option. Potential also exists for highway commercial development along US 15, particularly to the north where Union County has designated a growth area.

- Northumberland (Existing PA 147/Future PA 405) Interchange:

This new local access interchange will connect the CSVT mainline to existing PA 147



(which will be redesignated as PA 405 upon completion of CSV T's Northern Section) between Northumberland and Montandon. It has drawn local concern among residents of Point Township in Northumberland County. The area surrounding this interchange is already zoned for commercial use. The Township has a zoning ordinance in place, but may require support to adopt overlays, access management, or other ordinances to manage development pressures in the corridor. The interchange includes a proposed park-and-ride lot.

- Existing PA 147 Interchanges – Montandon-Lewisburg (PA 45) Interchange, Industrial Park Road Interchange, Milton-Mahoning Street (PA 642) Interchange, and Milton-Broadway Street (PA 254) Interchange:

These existing diamond interchanges were completed along with the limited access section of PA 147, which bypasses Milton and Montandon. To date, minimal commercial and industrial development has occurred around the interchanges. However, pressure for highway-oriented services will increase as north-south through traffic is consolidated on the CSV T roadway. A new distribution center has been opened in proximity to two of these interchanges, and a local access road improvement project will provide better access to a large parcel in the Milton Area Industrial Park. Provision of utilities in new areas for commercial and industrial development, including water, sewer, and natural gas, will be needed for these areas to support buildout. The effects of development and increased traffic in these areas must continue to be addressed by local county planners in the very near future, ideally before the full impact of the CSV T opening begins to be realized.

Development pressure for truck-related services may also be seen at the two Milton interchanges closest to Interstate 80, depending on parcel availability and zoning. Turbot and West Chillisquaque townships may require support to adopt overlays, access management, or other ordinances to manage development pressures. At each interchange, driveways are located relatively close to the interchange ramp intersections, complicating traffic access and future traffic operations.

The patterns of traffic access at the Montandon-Lewisburg interchange should also receive some attention in the years following completion of the CSV T. For example, the redistribution of traffic that will result from the opening of the CSV T roadway could alter the existing main street environment along PA 45 through Lewisburg Borough.

- Interstate 180 Interchanges, Northumberland County:

A local project will be implemented to improve sewer and water utilities at the PA 54/Turbotville Interchange to support future development.

2. A need for recalibration of the impacted travel corridors in terms of functional classification, network classification (BPN, Corridor Modernization), operations and future maintenance needs. The impacted corridors include the new access locations described above, as well as the following existing corridors:

- US 11/15 through Hummels Wharf and Shamokin Dam:

With trucks and considerable through volume removed from this corridor, the roadway will be less of a community barrier and new opportunities will emerge for development patterns, use of roadway space, and creation of cross-connections. Redevelopment of the nearby former PPL coal-fired power plant site adds to the potential for significant

transformation of the community.

- Existing PA 147/Future PA 405 (Duke Street) through Northumberland Borough:

Over the years, substantial changes in the roadways, intersections, signs, and signals in Northumberland Borough have been made out of necessity to accommodate the heavy trucks traversing the grid network of Northumberland Borough. With the CSVT roadway carrying many of these trucks, there may be improved opportunities, depending on how much traffic is removed from existing PA 147, to convert and reallocate the roadway's space for community use—e.g., improved pedestrian crossings, expanded sidewalk space, bike lanes, etc.

- US 15 through East Buffalo Township, Lewisburg Borough, and Kelly Township:

The US 15 Smart Transportation Corridor Study, completed in 2010, evaluated a 2.5-mile section of US 15 near Lewisburg, and created an urban corridor plan that incorporates sidewalks, median treatment, access management, and new community roadway and trail connections. The plan also addressed ordinance changes and other regulatory changes needed to resolve existing conflicts and limitations. With completion of the CSVT, most elements of the plan—including completion of the Buffalo Valley Rail-Trail connection across US 15—become even more viable as traffic is reduced and US 15 becomes less of a barrier to the community.

The themes and evaluations completed in the US 15 Study may provide a template for other post-CSVT studies in Northumberland and Hummels Wharf/Shamokin Dam.

As recognized in the 2016 LRTP update, there is broad consensus that the region must prepare for the land use and economic effects of the CSVT. During 2020 the SEDA-COG MPO began partnering with the Williamsport MPO on a Central Susquehanna Valley Transportation Project Special Impact Study. The study is examining the potential traffic diversions and subsequent land use impacts that may be caused by completion of the CSVT, and will form recommendations for mitigating any unwanted impacts. The study area consists of the following corridors, which exhibit the greatest potential for the CSVT project to impact future development:

- PA 147 from the new CSVT interchange in Northumberland County to the I-80/I-180 interchange
- Interstate 180 from the I-80 interchange to the US 15/Market Street interchange in Williamsport
- US 15 from Winfield in Union County to the I-180/US 15/Market Street interchange in Williamsport

Ongoing coordination with a study management team, steering committee, corridor municipalities, and partnering agencies is providing essential information and guidance. Additional outreach will gauge public opinion on study recommendations through a public open house and a legislative briefing. Study recommendations will be identified that address safety, system operations, economic development potential, and land use policy. Final recommendations will be presented to the Williamsport MPO for their endorsement, and the formal study process will conclude in July 2021.

Similar additional work should be considered for the counties which the CSVT traverses. The MPO's goal to "foster compatibility between land use and transportation facilities to yield orderly growth and development" mandates its continuing involvement in the project and with its resulting effects, including complex long-term effects related to traffic flow, asset management, and land development. The MPO can supply knowledge about technical and financial resources (grant-writing assistance, funding streams) that will be needed to complete ordinance changes and support the evolving land use and infrastructure operation.

7.3 Additional Issues and Trends

7.3.1 Effects of COVID-19 Actions on Federal, State, and MPO Transportation Funding

Beginning in March 2020, stay-at-home orders and temporary business closures due to the COVID-19 pandemic began to affect traffic volumes on Pennsylvania's roadways. The effects of this situation on the region's transportation network were immediate and significant, including reduced VMT on roadways, decreased transit ridership, reduced revenues from fuel taxes, and transportation project construction delays. Gas tax revenue in PA dropped 30 percent by April 2020—a \$90 million loss.²⁵

The lingering effects of the COVID-19 pandemic on travel patterns and corridor management may continue to be significant for some time, hard to predict, and vary rapidly over time and place. PennDOT's budget projections are likely to change according to evolving conditions; as of September 2020, a total of \$842 million in losses from the COVID-19 crisis had been noted, resulting especially from decreased gas tax revenues.

The losses in revenue attributed to the impacts of COVID-19 are particularly difficult to absorb because Pennsylvania's transportation funding was already insufficient to meet the needs of the system pre-pandemic.²⁶ Short-term, flexible planning and programming efforts to address COVID-19 effects are likely to be needed at the MPO and regional levels to respond in an agile manner to rapidly changing conditions.

Figure 64 and Figure 65 show the effects of the COVID-19 pandemic on travel volumes over time. Note the initial severe drop in travel beginning in March 2020, with travel recovering to a significant extent since. Data collected for the PennDOT Pathways²⁷ initiative indicate that VMT in Pennsylvania dropped by 40 percent in Spring 2020, and may still remain down by 15 percent as of Spring 2021.

Impacts on transit services were equally severe, with ridership drops for fixed-route and shared ride services in the range of 50 percent, but varying widely by region. As of Spring 2021, although many of the measures put into place to address the spread of COVID-19 are being lifted, many typical destinations for shared-ride services such as senior centers remain closed, and the risk of travel has driven down the demand for rides to non-essential destinations.

Considering a wider view of economic activity, many concert and theater venues remain closed, and regional festivals and other events important for the local economy are facing a second year of closures, postponements, or restrictions in attendance.

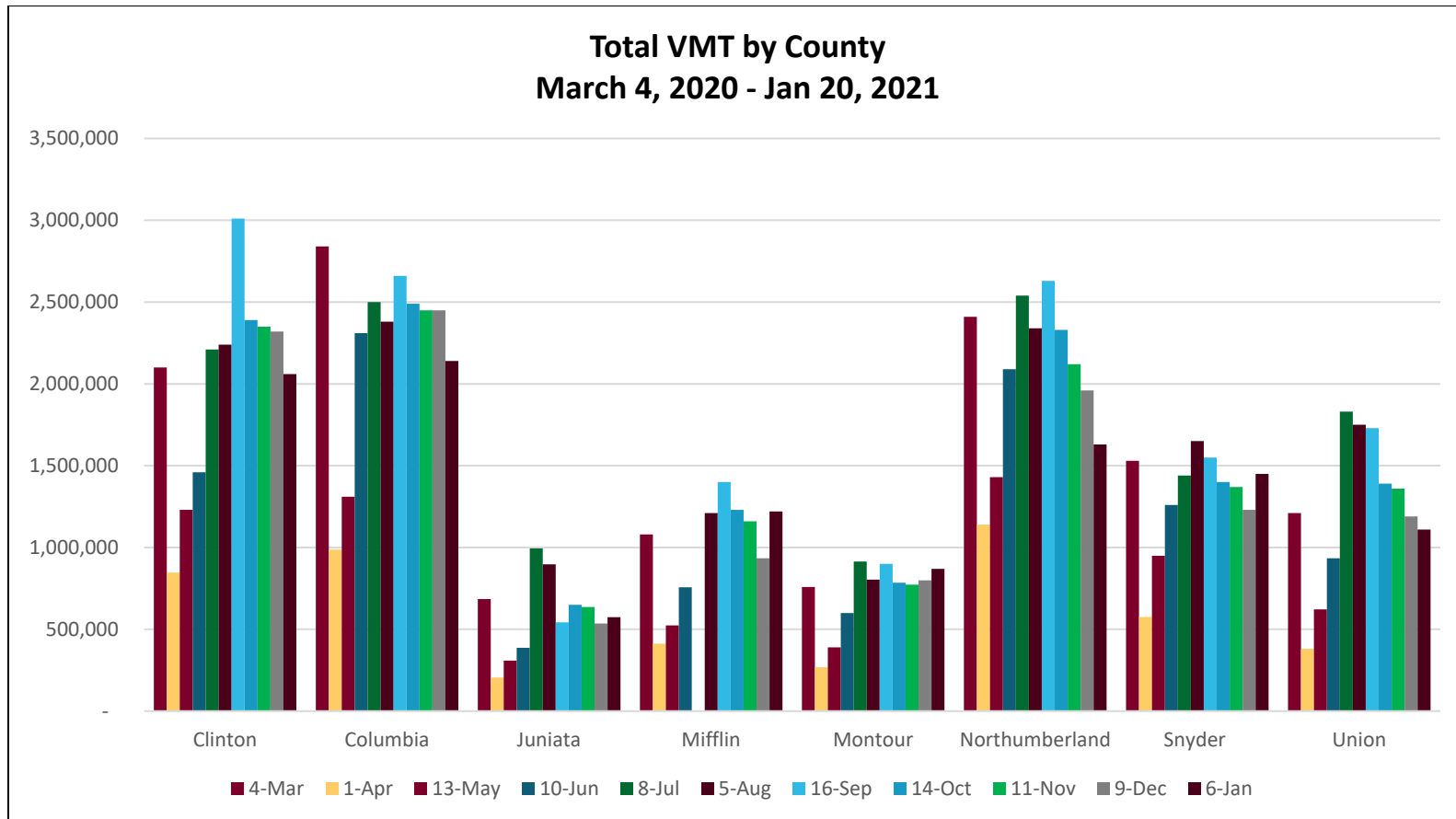
As options for many activities declined, demand for outdoor activities that could be conducted while social distancing increased, with trail and bicycle usage increasing notably on local and statewide levels. It remains to be seen if the appetite for these activities continues at this higher level as other options for entertainment and socialization return.

²⁵ <http://www.mcall.com/business/transportation/mc-biz-coronavirus-transportation-funding-questions-20200507-zll32d2k55dplao064y3zztvoq-story.html>

²⁶ <https://www.penndot.gov/about-us/funding/Pages/default.aspx>

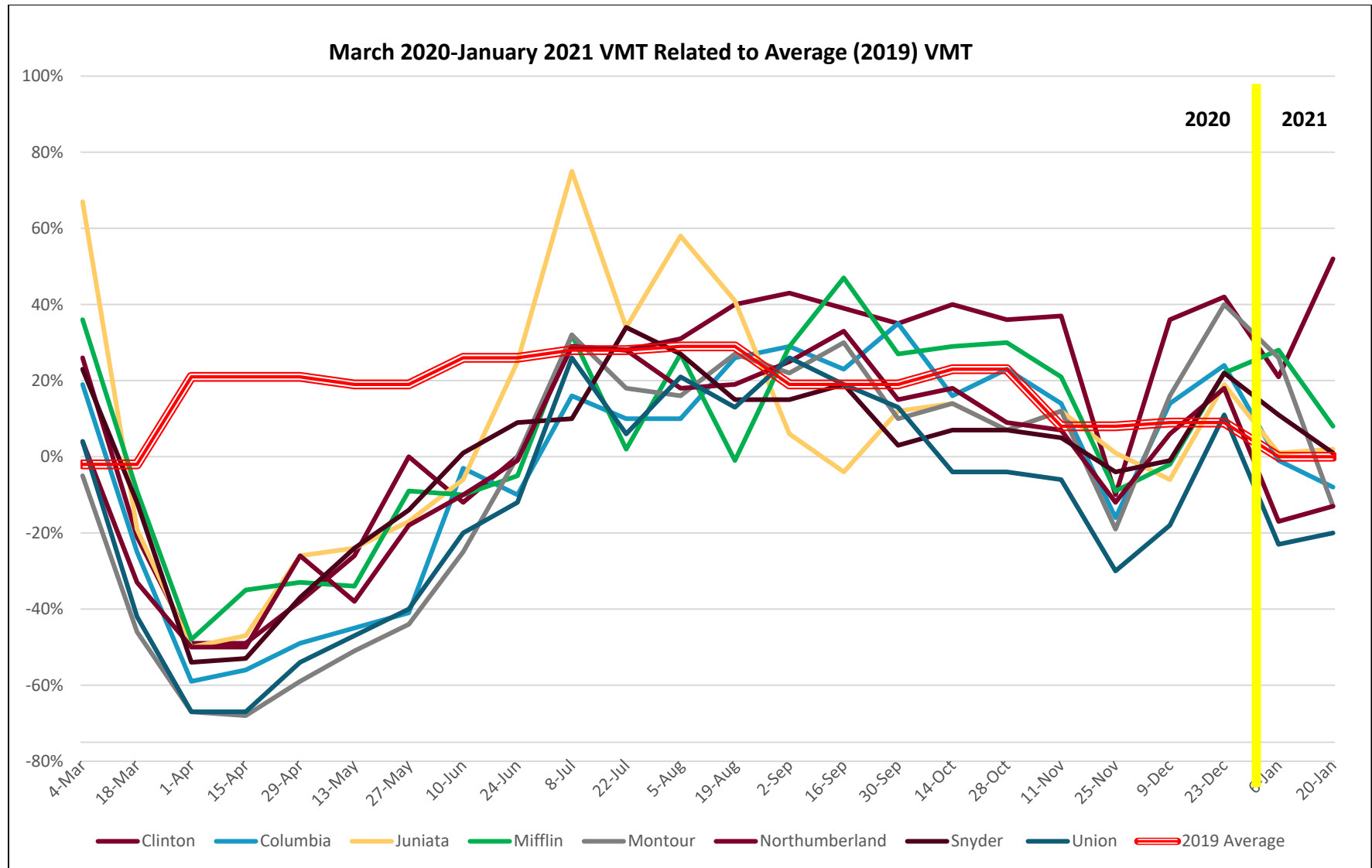
²⁷ <https://www.penndot.gov/about-us/funding/Pages/default.aspx>

Figure 64. Total VMT by County, SEDA-COG MPO Region, March 2020–January 2021



Source: StreetLight. <https://www.streetlightdata.com/VMT-monitor-by-county/#emergency-map-response>

Figure 65. March 2020-January 2021 VMT Related to Average (2019) VMT, SEDA-COG MPO Region



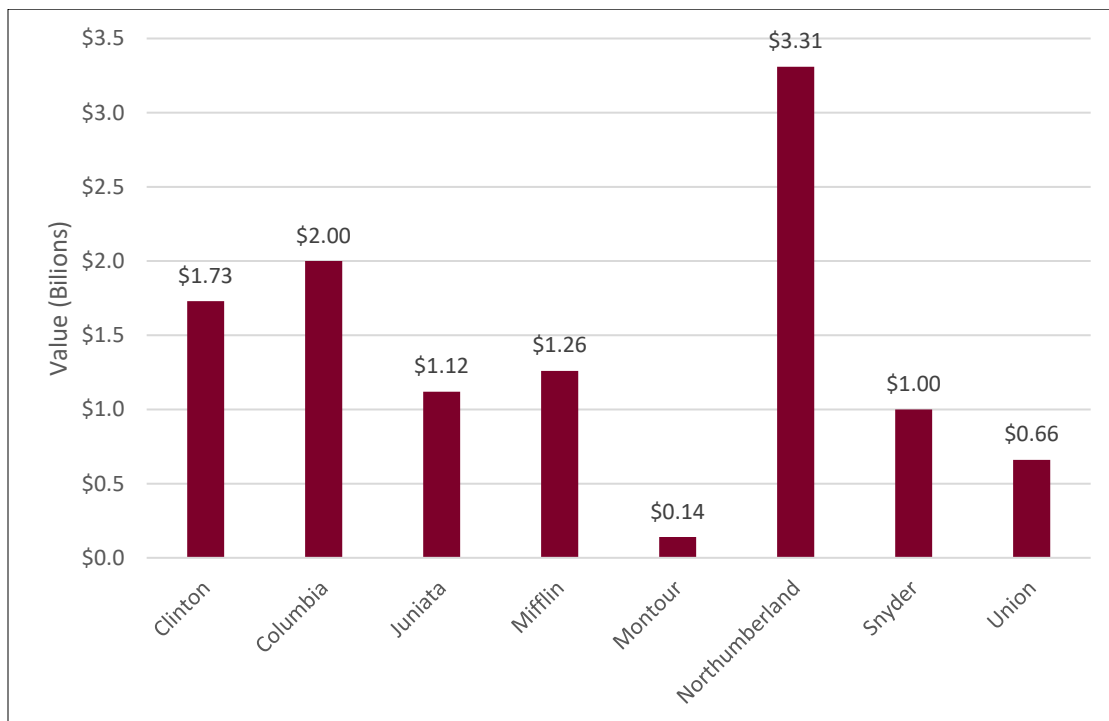
Source: StreetLight. <https://www.streetlightdata.com/VMT-monitor-by-county/#emergency-map-response>

7.3.2 Freight and Trucking Developments

According to 2011 data from IHS Global Insight, the SEDA-COG region annually generates approximately 21 million tons of freight, at a total value of about \$11 billion.

By value, the top commodities are goods imported or exported through warehouse and distribution centers, valued at \$1.4 billion, followed by rail intermodal drayage to ramp at \$820 million. Commodities are moved within and in/out of the region primarily by truck (98 percent), while rail transports the remaining 2 percent.

Figure 66: March 2020-January 2021 VMT Related to Average (2019) VMT, SEDA-COG MPO Region



Federal transportation guidance has placed additional emphasis on performance management of significant freight corridors. PennDOT has correspondingly increased efforts to identify, manage, and improve freight corridors in the state. The SEDA-COG MPO also recognizes the importance of moving freight efficiently and in a safe manner in and through its counties, and has upgraded its efforts to address these concerns in this LRTP update and in its general operations.

In coordination with its Planning Partners, PennDOT has identified a list of common freight issues that can affect the reliability of moving goods to market, as well as improvement investment decisions that should be considered by regional agencies such as the SEDA-COG MPO. Table 44 shows this list and impacts on safety, efficiency, system preservation, and reliability.

Table 44. Commonly Identified Freight Transportation Issues

Freight Issues	Safety Impact	Efficiency Impact	System Preservation Impact	Reliability Impact
Freight Bottlenecks	X	X		X
Congested Corridors	X	X		X
Corridor Safety/Resiliency	X	X	X	X
Intermodal Congestion/Connectivity		X	X	
Land Use Conflicts and Proximity to Interstate		X	X	
First/Last Mile Connections	X	X		X
Electronic Logging Device/Hours of Service	X	X		
Truck Parking/Staging Shortage	X	X		X
Driver Shortages	X	X		
Way Finding on Roads not Intended for Truck Traffic	X	X	X	
Connected and Autonomous Vehicles/Trucks	X	X	X	X

Source: Freight Planning Guidance, PennDOT Publication 790, October 2020

Many of the above factors served as considerations in recommending and implementing projects in this LRTP update.

Performance management for freight corridors is main focal point of FHWA in the following areas of emphasis:

- Safety
- Maintenance/Preservation
- Mobility/Reliability
- Accessibility/Connectivity
- Environment

PennDOT completed its most recent freight plan, the Comprehensive Freight Movement Plan (CMFP), in 2016, and an update process (which is being coordinated with an updated to the statewide Long-Range Transportation Plan) culminated in the issuance of a “Freight Planning Guidance” report in October 2020. Perhaps one of the most significant actions in continued freight planning and monitoring will be development of a centralized data warehouse for MPO/RPOs and other planners to utilize in their planning work (as discussed in Section 2.3.6).

FHWA is developing a National Highway Freight Network tool using ArcGIS Online for visualization. This will incorporate International Roughness Index (IRI) pavement data from HPMS. As of Summer 2020, this data cannot be overlaid with NPMRDS data, or be accessed by MPOs. Figure 67 shows an example screen from this tool.

For the 2021 LRTP update, MPO efforts were directed at laying a foundation for consideration of freight in the regional transportation planning program. Several data sources were explored for the report and for the Corridors of Opportunity approach, and an initial effort was made to identify major regional freight corridors using the following data sources and analysis methods.

- Areas with high freight employment were identified using employment data maintained by PennDOT, based on census block geography. Freight-related industries were specified using NAICS classification for the Manufacturing, Wholesale, and Warehousing categories.
- Overweight Permits origin and destination data was analyzed.
- Mining Site Locations were drawn from reports posted by the PA DEP. A summary of the mining data is shown in Figure 69.
- High Truck Volumes were drawn from Average Daily Truck Traffic data maintained in PennDOT’s RMS system.

It should be noted that there is no specific schedule for updates to the employment and overweight permits data. The truck volume and mining site data are subject to a more regular update schedule and data refresh efforts should be considered at the beginning of major plan updates.

This information was sufficient to identify preliminary Corridors of Opportunity for Freight, which were offered for confirmation via the survey and public outreach Web site. Compared to other categories, the corridors tended to be more regional, extending across the entire SEDA-COG area. The Interstate 80, Interstate 180, and US 15 corridors were confirmed through the survey as Corridors of Opportunity for Freight.

These data sources supplement the previously compiled data on freight generators—locally held data including the location of industrial parks, major employers, and intermodal facilities. Facilities must meet specific guidelines to be designated an intermodal connector as part of the NHS—typically 100 trucks per day for freight or 1,000 passengers per day. Few or no facilities in the SEDA-COG MPO region handle enough volume consistently to meet these criteria. However, facilities moving 25 percent to 50 percent of these volumes are regionally significant, and are included in the MPO data for planning purposes. As a future implementation step, the locally held information will be added to the Corridors of Opportunity viewer. Figure 68 shows the locally held freight data. Figure 69 shows another perspective on the locally held mining data, separating coal from other mineral mines, and scaled to show size of the operation.

Figure 67. National Highway Freight Network Tool - Example Interface

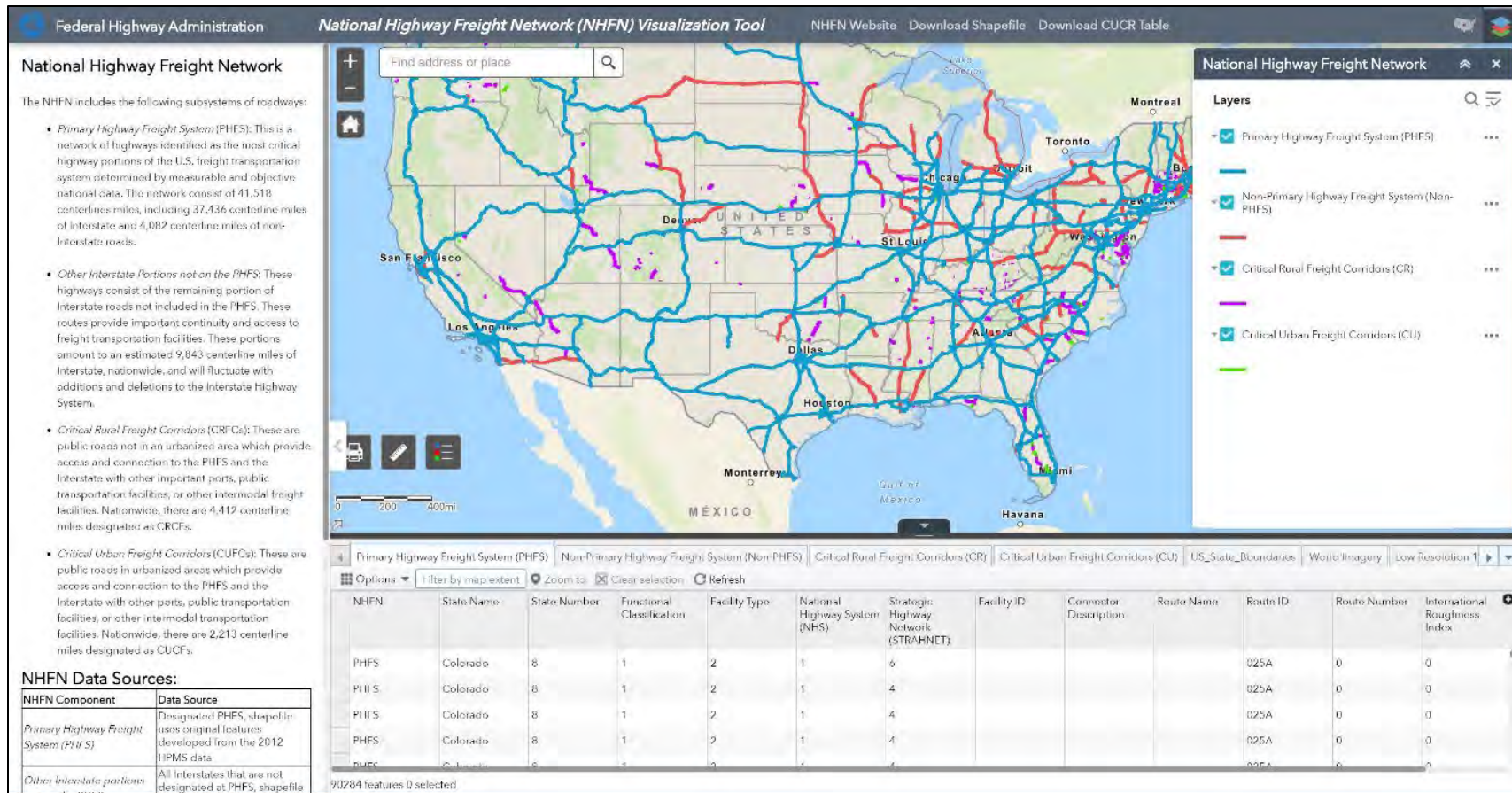


Figure 68. Major Freight Generators, SEDA-COG MPO Region

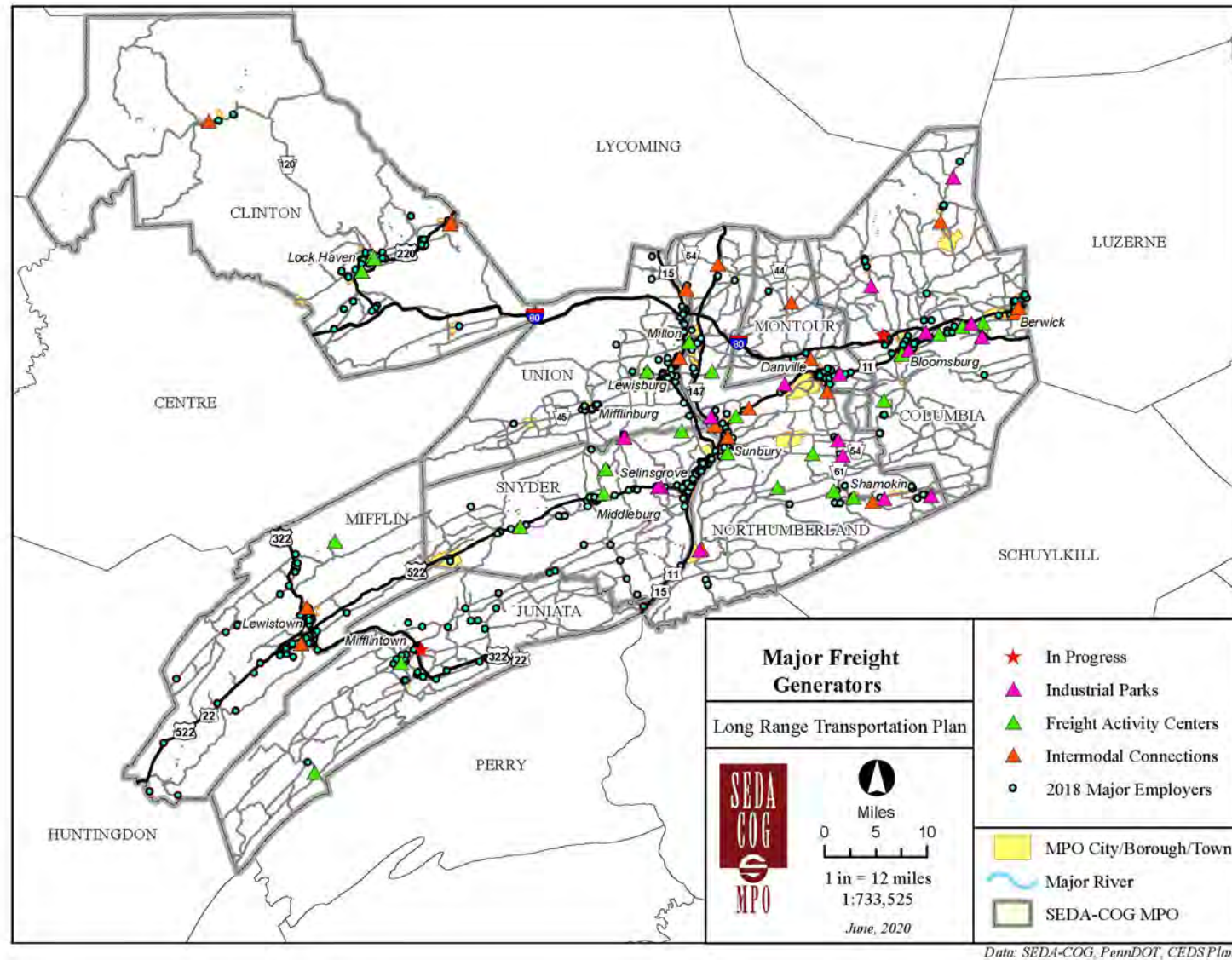


Figure 69. Mining Locations, SEDA-COG MPO Region

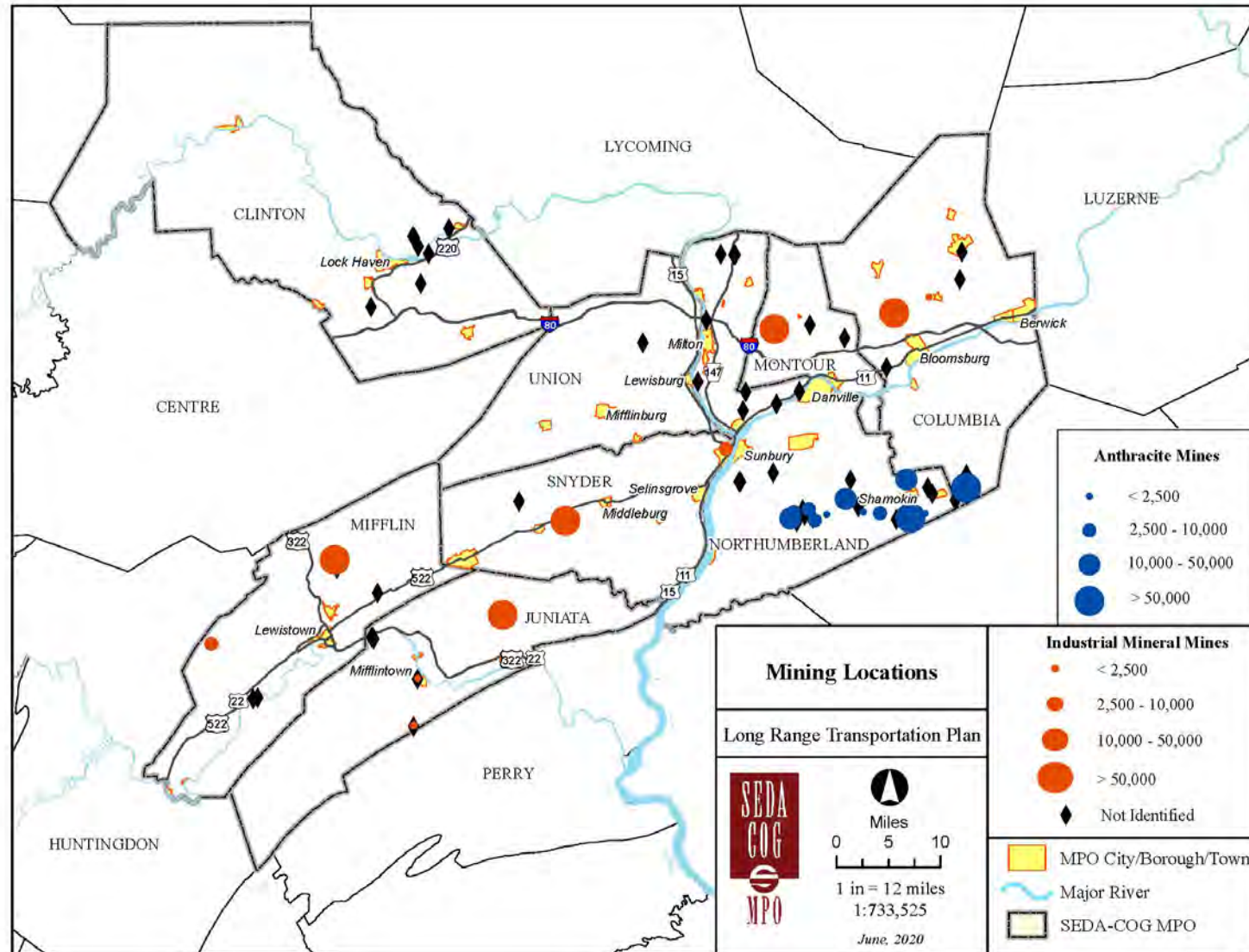
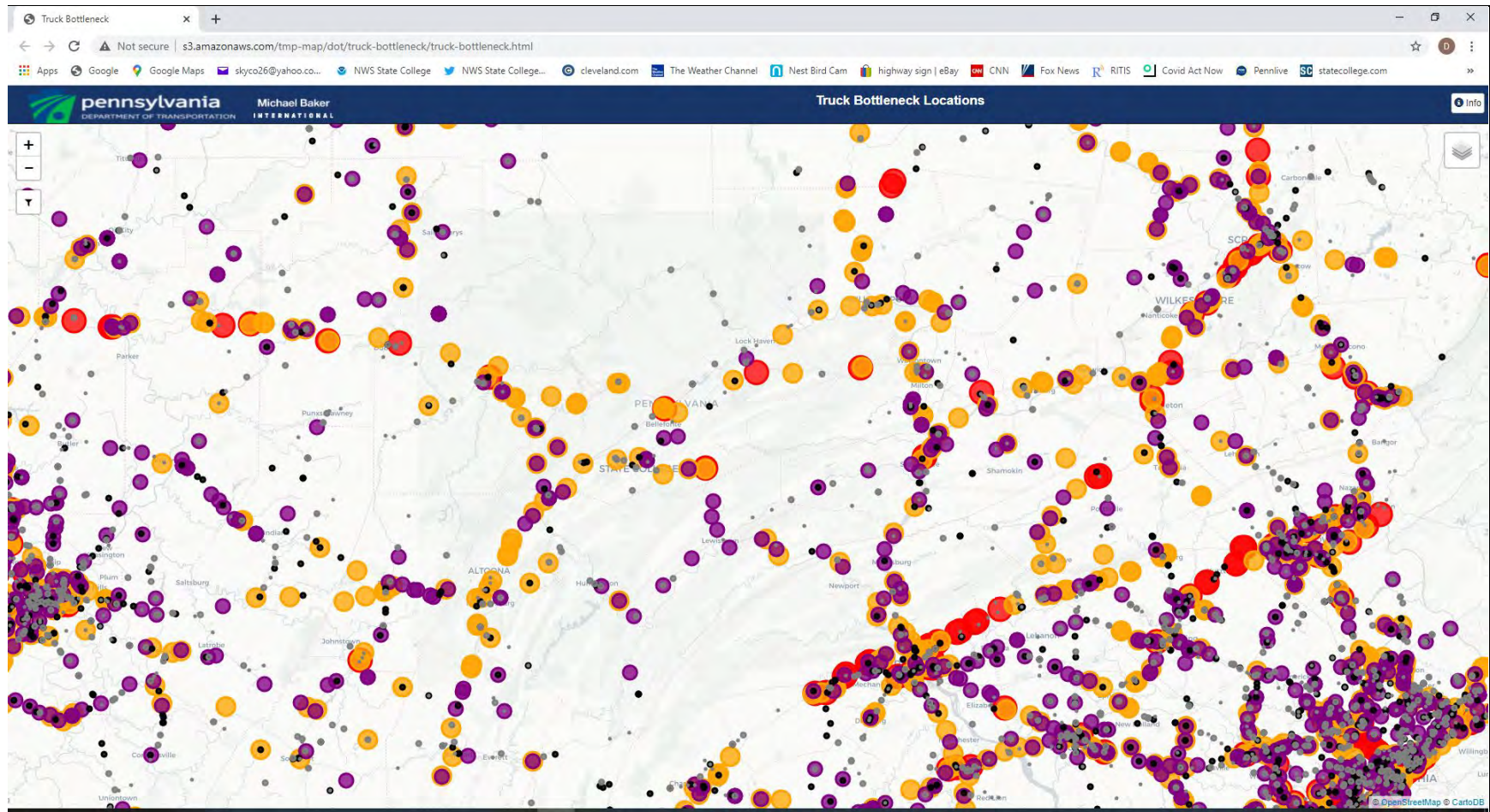


Figure 70. Truck Bottleneck Locations, SEDA-COG MPO Region



Several types of data discussed as part of the proposal for a centralized data warehouse for MPO/RPOs bear directly on freight movements, and should be considered for integration into the Corridors of Opportunity approach in future updates. The first layer is a listing of Truck Bottleneck Locations developed using RITIS data. A sample screen shot for the region is shown in Figure 70. This would replace data previously purchased from ATRI and TomTom, and would be more easily updated than the current data. The second layer shows an inventory of overnight truck parking locations based on a study conducted in 2018. An example is shown in Figure 71. A disadvantage of this second data set is that there is currently no set refresh cycle for the data.

Other potentially significant results of increased freight volumes being routed on major corridors in the SEDA-COG MPO region are the effects on the condition of roads and bridges along the pre-programmed PennDOT Emergency Detour Routes (EDRs) as well as congestion caused by rerouted vehicles along those routes. Since truck volumes continue to grow along these corridors, safety problems and maintenance issues may also correspondingly increase. As examples, the Danville Area Transportation Study noted that traffic incidents or construction on the area's Interstates require travelers to find alternative routes, and that when I-80 is closed in the Danville area, traffic is detoured and, depending on the mile marker, traffic is routed off I-80 and south through Danville via US 11 and PA 54. While not a daily occurrence, stressed intersections need to handle additional traffic when incidents occur on the region's Interstate highways. The report also recommended that increased truck and rail movements to/from the industrial complex in Danville be monitored.

7.3.2.1 "Creep" of Companies/Trucking along I-80 from Eastern PA/NY/NJ

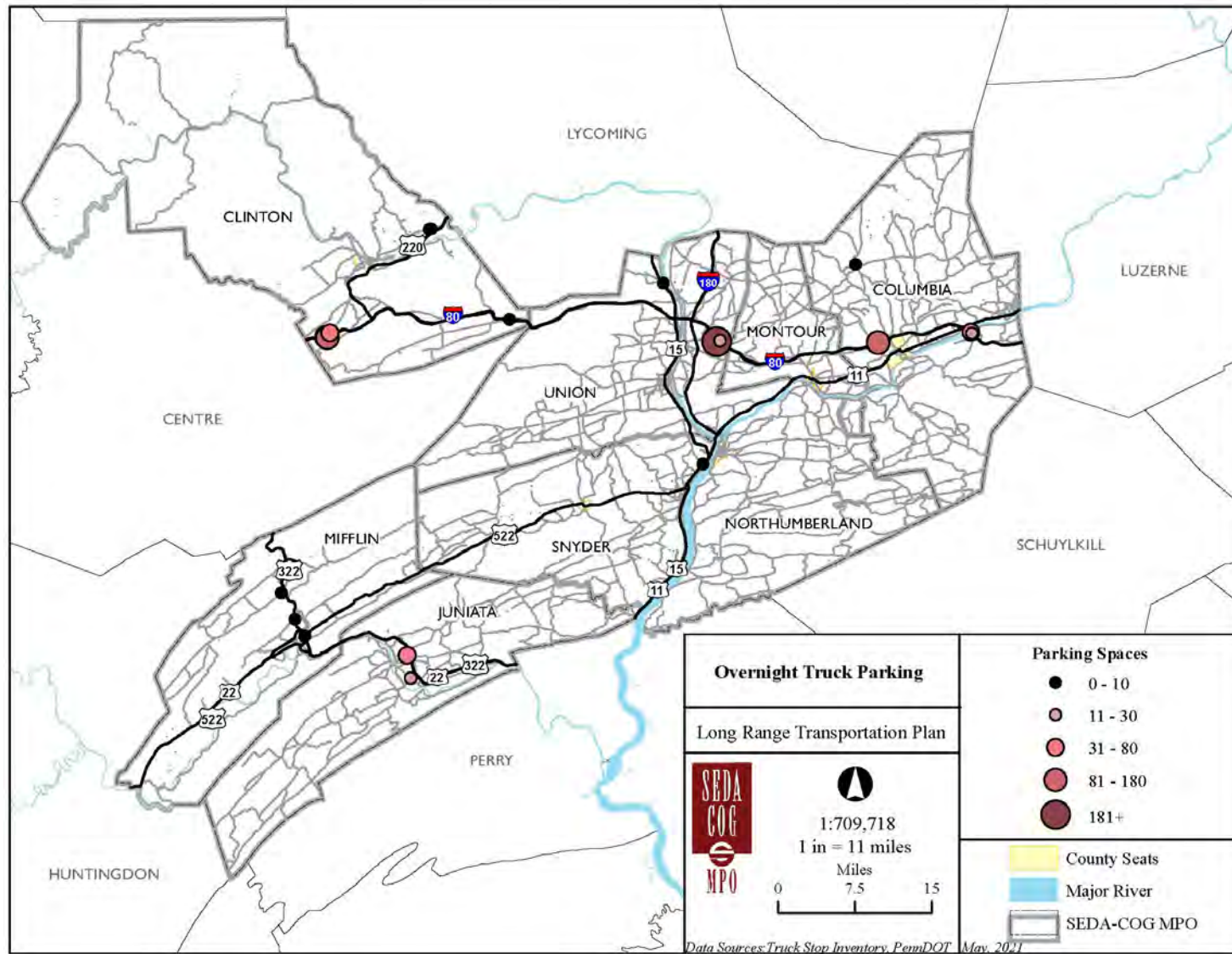
Trucking companies and large businesses from the New York/New Jersey area that rely on substantial trucking of goods have been relocating or opening new facilities in Eastern Pennsylvania. While much of that activity has been centered along the I-78 corridor, the pattern has also become apparent along I-80, at this time mainly east of the SEDA-COG MPO area. Much of this is due to lower costs of doing business in Pennsylvania than in the NY/NY area. Columbia County has seen some of the first signs of this type of development, with the construction of a distribution center for the Webstaurant Store. The facility is more than 500,000 square feet and provides more than 400 jobs. This trend should be monitored for effects in the MPO region; at the very least, increased truck traffic may result. Should businesses continue these relocations, freight generation patterns should be monitored accordingly.

7.3.2.2 Truck Rest Areas/Parking

With the overall national increase in truck traffic in recent years, increasing attention has been focused on truck safety issues. In 2005, Federal Hours of Service Regulations were implemented that set thresholds for allowable driving time (11 hours in a 14-hour time period) and required rest periods (10 hours). With the advent of automated truck tracing and monitoring systems, drivers may now follow a carefully controlled itinerary that specifies not only where to drive, but which routes to take to get there, where to fill up with fuel, and where to stop for rest. One complication is that truck parking facilities along the intended route may be infrequent or filled up. State DOTs, including PennDOT, have been attempting to address this issue because of the lack of available truck parking—a study in 2007 by Pennsylvania's Transportation Advisory Committee (TAC) identified a shortfall of nearly 4,400 parking spaces across the state. This lack of truck parking availability has often resulted in truckers pulling off the highway and parking on freeway ramp shoulders near interchanges, which creates safety concerns.

The main through trucking corridors in the SEDA-COG MPO region are I-80, US 22/322, US 15, and US 220. Completion of the CSVT will affect trucking patterns and is discussed separately in Section 7.3.2.3.

Figure 71. Truck Parking Facilities, SEDA-COG MPO Region



Source: Truck Stop Inventory conducted under EO3636 in 2018, <http://s3.amazonaws.com/tmp-map/dot/tsi/truck-stops.html>



The 2007 TAC study cited above also showed that all truck parking facilities located along the I-80 corridor in the SEDA-COG MPO counties were at over-capacity levels of utilization. The same study showed that a significant number of ramps/shoulders were being used for truck parking, particularly along the I-80 corridor.

USDOT (which coordinates a National Coalition on Truck Parking), FHWA, and PennDOT have been devoting increasing attention and resources to freight and trucking concerns, including truck parking issues. PennDOT's Public-Private Partnership (P3) Office issued a truck parking plan Request for Information in November 2018 seeking private-sector feedback on development, design, construction, implementation, maintenance, operation, and commercialization of truck parking facilities as well as facilities impacting how information is conveyed to those impacted by such parking. A total of 19 responses were received, and PennDOT officials have been assessing responses. NATSO—formerly the National Association of Truck Stop Operators—urged PennDOT to explore ways to lower the private sector's costs in building truck parking capacity and avoid regulatory measures that would impede private truck parking providers. NATSO noted that private truck stops and travel plazas provide 90 percent of the truck parking capacity in the U.S.

FHWA has concentrated on addressing the following focus areas related to truck parking:

- Parking Capacity
- Technology/Data
 - Real-time dissemination of information to truckers
 - Sensors
 - Predictive algorithms
 - Crowdsourcing
- Funding/Finance/Regulations
- State/Regional/Local Government Coordination
 - Zoning

At the federal legislative level, lawmakers in the U.S. House of Representatives introduced the Truck Parking Safety Improvement Act in March 2020 to address the lack of available truck parking. The legislation would create a dedicated source of funding, set aside from existing USDOT funds, to build more truck parking spots on the Federal-Aid Highway System. The bill was reintroduced in March 2021.

Other recent initiatives that address truck parking include a current effort by 13 northeastern state DOTs and 10 MPOs to conduct a trucking survey to augment knowledge of truck parking patterns, including:

- How frequently they make trips to New York, New Jersey, Connecticut, and Pennsylvania;
- What type of load they typically haul;
- How their truck movements have changed during the COVID-19 pandemic; and
- Where they usually park.

Potential actions to address truck parking issues include instituting local zoning requirements for warehouse developers to provide a certain amount of truck parking spaces, or for industrial park operators to have a pool of parking spots available for drivers. In addition, development of online truck parking applications could potentially help truckers find available facilities. The Interstate 95 Corridor Coalition has developed Truck'N Park, real-time information on parking facilities along I-95. Florida has a

Truck Parking Availability System (TPAS) on Interstates 4, 10, 75, and 95 for welcome centers, weigh stations, and rest areas. TPAS uses in-ground sensors and entrance and exit counts at weigh stations to monitor the number of available spaces. Other smart truck-parking apps include Truck Parking USA and Trucker Path, and online user-supported databases of fast food, restaurant, motel, and Walmart locations that allow truck parking.

No immediate action steps are proposed regarding truck parking issues, but staff will continue to monitor trends and available data sources as part of the transportation planning process.

7.3.2.3 CSVT Effects

Full opening of the Central Susquehanna Valley Transportation Project in 2027 will alter freight patterns in the SEDA-COG MPO area, especially for north-south flows, and likely result in development of new freight generators along the corridor. Significant transfer of trucks off US 11/15 to the CSVT is expected. New travel demand forecasts will include the completed CSVT highway, which will help to determine needed actions to safely facilitate freight flows. There will also likely be a “self-induced demand” for trucking services along CSVT after it opens. Monitoring of the effects of interchange development will be needed. There may also be increased traffic due to the 2020 ratification of the United States–Mexico–Canada Agreement (USMCA). Increased dairy, egg, and poultry exports to Canada are expected to result from this legislation, and Pennsylvania is a prime producer of these products. Finally, emergency detour routes from the CSVT will need to be developed or changed, and the resulting freight movements will have to be evaluated as to how well local roads and bridges can accommodate increased freight traffic, even on a temporary basis.

7.3.3 Designation of I-99 Between Centre County and Lycoming County

The Interstate 99 corridor is a relatively new designation approved by AASHTO in 1998 for a portion of US 220 from Bedford to Bald Eagle. Through completion of new construction since then, the designation has been expanded northward for a total of just over 85 miles in Pennsylvania, currently ending at Interstate 80 near Bellefonte, and running concurrently with US 220 and a portion of US 322. New York State has also designated a small portion of highway (13 miles) as I-99 (concurrent with US 15) from Interstate 86/NY Route 17 at Painted Post to the New York–Pennsylvania border. In between, there is a gap of approximately 51 miles that is unposted, and which will run concurrently along US 220 from I-80 near Lamar to Williamsport, and US 15 from Williamsport to the New York border (see Figure 72), through a Clinton County portion of the SEDA-COG MPO region. This gap currently consists of mainly highway designed to Interstate standards with a few areas of four-lane roadway with at-grade intersections, non-Interstate design features, and two new grade-separated, high-speed interchanges that will be required with I-80. In the interim, I-99 is not posted on that 51-mile gap section except for signs on the Williamsport to New York segment that indicate the “Future I-99 Corridor.” On this section, it has been recommended that signage be changed to add and post the full I-99 designation along with the existing US 15 signage.

Pending completion of the missing needed improvements, there has been significant discussion between PennDOT and local and regional government agencies as to whether/how to designate and post a temporary “To I-99” signed trailblazer route between I-80 and Williamsport. There are two possible choices currently being considered by PennDOT (Figure 72):

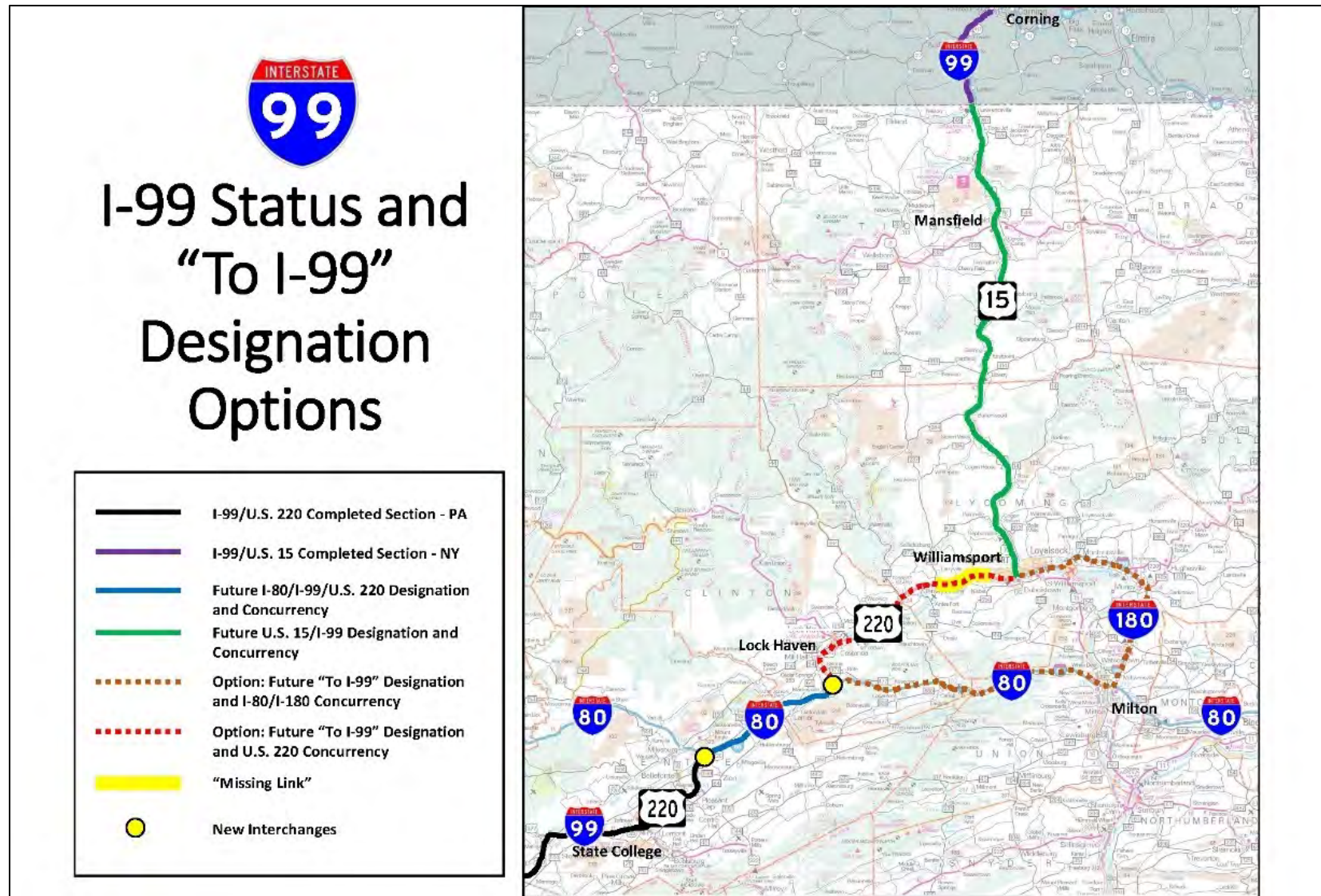
- Post the most direct “gap” route along US 220 between I-80 near Lamar and Williamsport, through Clinton and Lycoming counties; or
- Post along I-80 eastbound between Lamar and the Interstate 180 interchange near Milton, then northward along I-180 to the US 15 interchange near Williamsport, through Clinton, Union,



Northumberland, and Lycoming counties.

As the entire I-99 corridor begins to be viewed more and more as a through trucking route, the action of posting a “To I-99” route in the field has long-term implications for traffic flows, volumes, and safety, particularly related to truck traffic. The route segments carrying a “To I-99” designation will need to be monitored for traffic increases, safety problems, and related issues over a long period, since construction projects to upgrade the actual I-99 corridor to Interstate standards will take many years and substantial investment. There is a section of US 220 around its intersection with PA 287 (shown as part of the “missing link” on Figure 72) that would especially pose design concerns and require significant investment to upgrade.

Figure 72. "To-I-99" Designation Options



Source: SEDA-COG GIS



8. PLAN IMPLEMENTATION

Plan implementation encompasses activities that draw on the inventory data, trends, and implications to define a program of transportation investment and identify strategies that the MPO will use to implement, support, and further develop the program.

8.1 Project Identification and Definition

For the 2021 Long-Range Transportation Plan Update, source project identification and definition began with a review of the following documentation:

- PennDOT Twelve-Year Plan
- SEDA-COG MPO Draft 2021-2024 Transportation Improvement Program List
- State Transportation Commission Survey
- SEDA-COG MPO/Williamsport MPO Coordinated Transit Plan
- Middle Susquehanna Bicycle and Pedestrian Plan
- Danville Area Traffic Study
- PennDOT RTMC Central Region Operations Plan
- Bloomsburg Walk-Bike Connectivity Master Plan
- Mill Road Safety Study



- JRA Capital Projects List
- Other regional and local plans

The bulk of the projects that will be programmed in the TIP and LRTP over the life of the LRTP will be identified through PennDOT's asset management process. This includes the regular review of asset condition data, the consideration of projects to address emerging needs, and the delivery of those projects through the maintenance or TIP development process. In consider this plan update, two general types of projects were recommended for additional attention and further development: Asset Management projects and Discretionary projects.

8.1.1 Asset Management Projects – Definition

Asset Management projects are major reconstructions or rehabilitations on existing transportation facilities. These are projects on large bridges or high-volume highways, or other complex projects that will extend over several construction seasons and require budgets approaching or in excess of \$5 million. In all cases, these projects are identified and prioritized through PennDOT's asset management process. Many of the projects are already programmed on the later years of the TIP and TYP. Several of the projects were identified from the District 2-0 and 3-0 Interstate priorities, and will be submitted for the Interstate Management project selection process. All of these projects are eligible uses for the major funding programs that make up the region's TIP budget. The fiscal requirements of these projects will determine the funding available for smaller projects in future TIP updates. As a group, they represent the major maintenance projects that are necessary to keep the region's transportation network in good operating condition.

8.1.2 Discretionary Projects – Definition

Discretionary projects are studies and projects identified through the studies and surveys carried out by SEDA-COG and other organizations in the region. They include a much wider range of project types, including active transportation projects such as bike lanes and multi-use trails, safety projects, intersection and signal improvements, and capacity improvements. They also include corridor, access and feasibility studies, and transit projects. In many cases, these projects are eligible only for the most flexible funding programs on the TIP, or for bespoke funding programs, such as the Transportation Alternatives Set-Aside Program, the Multimodal Fund, or Green Light-Go that are not included in the fiscal constraint analysis of this plan. These projects are part of efforts to transform and improve the transportation network rather than simply maintain it. As a group, these projects are the fruits of the regional planning process, and they are included in this plan to further the development of these projects, establish their standing as regional priorities, and provide feedback to the project sponsors in moving them forward to implementation.

8.2 Candidate Transportation Project Lists

8.2.1 Initial Listings

Initially, 38 projects were included on the Asset Management list and 149 projects were identified on the Discretionary list. On the Asset Management list, information was included for:

- Project



- Source
- County
- Project Type/Location
- Year Beginning/Implementation Horizon
- Projected Cost
- Comments/Funding Approach

The Discretionary list included the same information, plus additional description of:

- Location
- Location Notes
- Narrative

It should be noted that not all projects had specific identified costs and/or implementation horizons in their source documents.

8.2.2 County Priorities

To reflect MPO stakeholder priorities in the development of discretionary projects, the LRTP Steering Committee representatives and MPO Board members were asked to review the Candidate Projects in their jurisdictions and indicate up to 10 priority projects for inclusion in the discretionary project listing.

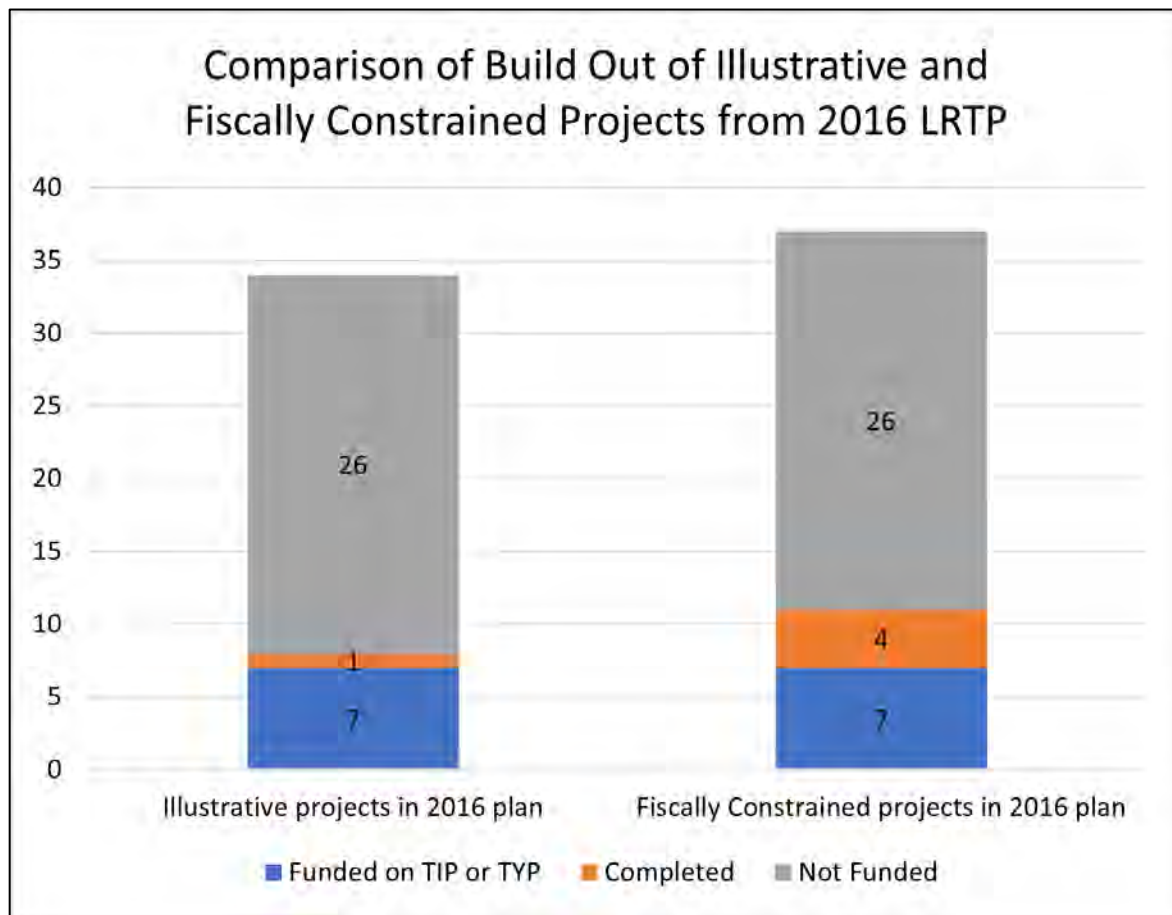
8.2.3 Project Evaluation and Selection Process: Viability Analysis

8.2.3.1 2016 LRTP Evaluation and Selection Project Approach

For the 2016 LRTP, a Project Scoring and Selection Process was adopted (based on the 2011 LRTP approach) to support the plan goals. MPO members were asked to submit up to 10 projects of any type in their area of the MPO. Resulting projects were scored using a two-step process that included safety, economic development, regional impact, and other factors. In both LRTPs, a prioritization value was assigned to each project. Currently programmed projects were subtracted from the total projected available funding on a year-by-year, program-by-program basis. One of the unintended results of this process was that project cost compared to available funding was as or more likely than overall priority to impact the opportunity to include a project in the fiscally constrained funding program. Since the project selection process operated independently of the ongoing asset management process, it ignored the continuing development of Asset Management projects that selected projects would be competing against in TIP and TYP updates.

Results so far for implementing projects proposed in the 2016 LRTP have not met expectations (see Figure 73). Of the 34 projects classified as “Illustrative” in the 2016 LRTP, seven have been funded on the TIP or TYP and one has been completed. Of the 37 projects classified as “Fiscally Constrained” in the 2016 LRTP, seven have been funded on the TIP or TYP and four have been completed. For each classification, the large majority of proposed projects have not been funded or completed.

Figure 73. Comparison of Build-Out of Illustrative and Fiscally Constrained Projects from 2016 LRTP



In rethinking the process for the current update, successfully programmed projects were compared to identify consistent elements. The resulting “Factors of Success” for project development and implementation included:

- Clear concept (project has clearly defined alignment, start and end points, or study-area boundaries)
- Funding eligibility (project is eligible for one or more of the main sources of funding in the TIP or discretionary (grant-based) funding programs, such as Green Light-Go, Highway Safety Improvement Program (HSIP), etc.)
- Sponsor and broad-based support (project has a facility owner, municipality or grant-eligible group serving as champion and sponsor)
- Previous work (project has partially or fully completed design or study work)
- Implementability (lack of cultural, environmental, or historic resources obstacles)

Perhaps the main reason the project implementation process since 2016 not been as successful as desired is that the “Factors of Success” listed above have not been the main guiding force as much as should be the case for project development. With the continuing uncertainty and decline in available transportation funding at the state and federal levels (discussed in more detail in Section 8.3), assuring project feasibility is even more critical now to promoting project implementation.



8.2.3.2 PennDOT Connects and the Project Evaluation and Selection Process Approach

Since the completion of the 2016 LRTP the transportation program development and project delivery process has been updated through the implementation of the PennDOT Connects policy. PennDOT has provided updated guidelines for conceiving and advancing proposals in the LRTP, detailed in Design Manual 1A, Pre-TIP and TIP Program Development Procedures. The project identification process has been updated to conform with the updated guidelines, with the aim of establishing the LRTP project listing as a listing of proposals to eventually be placed on the region's TIP.

Several of the tools conceived to support the PennDOT Connects program development and project delivery process as well as the required asset management focus are only now being implemented. The PennDOT Connects online form system is only now becoming available, and the Pavement Asset Management System and Bridge Asset Management System (PAMS and BAMS) are still in late stages of development. The finalization of these tools had not reached maturity during the project evaluation stage of the LRTP update and they were therefore not included as an integral part of the Asset Management project evaluations. MPO staff expect that significant improvements will be made to these tools and by association the planning and programming process prior to the next LRTP update.

8.2.3.3 Viability Analysis Approach

The MPO receives input on transportation needs from many other sources beyond the asset management process. Project ideas address issues including congestion, mobility, safety, and economic development. The information available for these issues and proposed projects varies greatly across the sources and individual cases, but the information is generally not as well developed, and these projects do not always benefit from the same level of consideration as the projects identified for the Asset Management list.

For the 2021 LRTP update, a practical approach to project selection has been assumed for project scoring and selection for these types of Discretionary projects. The MPO staff determined it was prudent to concentrate on proposed projects that had the best overall chance of development and implementation in a practical evaluative approach—in other words, more of a “viability analysis” approach as compared to a “funding analysis.”

The goals of this updated approach are to:

- Promote collaborative discussion of needs identified through the region's transportation planning process.
- Complete the problem assessment phase for projects considered.
- Make progress on the Proposal Development phase for projects considered, based on the information available.
- Provide feedback to the sponsor on obstacles to further project development.
- Consider next steps for projects where applicable, including:
 - Recommendations for funding sources for needs not compatible with main TIP programs.
 - Consideration of study phases and study funding sources for projects where further definition of the issue is required.

8.2.3.4 Asset Management Project Evaluation

The majority of issues addressed directly through the projects funded on the TYP and TIP are identified through Asset Management processes. PennDOT District Offices have the lead role in advancing Asset



Management projects for the existing state-owned highway system. This is consistent with a performance-based planning approach, especially given the forecasted constraints on funding over the LRTP planning horizon.

To provide appropriate consideration of projects developed through the Asset Management process, a list of major Asset Management projects was developed from the current TYP and Interstate management priority listing and reviewed by PennDOT Districts 2-0 and 3-0. Table 49 in Appendix C presents these projects, which were identified based on cost (approximately \$5 million construction cost or greater) and programming status (construction typically programmed no earlier than the third year of the current TIP, and preferably on the second or third period of the TYP). A limited number of projects were identified from the list of Bridges of Special Concern based on asset condition and estimated construction cost. The individual projects required for the completion of the CSVT were also included.

Consideration of the Asset Management project list is intended to develop information to be used in the proposal evaluation phase for succeeding TIP updates. This will be accomplished through:

- Helping to develop the information that will be used in the Level 2 screening form at that time, including location, purpose and need, and other support.
- Providing a forum for discussion of prioritization factors, including asset conditions, NHS status, state and regional performance measures, fiscal realities, and other factors discussed in the process.

The main goals of identifying Asset Management projects for the LRTP are to:

- Develop a regionally actionable Asset Management Plan that provides the greatest possible positive impact on the region's identified performance measures with the funding available.
- Identify projects for which the District/region typical TIP spending patterns will not provide sufficient resources without advance planning.
- Begin the discussion of alternatives early enough that they can be fully considered in the planning process.
- Develop a prioritized list of Asset Management projects developed from the current TYP that are ready for consideration in pending TIP updates.

The main result was a list of Asset Management projects drawn from the current TYP that are ready for consideration in pending TIP updates. It was not the intent of staff to apply the viability model to Asset Management projects to provide a complete prioritization of the project proposals considered.

8.2.3.5 Discretionary Project Evaluation

The Discretionary projects process focuses on the Problem Assessment and Proposal Development phases of project development. The process:

- Relays issues identified to local sponsors to develop additional information, and provides a forum for discussion of the potential issues identified.
- Identifies next steps in the process of defining needs and developing solutions (i.e., how to provide the information needed for proposal evaluation in the future).
- Is not likely to result in Level 2 forms for a project, but may result in a Level 1 for issues that appear to meet the requirements for TIP funding programs.
- Is intended to identify the proposals considered by members and local stakeholders to be long-term priorities.



It should be noted that in the past, most Discretionary projects have not fit well with the purposes or programming eligibility restrictions of the TIP.

After discussion with the LRTP Steering Committee and MPO Board, the following viability analysis factors were adopted for evaluating discretionary projects using the viability analysis approach:

Complexity of Design and Construction

- **ROW Impacts:** ROW research, acquisition, and construction easements
- **Utility Impacts:** Utility conflict identification, coordination, and relocation
- **Construction Impacts:** Grading, cut, fill, drainage, swales, pipes, inlets, curb, subbase, pavement, shoulder construction, guiderail, retaining walls
- **Structure Impacts:** Bridge construction or widening, culvert construction, or widening
- **Traffic Control:** Signing, pavement marking, delineators, raised pavement markers, traffic signals
- **Environmental/Historic Properties Issues:** NEPA, remediation, relocation

Costs (Studies, ROW Acquisition, Construction, Traffic Control, Environmental)

- **\$:** Estimated construction cost < \$250K
- **\$\$:** Estimated construction cost between \$250K and \$500K
- **\$\$\$:** Estimated construction cost between \$500K and \$1M
- **\$\$\$\$:** Estimated construction cost between \$1M and \$5M
- **\$\$\$\$\$:** Estimated construction cost greater than \$5M

Horizon

- **Short** (less than 5 years)
- **Medium** (5-10 years)
- **Long-term** (more than 10 years)

Readiness

- Level of Local Support
- Eligibility/Availability/Viability of Funding Sources
- “Quick Win”
- Dependency/Synchronicity

Impact

- Located on Corridors/Intersections of Opportunity
- Improves Safety
- Reduces Traffic Congestion
- Intermodal
- Alternative Transportation Project
- Promotes Environmental Justice



- Supports Performance Measure Targets
- Improves Freight Flow
- Improves Resiliency
- Supports Economic Development
- Multi-Jurisdictional
- Promotes Project Distribution by County

An initial Discretionary Proposed Projects list was compiled from projects recommended in a variety of sources, including:

- PennDOT Twelve-Year Plan
- SEDA-COG MPO Draft 2021-2024 Transportation Improvement Program List
- SEDA-COG MPO/Williamsport MPO Coordinated Transit Plan
- Middle Susquehanna Bicycle and Pedestrian Plan
- Danville Area Traffic Study
- PennDOT RTMC Central Region Operations Plan
- Bloomsburg Walk-Bike Connectivity Master Plan
- Mill Road Safety Study
- JRA Capital Projects List
- Other regional and local plans

MPO members were asked to select their highest-priority proposed Discretionary projects from this initial list. A final version contained 74 proposed projects. A “Priority Discretionary Project Sheet” was prepared for each priority project, and the viability analysis factors were used to assign rating points for each project as a measure of priority. An example sheet is shown in Figure 74.

Figure 74. Example Priority Discretionary Project Sheet

SEDA-COG MPO Long-Range Transportation Plan Priority Discretionary Project Sheet		
Project Name: Bloomsburg Traffic Signal Improvements		
Date of Creation/Last Update:	11/30/2020	
Updated By:	D. Kiel	
County (check all that apply):	<input type="checkbox"/> Clinton <input type="checkbox"/> Juniata <input type="checkbox"/> Montour <input type="checkbox"/> Snyder	<input checked="" type="checkbox"/> Columbia <input type="checkbox"/> Mifflin <input type="checkbox"/> Northumberland <input type="checkbox"/> Union
Municipality:	Town of Bloomsburg	
Location/Notes:	Route 11 Signals along segments 110 - 170. Route 11 Signals through the Town of Bloomsburg.	
Project Type: (check all that apply):	<input type="checkbox"/> Alternative Transportation <input type="checkbox"/> New Capacity <input type="checkbox"/> Resiliency <input type="checkbox"/> Safety - Intersection	<input type="checkbox"/> Congestion Management <input checked="" type="checkbox"/> Operations & Management <input type="checkbox"/> Safety - Corridors <input type="checkbox"/> Streetscape
Project Source:	PennDOT Green Light-Go	
General Comments:	Retiming traffic signals at nine intersections, upgrading controllers, and providing connectivity to the regional Traffic Management Center, Project defunded in 2020	
Funding Comments:	Current ARLE application. Pending to hear back on award. The Town was awarded ARLE and during COVID-19 the State denied award.	
Projected Cost:	\$172,624	
Year Beginning/Implementation Horizon:	Short-term	
Project Implementation Weighting Factors		
Complexity of Design/Construction (check all that apply)		
ROW Impacts	<input type="checkbox"/>	0.83 (ROW research, acquisition, and construction easements)
Utility Impacts	<input checked="" type="checkbox"/>	0.00 (Utility conflict identification, coordination, and relocation)
Construction Impacts	<input type="checkbox"/>	0.83 (Grading, cut, fill, drainage, swales, pipes, inlets, curb, subbase, pavement, shoulder construction, guiderail, retaining walls)
Structure Impacts	<input type="checkbox"/>	0.83 (Bridge construction or widening, culvert construction, or widening)
Traffic Control	<input checked="" type="checkbox"/>	0.00 (Signing, pavement marking, delineators, raised pavement markers, traffic signals)
Environmental/Historic Properties	<input checked="" type="checkbox"/>	0.00 (NEPA, remediation, relocation)
Complexity Sum		2.50
Costs (check only one)		
Less than \$250,000	<input checked="" type="checkbox"/>	5.00
\$250,000-\$499,999	<input type="checkbox"/>	0.00
\$500,000-\$999,999	<input type="checkbox"/>	0.00
\$1,000,000-\$4,999,999	<input type="checkbox"/>	0.00
\$5,000,000 and above	<input type="checkbox"/>	0.00
Costs Sum		5.00
Horizon (check only one)		
Short-term (less than 5 years)	<input type="checkbox"/>	0.00
Medium-term (5-10 years)	<input checked="" type="checkbox"/>	3.00
Long-term (more than 10 years)	<input type="checkbox"/>	0.00
Horizon Sum		3.00
Readiness (check all that apply)		
High level of local support	<input checked="" type="checkbox"/>	1.25
Available funding	<input type="checkbox"/>	0.00
"Quick winner"	<input checked="" type="checkbox"/>	1.25
Dependency/Synchronicity	<input type="checkbox"/>	0.00
Readiness Sum		2.50
Impact (check all that apply)		
Located on Corridors of Concern	<input checked="" type="checkbox"/>	0.42
Improves safety	<input type="checkbox"/>	0.00
Reduces traffic congestion	<input checked="" type="checkbox"/>	0.42
Intermodal	<input type="checkbox"/>	0.00
Alternative transportation project	<input checked="" type="checkbox"/>	0.42
Promotes environmental justice	<input checked="" type="checkbox"/>	0.42
Supports meeting performance	<input type="checkbox"/>	0.00
Improves freight flow	<input type="checkbox"/>	0.00
Improves resiliency	<input type="checkbox"/>	0.00
Supports economic development	<input type="checkbox"/>	0.00
Multi-jurisdictional	<input type="checkbox"/>	0.42
Promotes project spread over MPO	<input checked="" type="checkbox"/>	0.42
Impact Sum		2.50
TOTAL RATING (25 possible points)		15.50

Table 50 in Appendix C lists the high-priority Discretionary projects identified by MPO members. The total rating scores for each high-priority Discretionary project are shown in Table 45. Note that these scores were treated as only one measure of input for consideration of project rankings.

Combined summary data from the high-priority Discretionary project sheets is presented in Figure 75 through Figure 80. Results show a reasonable, representative spread of proposed projects across MPO member counties and by project types. Some data of significance:

- There are more Active Transportation projects (26) on the high-priority discretionary project priority list than any other type. This is largely due to those identified and noted as priority projects from recently completed source studies including the Middle Susquehanna Bicycle and Pedestrian Plan, the Danville Area Transportation Study, Plan Go Shamokin, and the Walk Bike Bloomsburg Connectivity Master Plan.
- Proposed projects had an average of 1.7 significant complexity concerns, including right-of-way impacts, utility impacts, construction impacts, structure impacts, traffic control, and environmental/historic properties issues.
- Projected project costs fell at either the low end or high end of the scale, with 42 percent estimated to cost at least \$1 million, but 31 percent expected to cost less than \$250,000.
- There is a good horizon (time) spread of proposed projects; almost 45 percent of the proposed projects are planned for implementation in the near term (within 5 years), with 23 percent in the mid-term (5-10 years) and 32 percent in the long-term (more than 10 years).
- More than two-thirds of the proposed projects (67.5 percent) were noted as having a demonstrated a high level of local support, and 27 percent were considered “quick wins.” More than 25 percent had an identified available funding source.
- Nearly 88 percent of proposed projects were determined to improve safety. Almost 46 percent were located on “Corridors of Opportunity,” while just over 40 percent are expected to reduce traffic congestion. About one-third would serve multiple jurisdictions, and 31 percent were noted as promoting environmental justice or helping to meet performance measures.

*There are 26
Active Transportation
(bicycle and pedestrian)
projects on the high-priority
Discretionary list—more than
any other type.*

It is expected that this Discretionary project list provides a more representative, achievable, wider-ranging set of actions that offer a better prospect for timely development than project lists developed for previous LRTPs. The benefits and concerns documented in the Discretionary project sheets should help to provide focus and justification for pursuing specific enabling mechanisms, including appropriate funding programs.



Table 45. Ranked Scores of High-Priority Proposed Discretionary Projects

Project	Score
CSVT Southern Section Special Impact Study	21.67
US 522 Interchange Study	21.25
US 11 and PA 54 Access Management Plans	20.42
Memorial Elementary School	20.00
US Route 22 Corridor/Transportation Study	19.67
Bloomsburg Traffic Signal Improvements	19.58
Kinney Run Diversion/Industrial Drive Bypass Channel Clearing and Reconstruction	19.58
Cedar Springs Road/Industrial Park Road	19.17
Lock Haven Pedestrian Crossings	18.75
US 11, Railroad Street, and East Market Street H & H Study	18.75
Bloomsburg Bicycle Lanes	18.75
Kelly Township Signal Improvements	18.58
Bloomsburg Crossing Improvements	18.33
Walnut Street Culvert Replacement	18.33
Patterson Drive Culvert Replacement	18.33
University Ave./Market St. Pedestrian Crossing Improvements	17.92
Hospital Drive/JPM Boulevard Roundabout	17.92
More ADA-Accessible Vehicles or Spaces on Vehicles, Better Amenities	17.92
Middleburg Borough Traffic Study	17.92
Establish additional carpool, vanpool, and car sharing programs	17.50
Liberty Hollow Rail Trail	17.33
5-County Fixed-route Service Pilot	17.00
US 522 Improvements Study	16.67
Bloom Road (SR 2008) & Woodbine Lane (T-372) & Kaseville Road ROW Acquisition	15.67
Route 322 Interchange Improvement Study	15.67
Electric Avenue/Mill Street Intersection Safety Improvements	15.25
SR 15 & Beagle Club Road/River Road Improvements	15.25
Lewistown Active Transportation Plan Downtown to Amtrak Station Implementation	15.17
Main Street & Light street Road Pedestrian Crossing	15.08
US 11 & 15 Traffic Signal Enhancements, Hummels Wharf to Shamokin Dam	15.00
New Columbia Park-and-Ride	14.92
Hogan Boulevard Safe Bike/Ped Route	14.50
Juniata County Short span bridge program	13.67
T-368 (Spring Run Road) over Kishacoquillas Creek	13.67
Bald Eagle Valley Trail	13.33
Rehab / Replacement of County bridge #2	13.33
Buffalo Valley Rail Trail Western Extension- Mifflinburg to Swengle	12.92



Project	Score
Fort McClure Boulevard Walk/Bike Paths	12.50
Lewistown Amtrak Station Improvements	12.50
Franklin Township Short Span Bridges	12.25
SR 235 Safety Improvements	12.08
Railroad Street Bridge	11.83
I-80 Integrated Corridor Management (Exit 232 to 241) + Parallel Corridor Improvements	11.75
Rehab / Replacement of County bridge #23	11.67
New buses-only entrance to Central Mountain Jr/Sr High School	11.58
E. Sixth Street Side Path	11.42
Permanent fix of subsidence issues at Ice Mine Cut	11.33
Railroad Street Intersection Improvement	11.25
Safe Routes To School	10.92
Arbutus Road Trail	10.92
Sunbury Street/Route 61 corridor improvements	10.08
SR 150/High Street Betterment	10.08
North Branch Canal Trail, Bloomsburg to Berwick and Warrior Run Trail	9.67
T-309 (Burnt Church Road) over Trib to Tuscarora Creek	9.67
Allenwood Village to Montgomery Borough multi-use riverfront trail	9.58
Liberty Street Extension	9.58
Wall Street/State Hospital Drive Corridor	9.33
Expand existing and develop additional park-and-ride lots	9.25
Market Street/Railroad Street Roundabout	9.17
Columbia County Susquehanna Trail	8.83
Rock point removal near Bush Dam	8.83
US 522/Salem Road/University Avenue	8.33
Mayor's Trail	8.08
New Geisinger Access/Alignment from PA 54	7.58
US Route 22 Corridor/Transportation Improvements	7.42
Mount Carmel to Sunbury Multi-Use Trail	7.33
Shamokin Creek Greenbelt/Kehler Park Multi-Use Trail	7.33
Buffalo Valley Rail Trail US 15 Crossing	7.08
NS bridge over Susquehanna	7.00
North Branch Canal Trail, Catawissa to Bloomsburg	6.75
I-180/PA 54 Interchange	6.58
US 11/Woodbine Lane Geometric Improvements	5.50
Railroad Street Realignment	5.50
New Susquehanna River Bridge	4.92

Figure 75. High-Priority Discretionary Project Locations by County

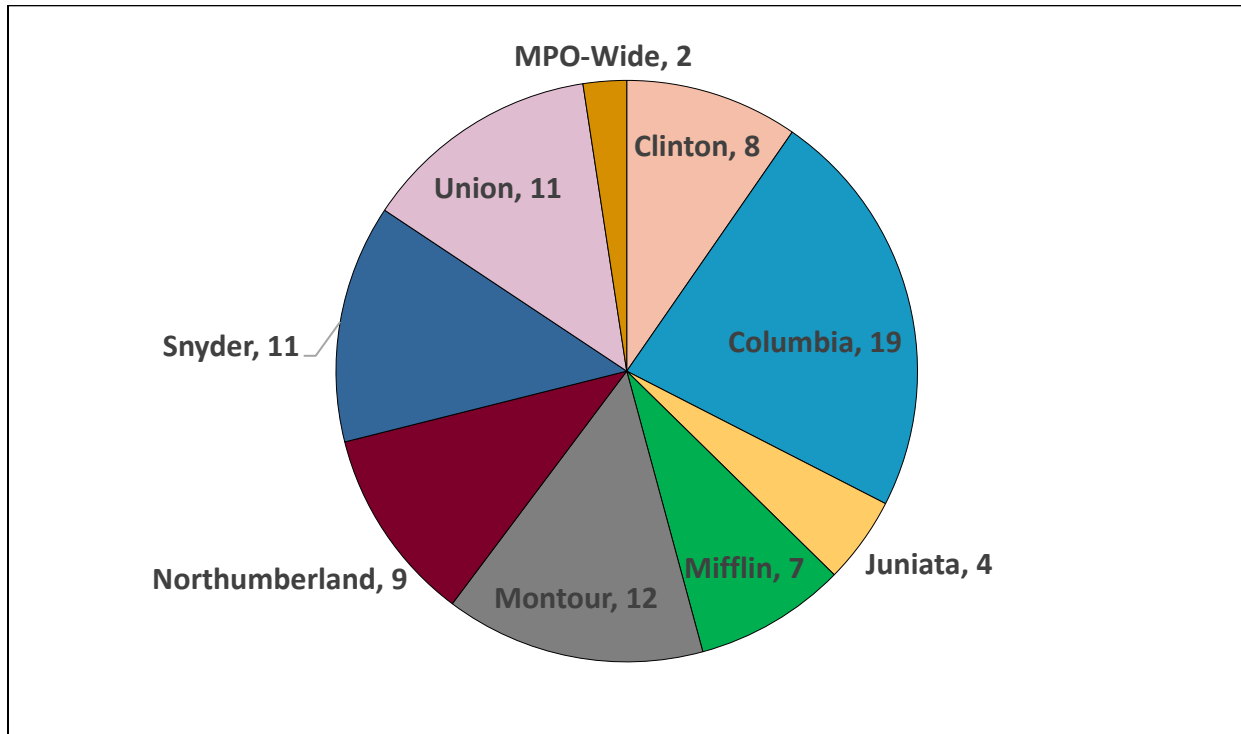


Figure 76. High-Priority Discretionary Projects by Type

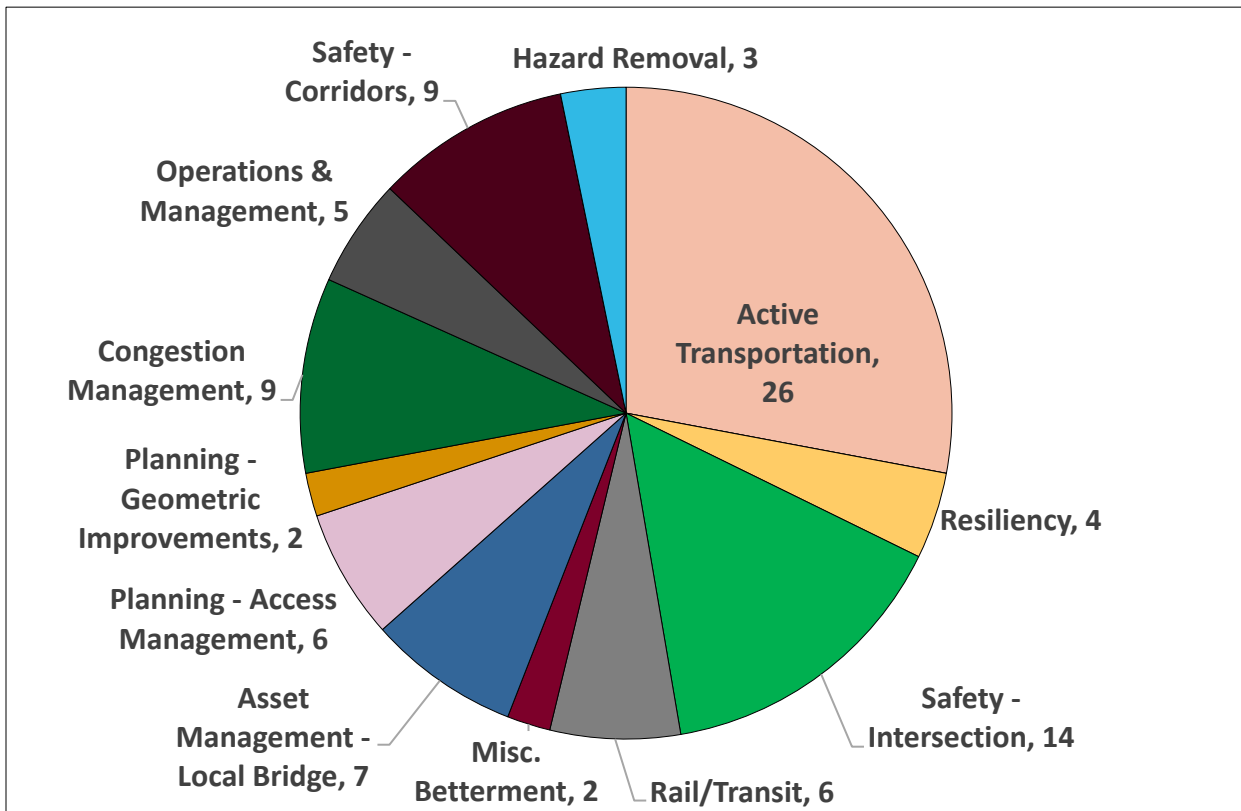


Figure 77. High-Priority Discretionary Project Design-Construction: Complex Issues

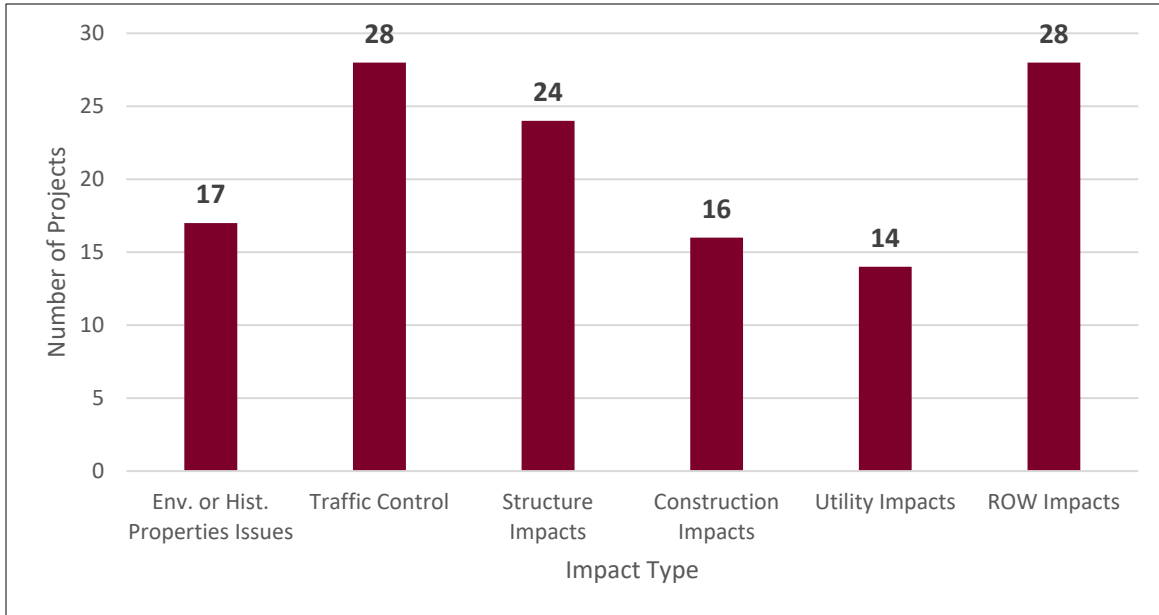


Figure 78. High-Priority Discretionary Projects by Cost

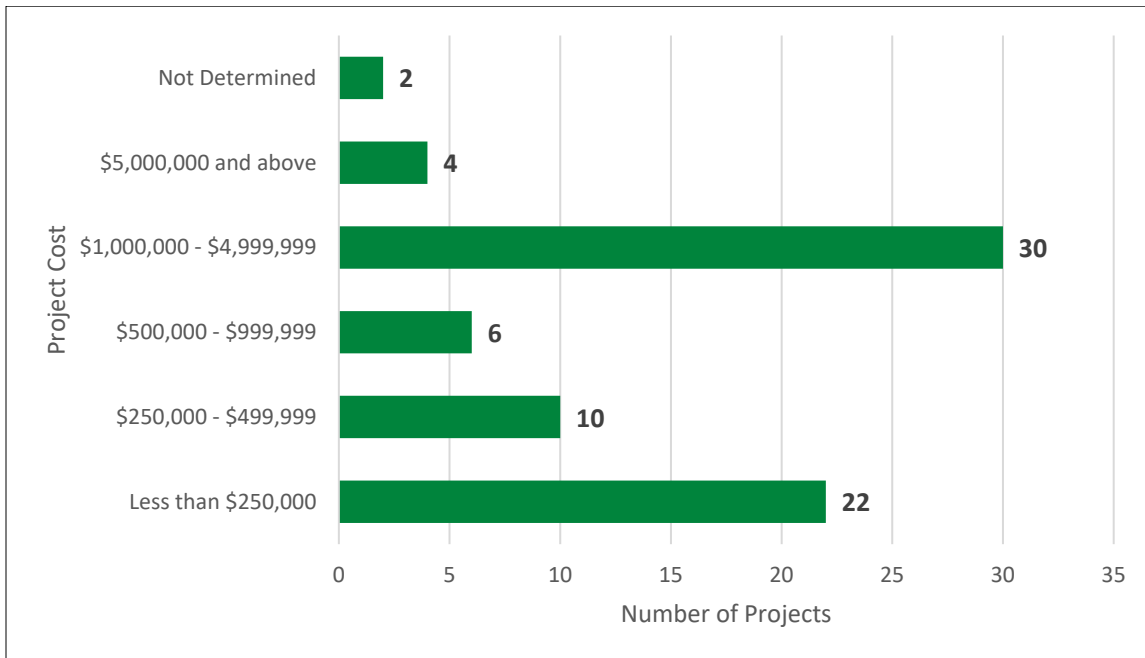


Figure 79. High-Priority Discretionary Project Implementation Horizon

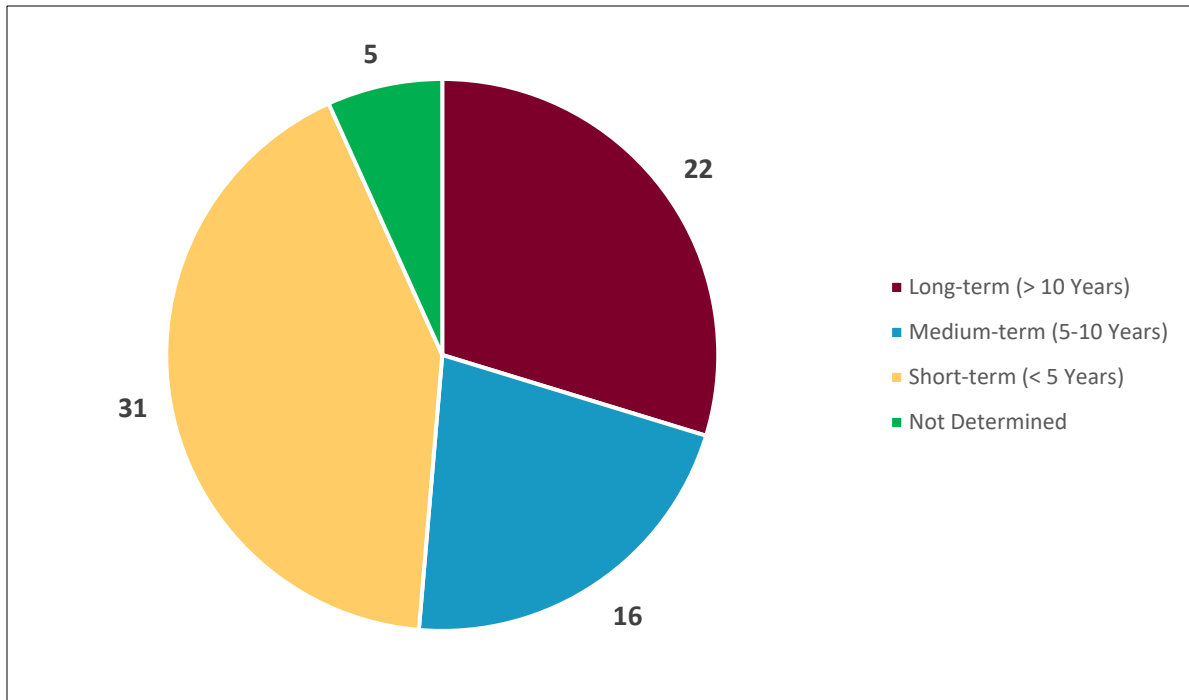
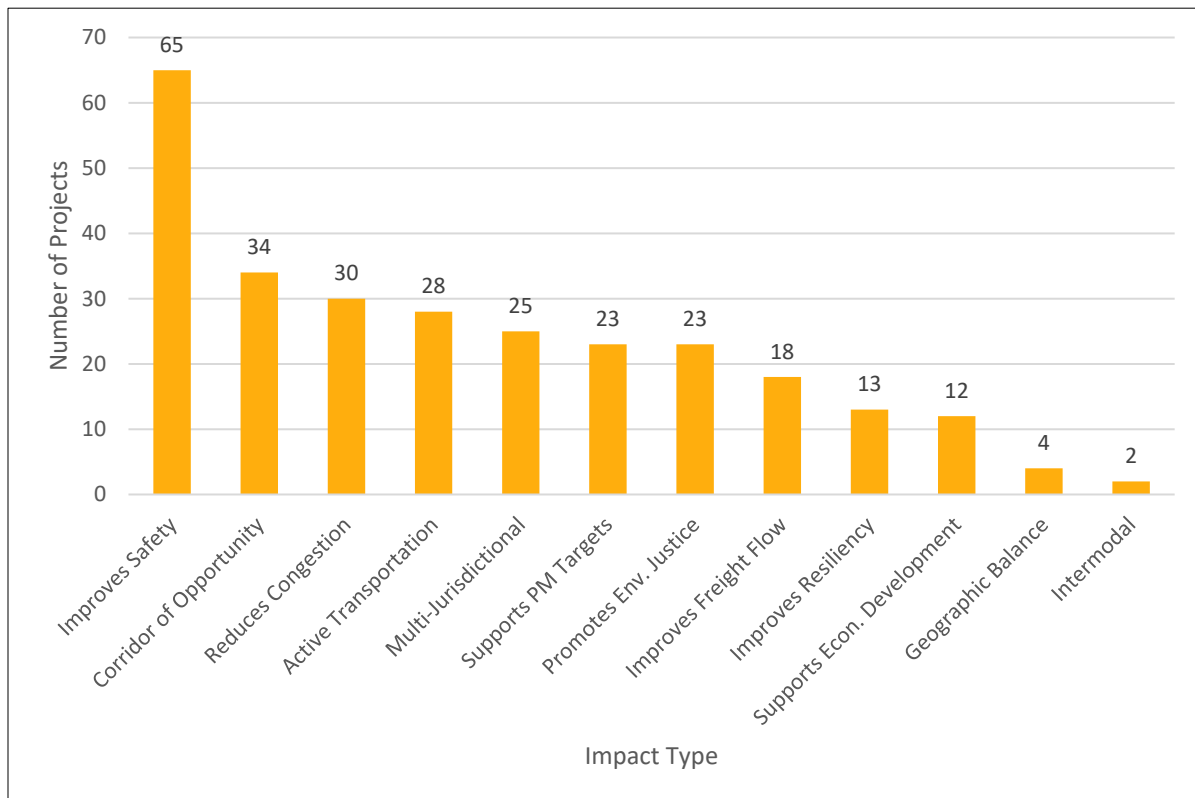


Figure 80. High-Priority Discretionary Project Impacts

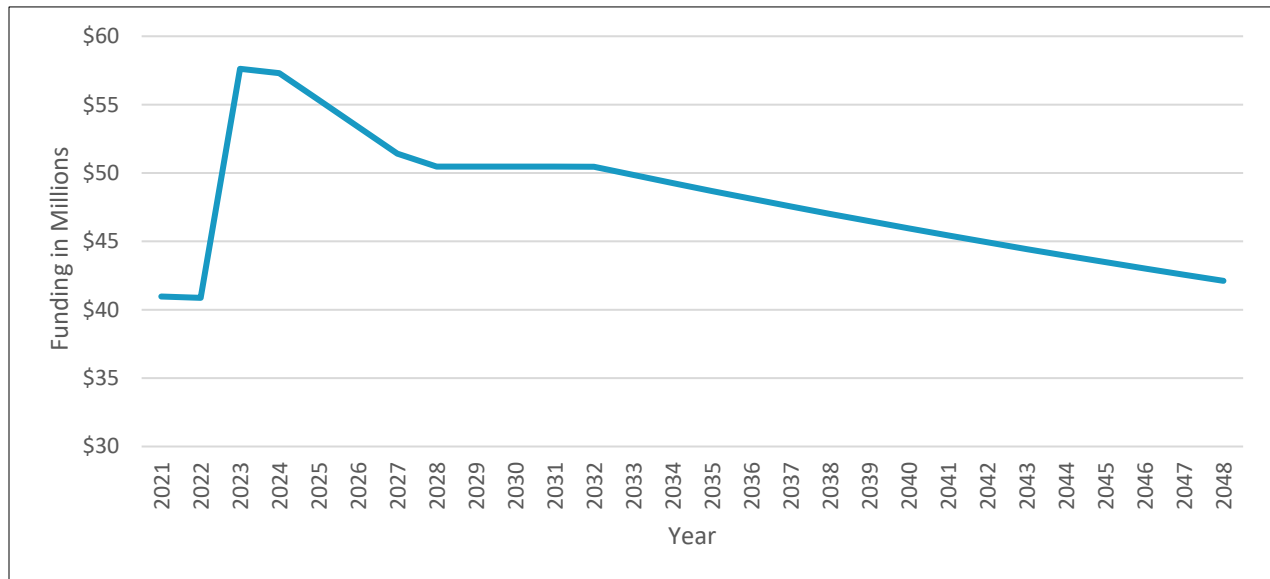


8.3 Fiscal Guidance

8.3.1 2021-2048 Procedural and Financial Guidance

As part of each update for the TYP and TIP, PennDOT develops a Financial Guidance document that details available revenue and funding distribution strategies to be used in the update. The document is developed by a committee that includes representatives of PennDOT, FHWA, MPOs, and RPOs. This plan uses the projections included in financial guidance as an assessment of the transportation funding available for the region over the life of the TYP.

Figure 81. Projected TIP Funding for SEDA-COG MPO



8.3.2 Fiscal Projections for the LRTP

Procedural and Financial Guidance issued by PennDOT for the transportation program development process and TYP, as well as SEDA-COG's TIP for 2021-2024 and FHWA projections for the MPO, were referenced when establishing the fiscal assumptions for the LRTP. This guidance provides the estimated amount of federal and state funding to be allocated to the SEDA-COG MPO over the period 2021-2032. Between 2033 and 2048, assumptions were made to maintain a constant level of federal funding, while decreasing state programs 2 percent per year. Projections were made through FY 2048 to keep four-year planning periods intact. Figure 81 and Table 46 display the results of these projections.



Table 46. Projected TIP Funding for SEDA-COG MPO, By Program, in Thousands

Federal Fiscal Year	NHPP	STP	State Highway	State Bridge	Fed. Off-System Bridges	HSIP	Total	Comments
2021	\$8,717	\$7,442	\$11,474	\$8,546	\$2,886	\$1,908	\$40,973	Taken from 2021-2024 TIP Financial Guidance
2022	\$7,704	\$7,412	\$12,417	\$8,544	\$2,886	\$1,908	\$40,871	
2023	\$13,206	\$9,384	\$13,766	\$14,710	\$4,646	\$1,908	\$57,620	
2024	\$11,177	\$9,324	\$15,545	\$14,708	\$4,646	\$1,908	\$57,308	
2021-2024	\$40,804	\$33,562	\$53,202	\$46,508	\$15,064	\$7,632	\$196,772	
2025	\$9,219	\$9,324	\$15,544	\$14,707	\$4,646	\$1,908	\$55,348	Taken from 2021-2024 TIP Financial Guidance
2026	\$7,260	\$9,324	\$15,542	\$14,705	\$4,646	\$1,908	\$53,385	
2027	\$5,301	\$9,324	\$15,540	\$14,703	\$4,646	\$1,908	\$51,422	
2028	\$4,358	\$9,324	\$15,538	\$14,701	\$4,646	\$1,908	\$50,475	
2025-2028	\$26,138	\$37,296	\$62,164	\$58,816	\$18,584	\$7,632	\$210,630	
2029	\$4,358	\$9,324	\$15,537	\$14,700	\$4,646	\$1,908	\$50,473	Taken from 2021-2024 TIP Financial Guidance
2030	\$4,358	\$9,324	\$15,535	\$14,698	\$4,646	\$1,908	\$50,469	
2031	\$4,358	\$9,324	\$15,533	\$14,696	\$4,646	\$1,908	\$50,465	
2032	\$4,358	\$9,324	\$15,531	\$14,693	\$4,646	\$1,908	\$50,460	
2029-2032	\$17,432	\$37,296	\$62,136	\$58,787	\$18,584	\$7,632	\$201,867	
2033	\$4,358	\$9,324	\$15,220	\$14,399	\$4,646	\$1,908	\$49,856	Projected. Federal programs held constant; state programs decreased 2% per year.
2034	\$4,358	\$9,324	\$14,916	\$14,111	\$4,646	\$1,908	\$49,263	
2035	\$4,358	\$9,324	\$14,618	\$13,829	\$4,646	\$1,908	\$48,683	
2036	\$4,358	\$9,324	\$14,325	\$13,552	\$4,646	\$1,908	\$48,114	
2033-2036	\$17,432	\$37,296	\$59,079	\$55,892	\$18,584	\$7,632	\$195,915	
2037	\$4,358	\$9,324	\$14,039	\$13,281	\$4,646	\$1,908	\$47,556	Projected. Federal programs held constant; state programs decreased 2% per year.
2038	\$4,358	\$9,324	\$13,758	\$13,016	\$4,646	\$1,908	\$47,010	
2039	\$4,358	\$9,324	\$13,483	\$12,755	\$4,646	\$1,908	\$46,474	
2040	\$4,358	\$9,324	\$13,213	\$12,500	\$4,646	\$1,908	\$45,949	
2037-2040	\$17,432	\$37,296	\$54,493	\$51,553	\$18,584	\$7,632	\$186,989	
2041	\$4,358	\$9,324	\$12,949	\$12,250	\$4,646	\$1,908	\$45,435	Projected. Federal programs held constant; state programs decreased 2% per year.
2042	\$4,358	\$9,324	\$12,690	\$12,005	\$4,646	\$1,908	\$44,931	
2043	\$4,358	\$9,324	\$12,436	\$11,765	\$4,646	\$1,908	\$44,437	
2044	\$4,358	\$9,324	\$12,187	\$11,530	\$4,646	\$1,908	\$43,953	
2041-2044	\$17,432	\$37,296	\$50,262	\$47,550	\$18,584	\$7,632	\$178,757	
2045	\$4,358	\$9,324	\$11,944	\$11,299	\$4,646	\$1,908	\$43,479	2045 - LRTP Horizon Year. Projected. Federal programs held constant; state programs decreased 2% per year.
2046	\$4,358	\$9,324	\$11,705	\$11,073	\$4,646	\$1,908	\$43,014	
2047	\$4,358	\$9,324	\$11,471	\$10,852	\$4,646	\$1,908	\$42,559	
2048	\$4,358	\$9,324	\$11,241	\$10,635	\$4,646	\$1,908	\$42,112	
2045-2048	\$17,432	\$37,296	\$46,361	\$43,859	\$18,584	\$7,632	\$171,164	

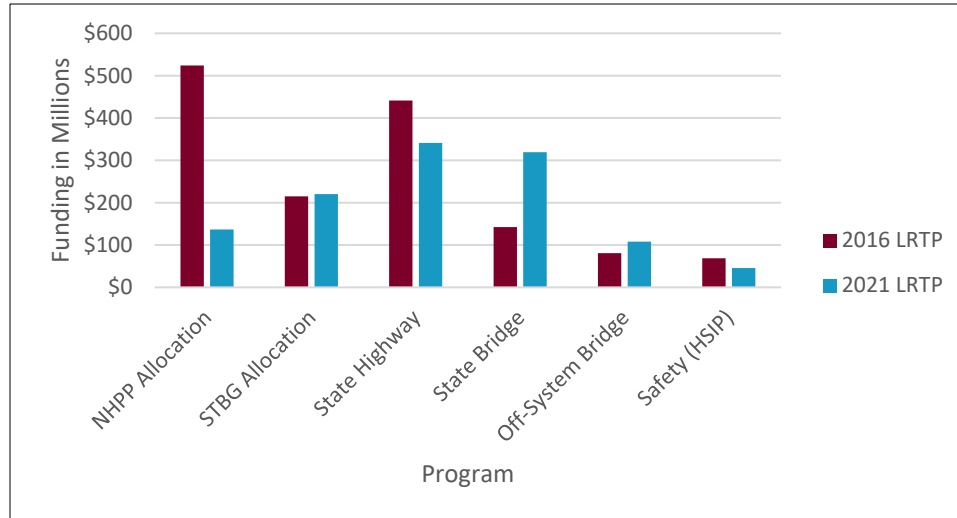
A few trends in the projected funding should be considered. First, significant changes in the projected funding occur between years 2022 and 2023 for all programs except HSIP. This reflects changes in the formula for the distribution of each program on a statewide basis. Prior to the 2021-2024 TIP update, these formulas included factors based on the relative proportion of each asset in Poor condition. Formulas considered for the 2021-2024 TIP update were based more closely on total extents and usage of the asset in question, and reduced the dependence on Poor-condition assets in a stepped fashion, using separate formulas for TIP years 2021-2022 versus 2023-2024. Second, the allocation of NHPP funds on a statewide basis was shifted, increasing the portion used to fund the statewide Interstate Management Program, and decreasing the amounts allocated to each regional planning partner NHPP program. This change was also made in a stepwise basis, resulting in incremental reductions to the regional allocation of NHPP funds from 2021 to 2028, and eventually resulting in the programming of \$1 billion per year being available for the statewide Interstate Management Program.

These changes were part of the developed consensus of the Financial Guidance Committee that includes representatives of PennDOT, FHWA, MPOs, and RPOs. For the purposes of the funding projection, it was assumed the effects of these changes would remain constant through the LRTP period. Further information on the total funding available, the exact formulas and factors used to distribute funds, and a complete overview of the allocation of funds at a statewide level can be found in Pennsylvania's 2021 Transportation Program General and Procedural Guidance and Pennsylvania 2021 Transportation Program Financial Guidance.

The shift in formulas for program allocation yields significant changes in the funding available by program. It has been the programming philosophy of the MPO that the balance of funds available in the areas covered by each PennDOT District should reflect the balance of the assets used in the formulas governing the distribution of funds to the region. Thus, as the formulas used on a statewide basis shift to greater consideration of asset extent and usage versus asset condition, the balance of funds available over the counties in each PennDOT District in the MPO will also shift.

Figure 82 shows a comparison of the funding available by program for the 2021 LRTP versus the 2016 LRTP. Total funding projected to be available for the 2021 LRTP is about 80 percent of the funding projected at the time of the 2016 LRTP. NHPP funding is 75 percent lower for the current update. State highway funds are projected to be about 125 percent higher, and federal bridge funds are projected to be about 33 percent higher over the life of the plan.

Figure 82. Comparison of Funding Projections for 2016 and 2021 LRTP Updates



8.3.3 Fiscal Constraint Analysis

As noted previously, the Asset Management project list is fiscally constrained. The selected projects emerge from PennDOT’s asset management process and condition data, and collectively represent major investments required to keep the transportation network in good operating condition. To demonstrate that the Asset Management projects can be delivered using the projected funding expected to be available over the life of the plan, the projected funding was totaled by planning period. The totals are shown in Table 47.

Table 48 totals the costs of the Asset Management projects in each plan period and compares the total costs to the projected funding available. In each period, sufficient funding exists to deliver the listed projects—thus they are fiscally constrained. It should be noted that two of the projects are currently programmed on the Interstate Management (IM) TIP. Although the funds are available to complete the projects under the regional TIP, it is expected that they will continue to be funded out of the IM program.

Similarly, a number of the projects shown in the long-range period are high-priority candidates for pending rounds of the Interstate Management Program. They are included in this listing to establish them as critical projects for the region. It is expected that with the increased funding available for the IM Program, they will be funded in future years, and the funding allocated to them will be repurposed to other projects emerging from the asset management process.



Table 47. Transportation Funding Forecast

		First Four Years of the Twelve-Year Program (TYP)				Second Four Years of TYP	Third Four Years of TYP	Long-Range Plan Period	TOTALS
		Transportation Improvement Program (TIP)							
FUNDING		2021	2022	2023	2024	2025-2028	2029-2032	2033-2044	2021-2044
Base Allocation									
NHPP Allocation		8,717,000	7,704,00	13,206,000	11,177,000	26,138,000	17,432,000	52,296,000	136,670,000
STBG Allocation		7,442,000	7,412,000	9,384,000	9,324,000	37,296,000	37,296,000	111,888,000	220,042,000
State Highway		11,474,000	12,417,000	13,766,000	15,545,000	62,164,000	62,136,000	163,835,000	341,337,000
State Bridge		8,546,000	8,544,000	14,710,000	14,708,000	58,816,000	58,787,000	154,995,000	319,106,000
Off-System Bridge		2,886,000	2,886,000	4,646,000	4,646,000	18,584,000	18,584,000	55,752,000	107,984,000
Safety (HSIP)		1,908,000	1,908,000	1,908,000	1,908,000	7,632,000	7,632,000	22,896,000	45,792,000
Base Allocation Total		40,973,000	40,871,000	57,620,000	57,308,000	210,630,000	201,867,000	561,661,400	1,170,930,000
CSVT Funding		17,350,000	54,550,000	21,400,000	31,900,000	273,753,297	0	0	0
Federal Transit		0	0	0	0	0	0	0	0
State Transit		704,000	704,000	704,000	704,000	2,816,000	2,816,000	8,448,000	16,896,000
TOTAL		\$59,027,000	\$96,125,000	\$79,724,000	\$89,912,000	\$487,199,297	\$204,683,000	\$570,109,400	\$1,187,826,400

Notes:

1. 2021 to 2024 funding based on Pennsylvania's 2021 Transportation Program Financial Guidance.
2. 2025 to 2045 federal funding estimated to remain flat; 2 percent per year decrease estimated for state funding.
3. CSVT funding drawn from the SEDA-COG 2021-2024 TIP, April 2021.



Table 48. Fiscal Constraint Analysis

MPMS	Project Title	L RTP Period	Projected Cost	Projected Funding Available
76401	CSVT Southern Section	2023	\$21,400,000	
Total Funding Required for Asset Management Projects in 2023:			\$21,400,000	\$79,724,000
114010	SR 522 Betterment (East of Lewistown)	2024	\$5,510,894	
76401	CSVT Southern Section	2024	\$26,400,000	
102811	CSVT ITS	2024	\$5,500,000	
Total Funding Required for Asset Management Projects in 2024:			\$37,410,894	\$89,912,000
4582	Lewistown Narrows (Highway Restoration)	2025-2028	\$8,333,689	
72767	522 Betterment (Lewistown to County Line)	2025-2028	\$5,182,598	
114303	Bridge Preservation (SR 2004 over 322)	2025-2028	\$4,887,843	
103853	SR 54 Corridor Safety Improvement	2025-2028	\$17,350,000	
76401	CSVT Southern Section	2025-2028	\$17,650,000	
76402	CSVT Southern Section Structures	2025-2028	\$110,000,000	
76403	CSVT Southern Section Paving	2025-2028	\$135,000,000	
102811	CSVT ITS	2025-2028	\$11,103,297	
97561	Reconstruction	2025-2028	\$45,607,357	
100443	SR 42 from Poor House Rd to Catawissa Creek	2025-2028	\$5,533,360	
81491	655 County Line to Belleville (Hwy Restoration)	2025-2028	\$6,837,358	
102810	Highway Construction (CSVT to US 11)	2025-2028	\$15,070,562	
99241	SR 11 from Ulsh Road to Penn's Creek	2025-2028	\$8,791,000	
110231	Mill & Resurface	2025-2028	\$5,330,000	
97736	I-80 Eastbound Rest Area	2025-2028	\$4,951,816	
69507	SR 0322 Bridge	2025-2028	\$4,915,860	
3859	PA 44/Pine Creek Br.	2025-2028	\$8,403,782	
106306	SR 2015 Bridge over SEDA-COG JRA	2025-2028	\$7,086,157	
110221	I-80 Hetlerville Rd to Rest Area WB	2025-2028	\$4,530,000	
85299	Lewistown Bridge (Charles St. Ramps)	2025-2028	\$5,923,180	
85300	Lewistown Bridge II (Charles St. Ramps)	2025-2028	\$3,848,637	
113612	I-80 WB from Mile Run to SR 1010	2025-2028	\$4,780,000	
Total Funding Required for Asset Management Projects 2025-2028:			\$441,116,496	\$487,199,297
93317	SR 120 over Norfolk Southern Bridge	2029-2032	\$6,691,349	
93318	SR 1002 over West Branch of Susquehanna River	2029-2032	\$14,556,842	
82994	Commuter Parking Study	2029-2032	\$6,059,484	
99188	Highway Restoration (PA 45 to Muddy Run)	2029-2032	\$7,225,000	
113787	US 11 Roosevelt Ave to SR 15/11 Split	2029-2032	\$5,050,000	
93697	Reconstruction	2029-2032	\$58,673,388	



MPMS	Project Title	L RTP Period	Projected Cost	Projected Funding Available
Total Funding Required for Asset Management Projects 2029-2032:			\$98,256,063	\$204,683,000
110226	Mill & Resurface	2033-2044	\$8,030,000	
110227	Mill & Resurface	2033-2044	\$7,485,000	
-	220 Twin Bridges over Susquehanna at McElhattan	2033-2044	\$36,000,000	
-	SR 1005 over Susquehanna at McElhattan	2033-2044	\$23,500,000	
-	US 11 over West Branch Susquehanna	2033-2044	\$25,000,000	
112323	ITS Only, Exit 161 to MM 193.3	2033-2044	\$10,088,000	
109250	Preservation, MM 170 - 185	2033-2044	\$21,640,000	
109251	Preservation, MM 185 - 194	2033-2044	\$41,330,000	
109239	Preservation, MM 185 - 194	2033-2044	\$5,230,000	
Total Funding Required for Asset Management Projects 2033-2044:			\$178,303,000	\$570,109,400

Note: CSV T project costs allocated by TIP year in which they are programmed.

8.4 “Corridors of Opportunity,” Asset Management, and Proposed Projects

8.4.1 “Corridors of Opportunity” Definition

As discussed in preceding sections, the need to more efficiently identify and select projects for successful, timely implementation has resulted in development for this LRTP update of the “Discretionary” projects list. These projects have been scored and ranked through the viability analysis process described earlier, resulting in a greater focus that promotes setting priorities for projects that have a strong likelihood of implementation. These changes incorporate products of the planning process in the MPO region during that time, and better reflect input from MPO members regarding their view of the most important projects identified via that process. This approach also gives such projects standing as a regional priority in the PennDOT Connects process and provides feedback to the sponsors on opportunities to advance the project to construction. Taken together with inclusion of the larger “Asset Management” projects, this list provides a solid step toward setting forth the project “game plan” for 2021-2045.

A final step in considering project implementation involves consideration of proposed projects in conjunction with “Corridors of Opportunity.” The concept takes into consideration the location of the transportation corridors of greatest significance according to federal guidance for meeting asset management targets, especially for Performance Measure 1 (Safety) and Performance Measure 2 (Pavement/Bridge).

The Corridors of Opportunity approach helps prioritize projects on the region’s major transportation corridors that will help meet federal performance targets for safety and asset condition.

8.4.2 Evaluation/Visualization Tool

Defining which corridors present the greatest opportunity for improvement in a given area is somewhat subjective, but MPO staff and its consultant team worked to define and provide the capability to visualize transportation data that supports corridor definition. This was based on where performance measures including congestion, resiliency, freight, and safety should be considered early in the project development process. Development of an online, GIS-based “Corridors of Opportunity” evaluation/visualization tool incorporated several asset management-related datasets that can be compared and viewed simultaneously. The tool was developed for ongoing use to monitor conditions and support project development after the LRTP process was completed, and potentially to support development of a performance measures dashboard. In addition, two versions of the tool were developed—a more robust one for internal use by MPO staff and a streamlined version for access by stakeholders and the general public (see Figure 83).

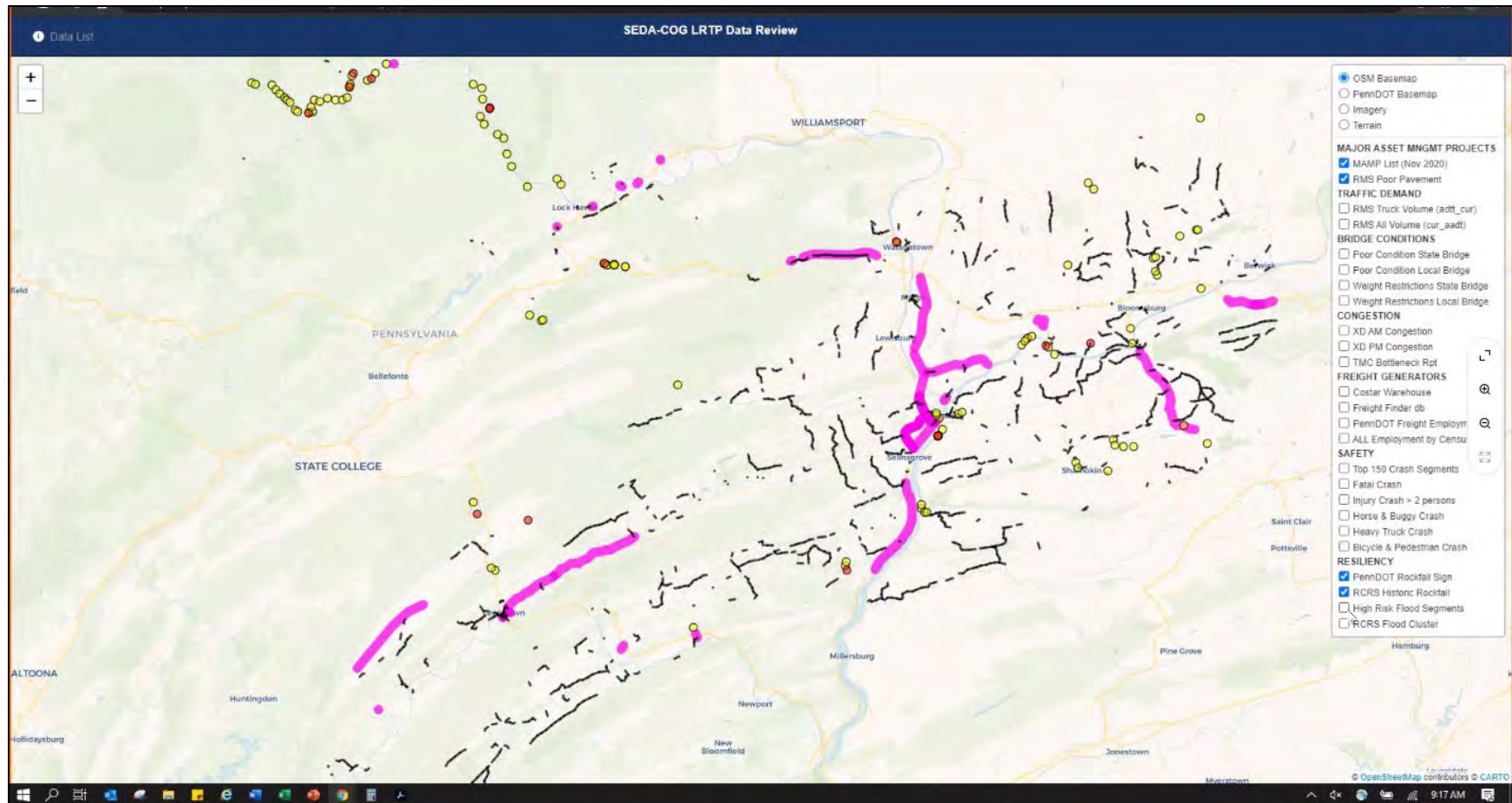
Data layers incorporated in the visualization tool include:

- **Projects:** This layer shows proposed transportation projects in the 2021-2045 LRTP. This includes major Asset Management projects, which generally are larger state-funded projects requiring higher investment and are focused on improving bridge and pavement conditions. The Discretionary project layer displays other regional projects that have been identified through MPO outreach to key stakeholders in the SEDA-COG region, and which may require significant local funding support. The project title, implementation timeframe, and projected cost can be viewed.
- **Traffic volumes:** Vehicular traffic volumes are based on periodic traffic counts conducted throughout the region. These counts include separate estimates of truck volumes. Layers can be selected to highlight corridors with the highest overall average daily traffic volumes (more than 3,500 vehicles per day) and truck volumes (more than 500 trucks per day).
- **Employment:** Areas with a significant number of employed persons (as defined by U.S. Census Bureau blocks) are color-coded by number of employees. These locations often contribute to higher vehicular traffic volumes because of associated commuting patterns.
- **Bridge and pavement conditions:** Asset Management projects have traditionally been focused on locations where bridge or pavement conditions have been rated as “Poor” during regular inspections. The map shows bridges and pavements rated as “Poor,” and bridges are categorized by whether they are state-owned or owned by the local municipality. As stated previously, for state-owned bridges and pavement, FHWA requires the states to move to a “lowest life-cycle cost approach” for asset management. With this approach, lower-condition infrastructure may not always be the highest priority for investment; projects are prioritized to extend infrastructure life over a longer period.
- **Traffic congestion:** Traffic congestion is an important consideration in identifying and prioritizing investments that increase the capacity of the transportation system. This map layer highlights key locations with traffic congestion during the morning and evening peak hours.
- **Freight generators:** The movement of freight is critical to our national and local economy. Freight sizes and products range from larger-sized items (such as modular homes, raw materials, and equipment) down to small packages handled by delivery companies. Knowing the locations of freight generators is important in identifying local freight movement patterns. These locations can guide transportation investment decisions to ensure businesses can efficiently move goods from their facility locations. The layers provided under this topic area highlight important locations of freight-generating businesses and industries.



- Safety: Ensuring safety of travelers remains an important factor in determining transportation investments. One layer shows corridors where there are a high number of vehicular crashes. A separate layer shows the locations of crashes resulting in fatalities. These data were assembled from data available through PennDOT's Pennsylvania Crash Information Tool (PCIT).
- Resiliency: This refers to infrastructure that is vulnerable to increased storm-related and other events, especially flooding in the SEDA-COG MPO region. This layer displays high-risk flooding locations. In addition, locations of repeated road closures due to rock slides are shown.
- General layers: Additional layers show reference information such as roads, railroads, railroad crossings, political boundaries, and other information.

Figure 83. Screenshot of “Corridors of Opportunity” Tool





The main use of the “Corridors of Opportunity” visualization tool by MPO staff for the LRTP update was to understand the potential factors impacting proposed asset management and discretionary projects. In addition, because the tool promotes a geographically based visualization of project locations, candidate projects can be considered with respect to providing a balance of recommended projects that fairly serve all MPO member jurisdictions. Use of the tool also helps ensure that available data are brought into the project development process in a meaningful manner. These layers can be integrated into PennDOT Connects and field view meetings to make sure that the engineers designing projects are aware of the opportunities indicated by the data.

The high-priority Discretionary Project sheets used in the viability analysis include rating points for projects located on “Corridors of Opportunity,” those that are multi-jurisdictional, that promote project spread over MPO counties, and that help to meet performance measure targets, with separate points given for concerns such as improving safety, reducing traffic congestion, improving freight flow, etc.

8.4.3 Performance Measures and Corridors of Opportunity

8.4.3.1 Data Analysis and Thresholds for Corridors of Opportunity

For the online GIS-based analysis relating to evaluating performance measures and identifying Corridors of Opportunity, data described in the section above were classified so that thresholds could be established to help identify candidate corridors. Taken together, this approach helped to determine appropriate areas (segments and intersections) that are included in the listing of corridors in the following sections. The criteria used for setting the thresholds for qualification are also described. The SEDA-COG staff have reviewed these Corridors of Opportunity and have identified additions and modifications to the initial list based on corridor history for the area of resiliency. Note that this approach is intended to be replicated and used on a regular basis to update progress on achieving performance measure targets and track project implementation to improve the identified corridors. Keeping data current and updated will be an important part of this process, and will require close, continuing coordination with PennDOT and FHWA. This can be promoted through coordination and involvement with the newly established PennDOT data committee charged with development of a standalone data repository.

8.4.3.1.1 Safety

The GIS-based Corridors of Opportunity map shows fatal crash locations and high-crash segments retrieved from PennDOT’s PCIT system for 2013 through 2019. It also displays pavement and state and local bridges classified as being in Poor condition (using International Roughness Index criteria) as retrieved from PennDOT’s Roadway Management System (RMS) (Figure 84). The following highway segments and intersections meet the criteria for Corridors of Opportunity for reasons connected to safety concerns:

- US 11/15 from Mall Drive to Mill Road in Shamokin Dam
- US 11 (Main Street) / East Street/ and PA 487 in Bloomsburg
- US 11 (Front Street) / Market Street in Berwick
- Electric Avenue and Portions of Fourth Street in Lewistown
- Duke Street in Northumberland
- I-80 East of Exit 185 near Rauchtown Road
- US 11 (Walnut Street) / PA 54 in Danville



- US 15 in Lewisburg
- US 22 / PA 522 in Mount Union
- Reagan Street in Sunbury
- PA 150 (High Street) in Lock Haven

8.4.3.1.2 Congestion

The GIS-based Corridors of Opportunity map shows high traffic volume corridors, high truck volume corridors, and high congestion corridors (Figure 85) as retrieved from PennDOT's RMS, INRIX XD segment data, and the University of Maryland's RITIS software platform and its Trend Map tool (using 2019 data for more than 5,000 INRIX HD segments in the MPO region). High-traffic segments were defined as having greater than 3,500 ADT, and high truck volume segments were defined as having greater than 500 ADTT. Travel Time Index (TTI) data were extracted from RITIS to create a GIS map layer of high congested corridors. "High congestion" was defined as having a TTI of greater than 2.0, and "medium congestion" was defined as having a TTI value of between 1.3 and 2.0. The following highway segments and intersections meet the criteria for Corridors of Opportunity for reasons connected to congestion concerns:

- PA 54 (Mill Street) in Danville (including approaches from US 11 Northumberland St. and PA 54 Elysburg Road)
- US 11/15 to PA 61 in Shamokin Dam
- US 11/PA 147 Intersection in Northumberland
- US 15 in Lewisburg
- PA 487 Bloomsburg (Light Street)
- PA 254 in Milton (Broad Street)
- PA 150 (High Street) in Lock Haven

8.4.3.1.3 Resiliency

The GIS-based Corridors of Opportunity map shows high-risk flood segments, historical rockfall closures, and rockfall warning signs as retrieved from PennDOT's Extreme Weather Vulnerability Study, Roadway Closure Information System (RCRS), and the Sign Management & Ordering System (SIMOS) (Figure 86). Flood frequency on high-risk flood segments has been classified as being in the top 1 percent, top 5 percent, top 10 percent, and top 15 percent for the SEDA-COG MPO region. The following highway locations meet criteria for Corridors of Opportunity for reasons connected to resiliency concerns:

- I-80 at Toby Run Creek near Danville
- PA 61 (Market Street) between Shamokin Creek and Little Shamokin Creek in Sunbury
- US 11 (Columbia Blvd) east of Wolf Hollow Road (east of Bloomsburg)
- PA 522 (Main Street) at Middle Creek in Middleburg
- PA 147 (Bridge Avenue) in Northumberland
- PA 120 in Clinton County

8.4.3.1.4 Freight

The GIS-based Corridors of Opportunity map shows high employment areas and areas with high freight-



related employment, areas generating high numbers of overweight permits, and areas with high mining activity, all aggregated by Census block (Figure 87). High employment was defined as a Census block with more than 1,517 employees. Five classes were used for this data. Freight-related data were obtained from PennDOT's Bureau of Planning and Research. Identification of freight-generating entities was based on selected NAICS classification codes for manufacturing, wholesale, and warehousing establishments. Additional locations (by Census block) of mining-related establishments were identified by SEDA-COG. PennDOT's Overweight Permits database was analyzed to locate high numbers of origins or destinations for overweight permits, which were assigned to relevant Census blocks. Those Census blocks defined as having high freight-related employment had at least 234 employees in the relevant NAICS categories, nine or more overweight permits, or at least two mining locations. The following highway segments meet criteria for Corridors of Opportunity for reasons connected to freight concerns:

- I-80
- I-180
- US 11 from Northumberland to Danville
- US 15
- US 220
- US 322
- PA 54 from Elysburg to I-80

Figure 84. Safety-Related Corridors of Opportunity Data, SEDA-COG MPO Region

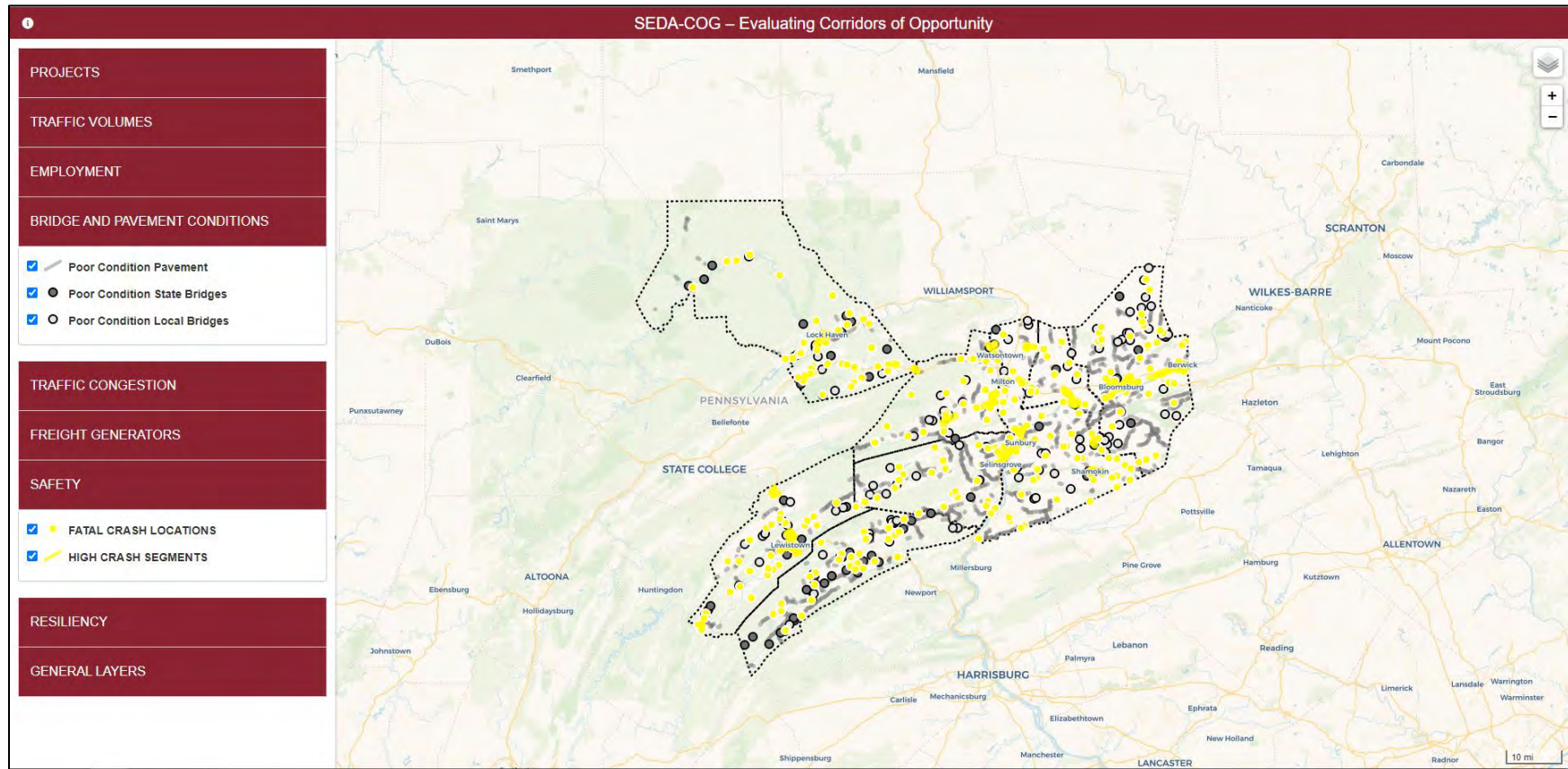


Figure 85. Congestion-Related Corridors of Opportunity Data, SEDA-COG MPO Region

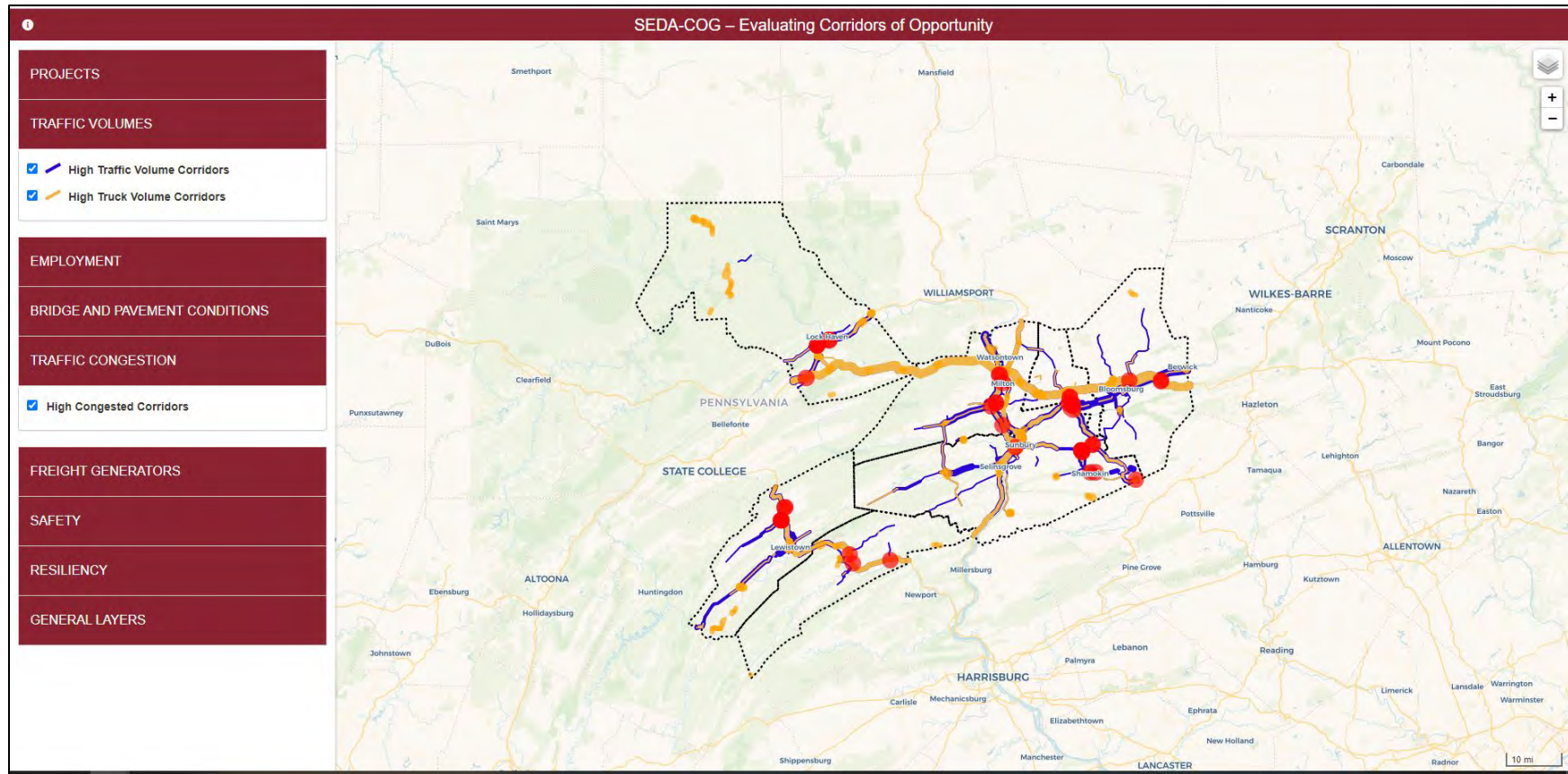


Figure 86. Resiliency-Related Corridors of Opportunity Data, SEDA-COG MPO Region

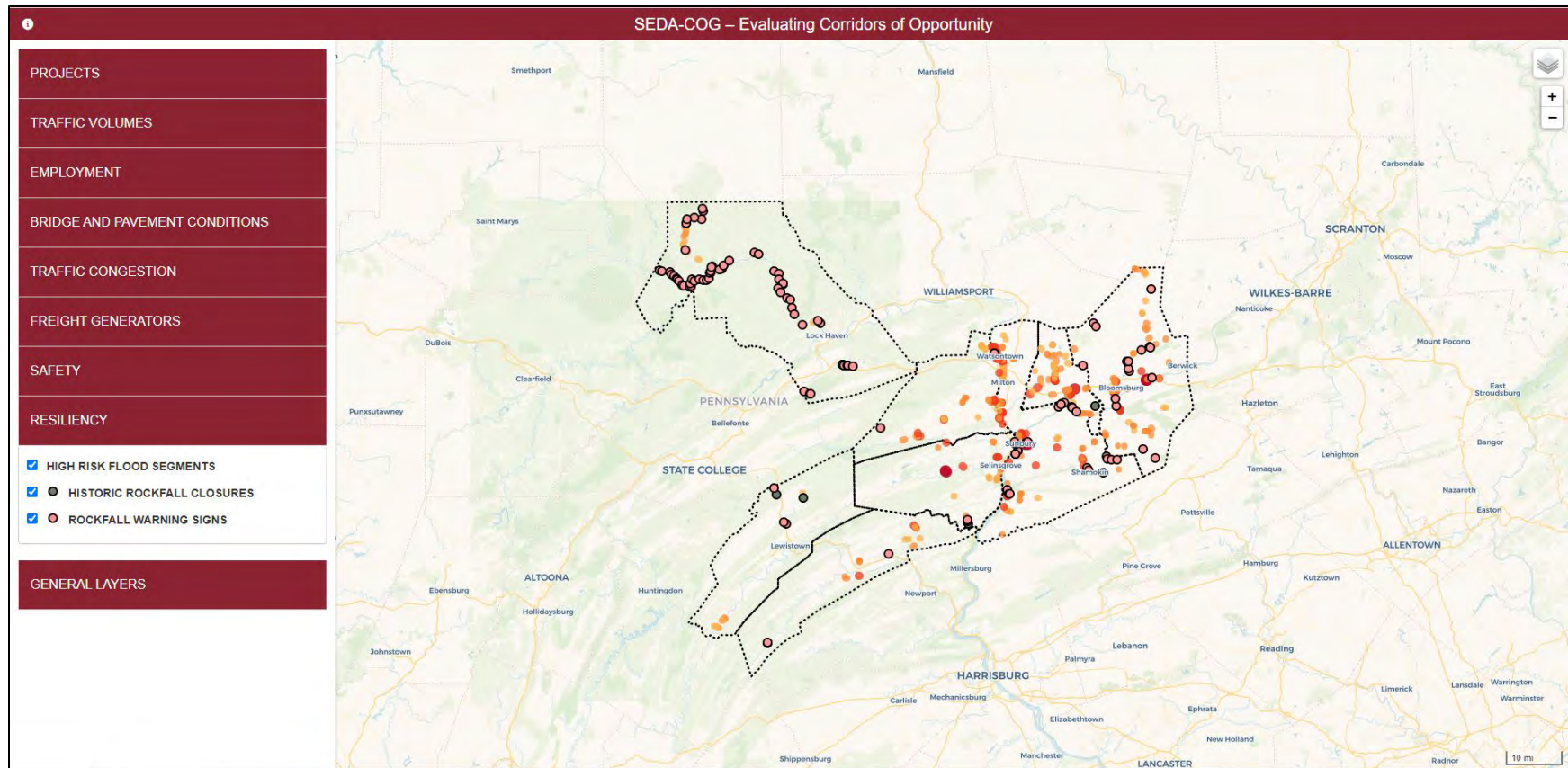
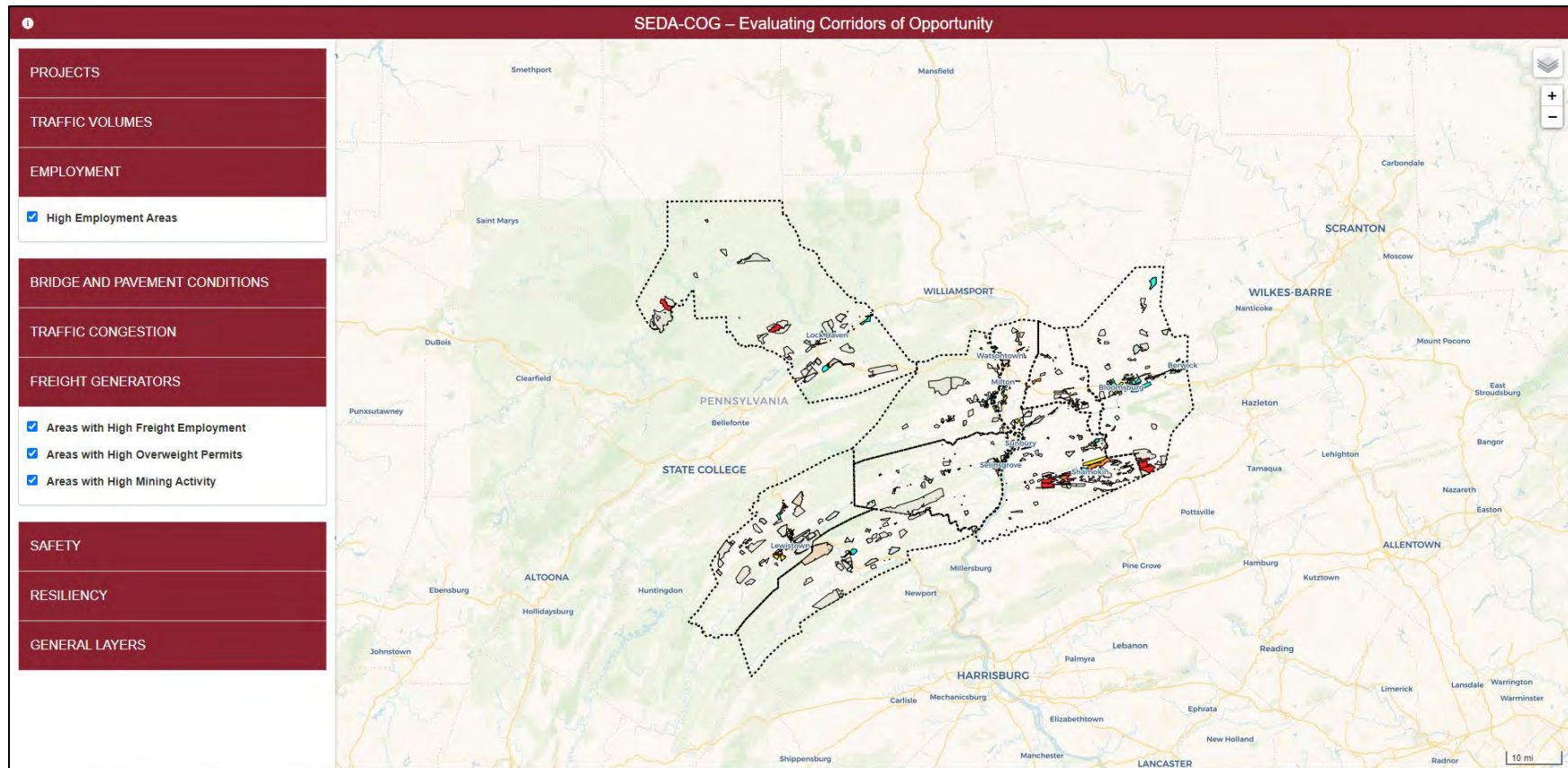


Figure 87. Freight-Related Corridors of Opportunity Data, SEDA-COG MPO Region





8.4.3.2 Corridors of Opportunity and Integrated Performance Measures

Many of the intersections and segments listed in the preceding sections reflect concerns in more than one category. GIS mapping displays the results for visual comparisons. It is especially important to identify where multilayer clusters of overlaps occur in a relatively compact area—these areas would logically have the most multifaceted, serious needs for improvement. Figure 88 shows an overall map of all locations of segments and intersections where performance measure issues exist, and Figure 89 shows locations of the defined Corridors of Opportunity. Although both figures show these data at a high-level, macro-scale, there is a relatively spread-out distribution pattern across the MPO region. To further display and analyze the identified Corridors of Opportunity in more detail where the serious needs exist, the online tool supports “zooming in” and other interactive analysis. MPO staff performed this work, and the areas are shown via inset maps in Figure 90 and Figure 91.

Figure 88. All Performance Measures Issues Locations, Corridors of Opportunity Data, SEDA-COG MPO Region

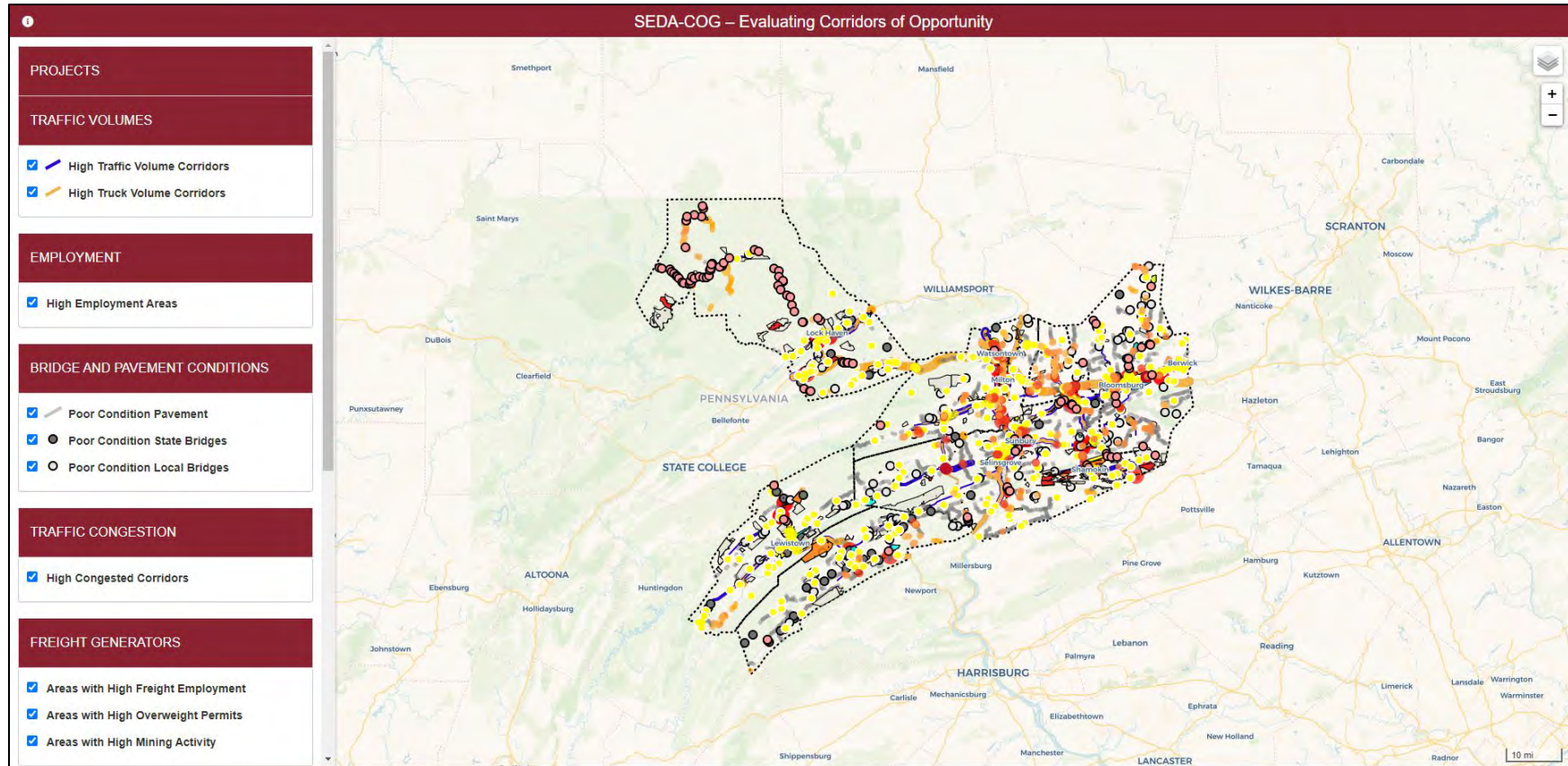


Figure 89. Designated Corridors of Opportunity Data, SEDA-COG MPO Region

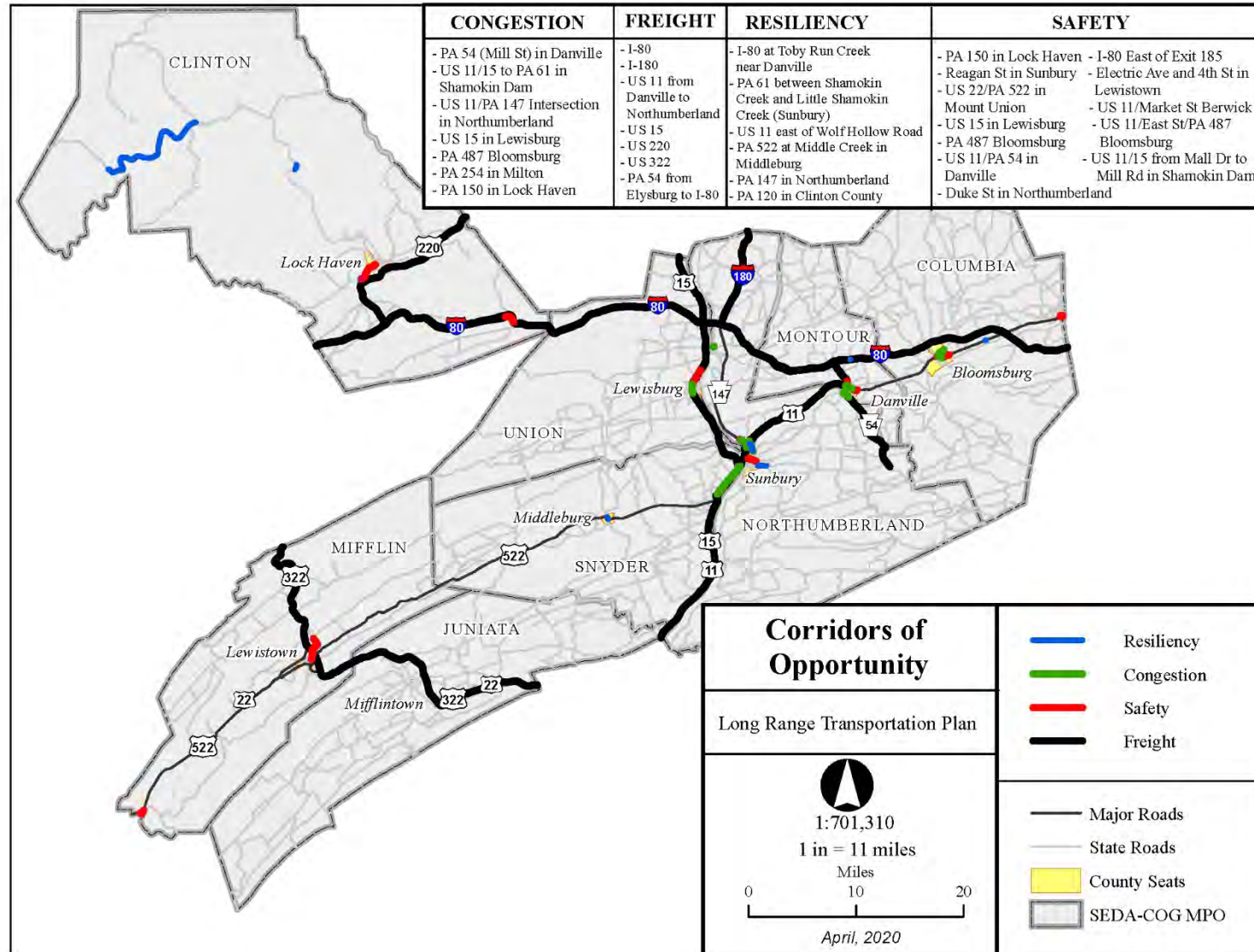


Figure 90. Example of Overlapping Corridors – Greater Susquehanna Valley Area

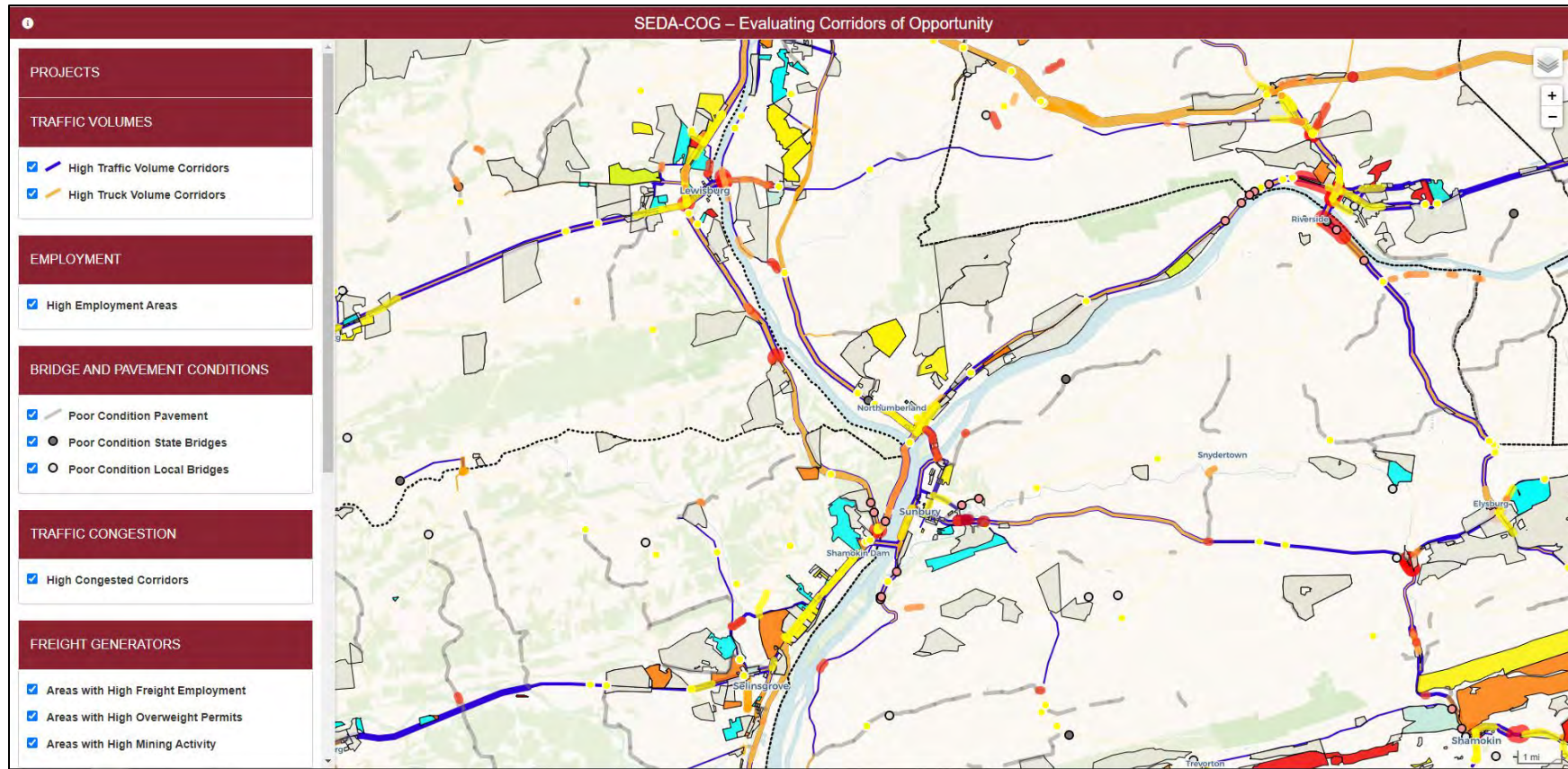
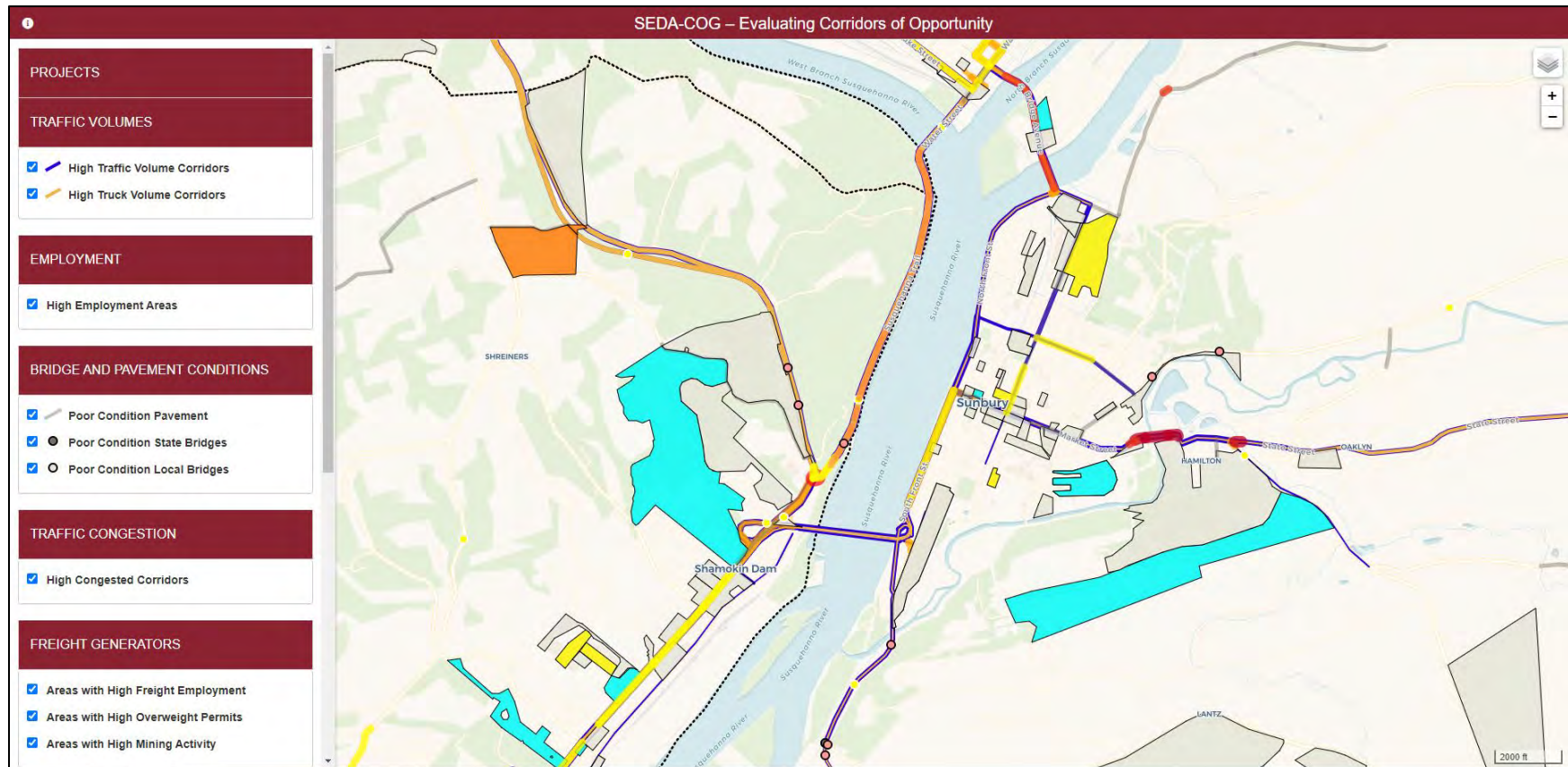


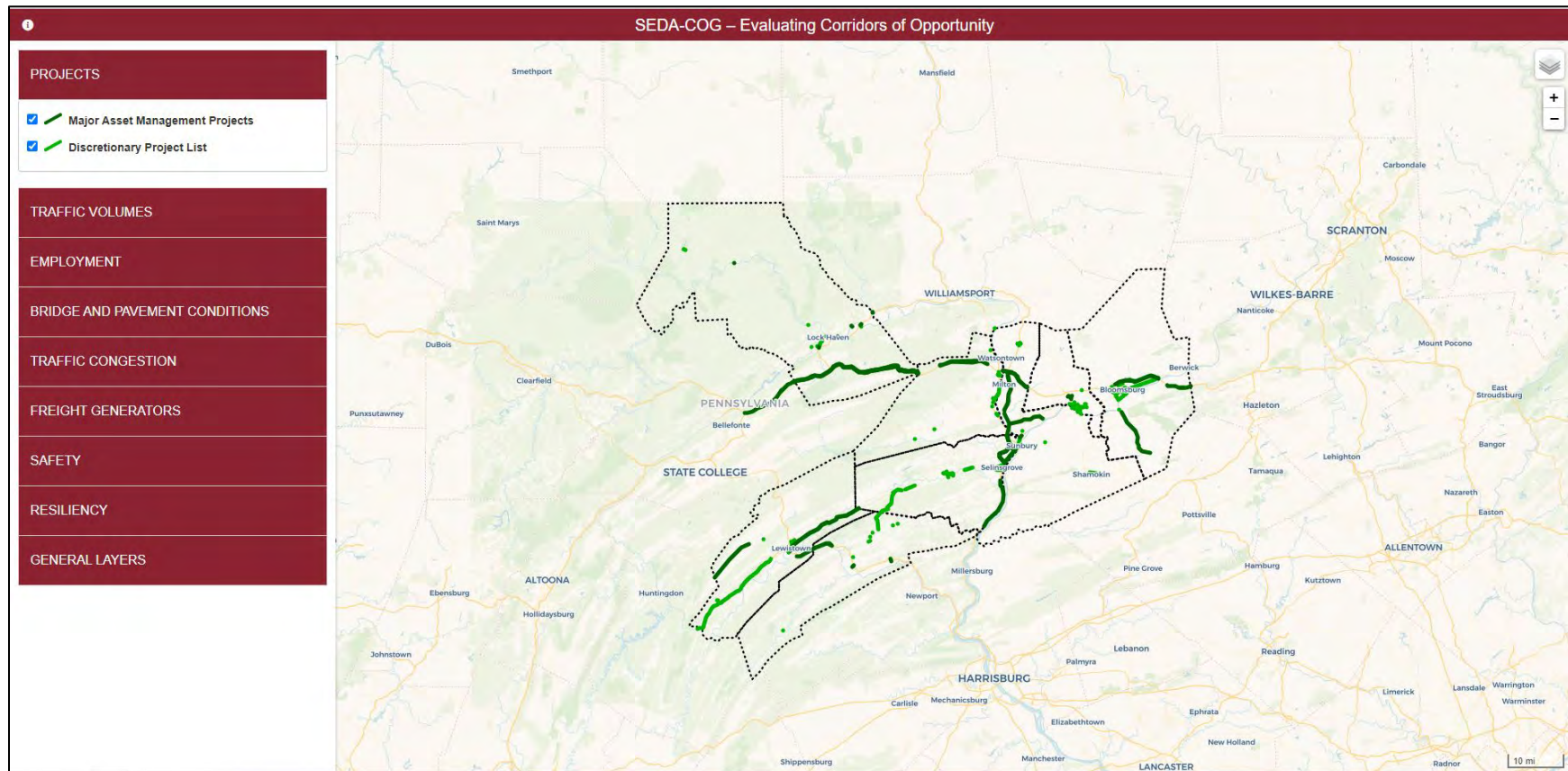
Figure 91. Example of Overlapping Corridors – Sunbury and Shamokin Dam Area



8.4.4 Mapping Asset Management Projects and Discretionary Projects

The Corridors of Opportunity GIS site also provided the ability to view locations of the proposed Asset Management projects and Discretionary projects (Figure 92). Locations of the projects were shown as points or segments, as appropriate.

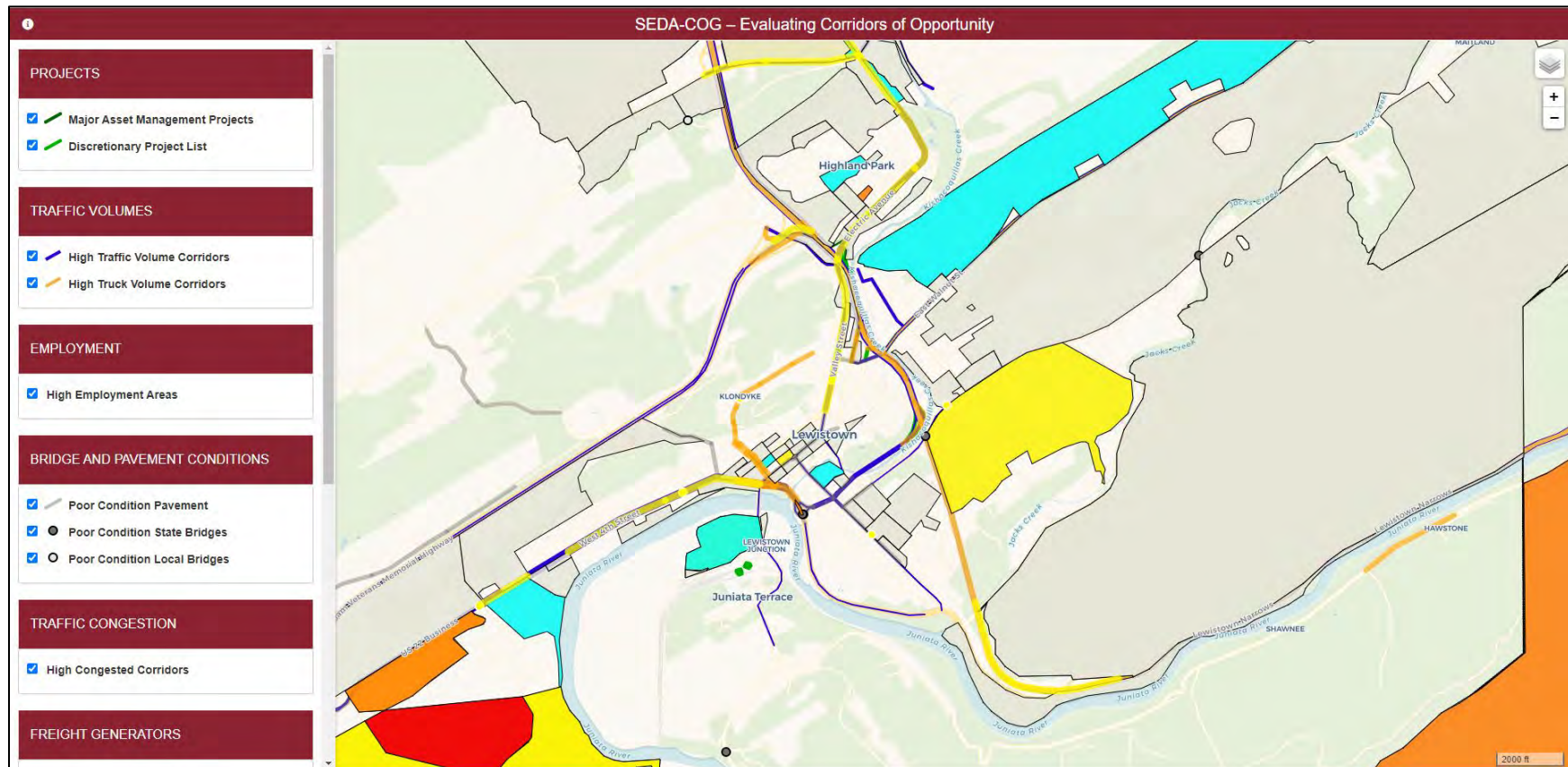
Figure 92. Regional Project Distribution



8.5 Putting it all Together: Proposed Projects, Corridors of Opportunity, and Performance Measures

The final “validity check” method for proposed Asset Management and especially Discretionary projects was to review and analyze them in conjunction with the locations of the Corridors of Opportunity and asset management data. The GIS-based visual approach (Figure 93) was ideal for comparing the project locations to determine whether any areas warranted further consideration for additional projects.

Figure 93. Corridor Data Overlaying Proposed Projects



8.6 Implementation Actions

8.6.1 Introduction

This Long-Range Transportation Plan should not function as a finite “action point in time” but should serve as a focal checkpoint for actions that should be continually reevaluated, updated, and implemented. Many new elements to the LRTP development approach were included, including redefinition of project type, designation of Corridors of Opportunity, and development of a GIS-based Hub Web site to provide data and recommendations related to projects and performance measures. Although the time horizon for the plan is the next 25 years, the next revision will come in 2026, and between now and then a continual monitoring process will be needed. The following sections describe main areas that will be acted upon and monitored and refined as necessary.

8.6.2 Projects

The process to identify Asset Management and Discretionary projects was new for this LRTP update. The approach could continue to be expanded and extended in future LRTPs, especially with respect to how project feedback was collected. The online tools developed for this purpose proved to be successful in collecting useful comments and feedback and could continue to be used in the future.

The Asset Management projects list should continue to be updated on a biennial basis in conjunction with TYP and TIP updates, and Discretionary projects should continue to be advanced through support of locally driven efforts to secure funding and the advancement of study phases, as appropriate.

8.6.3 GIS-based Hub Web Sites

Three Web sites were developed as a combination of public-facing and internal interfaces. The public-facing site²⁸ was geared toward presenting an overview of the LRTP, proposed Asset Management and Discretionary Project locations and summary data, proposed Corridors of Opportunity and supporting data that helped to define them, and information on performance measure targets, monitoring, and progress. An internal GIS-centric data review site was also created to facilitate more in-depth review of specific data elements related to the projects, performance measures, and Corridors of Opportunity. Finally, a GIS-based online “story map”²⁹ was designed as an executive summary-level tool to present results of the LRTP. This level of information had not been available for the prior LRTP initiatives, and currently must be accessed from various sources and sites at PennDOT and SEDA-COG’s internal data resources. Integration and expansion of these types of data resources should be a main goal going forward for the SEDA-COG MPO’s operations, and these Web sites should continue to be supported and further developed. The Corridors of Opportunity should also continue to be evaluated, updated, refined, and included on the Web sites.

²⁸ <https://lrtp-seda-cog.hub.arcgis.com>

²⁹ <https://storymaps.arcgis.com/stories/407be6efc1824135b27b10d3a7657dd2>



The public Web site could be further developed to add dashboard-type interactive interfaces, updated from data sources refreshed and retrieved on a continual or regular basis. This would be especially valuable as the main platform for presenting annual performance measure updates, including an online summary for the system performance measure report. Such presentation mechanisms can help to support reevaluation of the existing performance measures reporting process, enable provision of additional measures where useful, enhance the ability to evaluate/discontinue measures having limited utility from the existing report, and support consideration of required transit safety performance measure target adoption as part of the 2021 TIP update.

SEDA-COG must also remain closely involved with the PennDOT data warehouse project that has begun to promote better access to more integrated data sources. It is expected that the SEDA-COG MPO staff will adopt a regular data update program to be conducted on a biennial basis. These efforts will also help to support the PennDOT Connects and general transportation planning processes across all levels of government and for relevant stakeholders, including the SEDA-COG MPO.

Identifying Asset Management and Discretionary projects was a new approach for this LRTP update that could continue to be expanded and extended in future LRTPs, especially with respect to how project feedback is collected. The online tools developed for this purpose proved to be successful in collecting useful comments and feedback and could continue to be used in the future.

The Asset Management projects list should continue to be updated on a biennial basis in conjunction with TYP and TIP updates, and Discretionary projects should continue to be advanced through support of locally driven efforts to secure funding and the advancement of study phases, as appropriate.

8.6.4 Potential Updates to the Public Participation Plan

For this LRTP update and the 2021-2024 TIP update, FHWA and PennDOT issued guidance on necessary and acceptable actions to adjust the Public Participation Plan to the restrictions imposed to address COVID-19. These restrictions will eventually be lifted, but MPO staff will take the opportunity to review the plan development process and determine whether some of the changes made to address temporary restrictions resulted in sufficient benefits that they should be considered as a permanent part of the planning process.

The SEDA-COG MPO should consider an update to its Public Participation Plan to include the consideration of virtual public input methods that were successful in the LRTP and contemporary planning efforts, the establishment of a regional public input panel, and the use of similar hub site-type tools and story map approaches for other plan updates.

As noted in Section 7.1.6, the SEDA-COG MPO staff facilitate two separate groups for discussion on transit-related issues. An opportunity exists to review the structure and purpose of these groups with participating stakeholders. Discussion should be conducted to determine whether these groups can be reorganized to increase efficiency, participation, and geographic representation. The organization of the MSATC, with the main committee serving as an umbrella committee over several subcommittees dedicated to specific related issues, may serve as a model.



8.6.5 Continued Participation in Local and Regional Efforts to Enhance Consistent Access to Sufficient Transportation Funding

One of the major themes in this LRTP update is the uncertainty in future transportation funding at the federal, state, regional, and local levels. Multiple causes include immediate and lasting effects from the COVID pandemic, decline in traditional transportation funding source revenues, changes in transportation types, and accelerating deterioration rates of transportation infrastructure. The corresponding declines in “traditional” transportation revenues available for SEDA-COG MPO projects mandate that alternative methods and mechanisms be explored to develop local transportation projects. The SEDA-COG MPO should promote increased participation by local and regional governments to identify and utilize these methods, because creativity and “out-of-the-box” approaches will be increasingly needed to implement many projects.

8.6.6 Consider Support to Identify Unmet Infrastructure Needs Related to Electric Vehicles

As described in Section 7.1.4.1, the Biden Administration has planned a major expansion in supporting electric vehicle adoption, including subsidy programs and mass implementation of EV charging stations. Local EV support infrastructure will need to be carefully planned and implemented—issues related to standardization, locations, and other factors remain to be addressed. The SEDA-COG MPO should continue and increase its efforts to address these issues locally.



9. APPENDICES

9.1 APPENDIX A: Major Source Plans Reviewed for the MPO Region's Counties

- 2015 Pennsylvania State Rail Plan, December 2016, [https://www.penndot.gov/Doing-Business/Transit/InformationandReports/Documents/2015%20Pennsylvania%20State%20Rail%20Plan%20\(low\).pdf](https://www.penndot.gov/Doing-Business/Transit/InformationandReports/Documents/2015%20Pennsylvania%20State%20Rail%20Plan%20(low).pdf).
- 5-Year Comprehensive Economic Development Strategy, SEDA-COG EDD, June 2020
- Coordinated Public Transit–Human Services Transportation Plan for the SEDA-COG and Williamsport Area Metropolitan Planning Organizations, September 2019, https://seda-cog.org/wp-content/uploads/SEDA-COG_WATS_Coordinated_Plan_Final_Report_September_2019.pdf.
- Danville Area Transportation Study Final Report, June 2020, https://seda-cog.org/wp-content/uploads/Danville-Area-Transportation-Study_FINAL_with_all_appendices_reduced.pdf.
- Developing Regional Long Range Plans: Resource Guidance for Pennsylvania Planning Partners, Pennsylvania Department of Transportation, September 2010, <http://www.dot.state.pa.us/public/Bureaus/Cpdm/FinalLRTPGuide.pdf>.
- Draft 2020 Public Participation Plan, Pennsylvania Department of Transportation, Publication 823, January 2020, <http://www.dot.state.pa.us/public/PubsForms/Publications/PUB%20823.pdf>.



- Freight Planning Guidance, Pennsylvania Department of Transportation, Publication 790, October 2020, <http://www.dot.state.pa.us/public/PubsForms/Publications/PUB%20790.pdf>.
- Guidebook for Pennsylvania's Metropolitan Planning Organizations and Rural Planning Organizations, Pennsylvania Department of Transportation, April 2018, https://lvpc.org/pdf/Guidebook_PA_MPOs_RPOs_April18.pdf.
- I-81 and I-70 Transportation Systems Management & Operations Plan Final Report, June 30, 2020, <http://www.dot.state.pa.us/public/Bureaus/Cpdm/Final%20TSOP%20Report%2009-26-05.pdf>.
- Long Range Transportation Plan Regional Performance Measures Report, SEDA-COG Metropolitan Planning Organization, April 2020, https://seda-cog.org/wp-content/uploads/Performance-Measures-Report_2018.pdf.
- Middle Susquehanna Bicycle and Pedestrian Plan, June 2019, <https://seda-cog.org/departments/transportation/middle-susquehanna-regional-bike-ped-plan/>.
- PA On Track: PA's Long-Range Transportation & Comprehensive Freight Movement Plan, 2016, <http://www.paontrack.com/>.
- PennDOT Connects Implementation Report, 2017, https://www.penndot.gov/ProjectAndPrograms/Planning/Documents/PennDOTConnects/PennDOT_Connects_AR_2018.pdf.
- Pennsylvania Highway Statistics: 2017 Highway Data, Publication 600, July 2018, <http://www.dot.state.pa.us/public/pubsforms/Publications/PUB%20600.pdf>.
- Pennsylvania Joint Statewide Connected and Automated Vehicles Strategic Plan Final Report, July 9, 2018, https://gis.penndot.gov/BPR_PDF_FILES/Documents/Research/Complete%20Projects/Operations/Pennsylvania_Automated_Vehicle_Strategic_Plan.pdf.
- Pennsylvania Strategic Highway Safety Plan, Pennsylvania Department of Transportation, 2017, [https://www.penndot.gov/TravelInPA/Safety/Documents/PA%20SHSP%202017-02-15%20\(HRRR%20Errata\).pdf](https://www.penndot.gov/TravelInPA/Safety/Documents/PA%20SHSP%202017-02-15%20(HRRR%20Errata).pdf).
- Phase 1 PennDOT Extreme Weather Vulnerability Study, April 2017, <http://s3.amazonaws.com/tmp-map/climate/doc/StudyReport-PaVulnerabilityStudy-ver040317.pdf>.
- Plan Go Shamokin: Shamokin Area Implementation Plan, July 2020, http://goshamokin.com/wp-content/uploads/2020/10/Plan-GoShamokin_Digital-Version.pdf.
- Regional Operations Plan, Central RTMC Region | Districts 2-0, 3-0, and 9-0, Pennsylvania Department of Transportation, October 19, 2018, https://www.crcog.net/vertical/sites/%7B6AD7E2DC-ECE4-41CD-B8E1-BAC6A6336348%7D/uploads/Central_Region_RTMC_ROP_2018-12-04.pdf.
- SEDA-COG Metropolitan Planning Organization (MPO) 2019-2023 Strategic Plan, March 22, 2019, https://seda-cog.org/wp-content/uploads/SEDA-COG-MPO-2019-2023-Strategic-Plan_03.22.19.pdf.
- SEDA-COG Metropolitan Planning Organization Planning Process Review Final Report, September 20, 2019



- Transportation Asset Management Plan 2019, Pennsylvania Department of Transportation, June 28, 2019, <https://www.penndot.gov/ProjectAndPrograms/Asset-Management/Documents/PennDOT-TAMP.pdf>.
- U.S. 15 Smart Transportation Corridor Improvement Plan Summary Report, March 2012, <https://www.unioncountypa.org/data/uploads/contentblock/Planning/Chapter%201%20US%2015%20Summary%20Report.pdf>.
- Walk Bike Bloomsburg: Connectivity Master Plan, March 2020, <https://www.bloomsburgpa.org/news/walk-bike-mast-plan-report/>.



9.2 APPENDIX B: Public Outreach Online Survey

SEDA-COG Transportation Survey

Introduction

Your input is needed for the regional 2045 Long Range Transportation Plan (LRTP) that addresses practical solutions to transportation safety, maintenance, congestion and mobility needs in the face of an overall shortfall of funding. This 2021 LRTP update includes a shift in programming to emphasize identification and prioritization of projects that have a more realistic chance of being funded and completed. Please provide your feedback on the region's transportation system, and proposed new approaches to ranking our regional transportation projects for priority funding.

About SEDA-COG

The SEDA-Council of Governments (SEDA-COG) Metropolitan Planning Organization (MPO), located in Lewisburg, does transportation planning for the counties of Clinton, Columbia, Juniata, Mifflin, Montour, Northumberland, Snyder and Union.

Estimated completion time: 15 minutes

General Questions

This section of the survey asks a series of demographic questions to ensure our survey respondents are an accurate reflection of our region's population.

- 1) In which county do you reside?
 - a) Clinton
 - b) Columbia
 - c) Juniata
 - d) Mifflin
 - e) Montour
 - f) Northumberland
 - g) Snyder
 - h) Union
 - i) None of the Above/Live Outside the Region
- 2) Has COVID had an impact on your work location?
 - a) Yes
 - b) No
- 3) Are you working at home due to COVID?
 - a) Yes
 - b) No
- 4) Are you working from home full-time or part-time?
 - a) Full-time
 - b) Part-time
- 5) How many days a week are you working from home?
 - a) One or two days a week
 - b) Three or four days a week



- 6) Do you plan to continue to work from home after the pandemic is over?
 - a) Yes, every day
 - b) Yes, but part-time
 - c) No
 - d) Unsure
- 7) Do you anticipate returning to the same work location you were prior to COVID?
 - a) Yes
 - b) No
 - c) Unsure
- 8) What are your top three modes of travel? (Please select up to three)
 - a) Drive Alone
 - b) Carpool
 - c) Motorcycle
 - d) Bike
 - e) Walk
 - f) Public Transportation
 - g) Fly
 - h) Train
 - i) Scooter
- 9) What is your gender?
 - a) Woman
 - b) Man
 - c) Prefer not to say
- 10) What is your race/ethnicity?
 - a) American Indian or Alaska Native
 - b) Asian
 - c) Black or African American
 - d) Hispanic or Latino
 - e) Native Hawaiian or Other Pacific Islander
 - f) White
 - g) Other: _____
- 11) Do you have a travel limiting disability?
 - a) Yes
 - b) No
- 12) Does anyone in your household have a special transportation need due to age or disability?
 - a) Yes
 - b) No
- 13) How many vehicles are available in your household?
 - a) No vehicle
 - b) 1



- c) 2
 - d) More than two
- 14) If you own a vehicle, is it either hybrid or electric?
- a) Yes
 - b) No
- 15) How frequently do you use public transportation?
- a) Daily
 - b) A few times a week
 - c) A few times a month
 - d) Rarely
 - e) Never

Corridors of Opportunity

SEDA-COG is interested in obtaining public feedback on our region's roadway network against a variety of plan measures, including safety, congestion, resiliency (flooding), and freight. The "Evaluating Corridors of Opportunity" mapping tool provides a way to see and understand the data related to those measures. Using the data shown, several corridors across the region stood out in each area. Using your own experience, please review your level of agreement with the areas indicated, or suggest additional areas that should be considered.

- 16) **SAFETY:** SEDA-COG has identified the following highway segments as those with the greatest safety concerns. Please indicate your level of agreement with each. (1- Strongly Disagree/5- Strongly Agree)
- a) US 11/15 from Mall Drive to Mill Road in Shamokin Dam
 - b) US 11 (Main Street) / East Street/ and PA 487 in Bloomsburg
 - c) US 11 (Front Street) / Market Street in Berwick
 - d) Electric Avenue and Portions of Fourth Street in Lewistown
 - e) Duke Street in Northumberland
 - f) I-80 East of Exit 185 near Rauchtown Road
 - g) US 11 (Walnut Street) / PA 54 in Danville
 - h) US 15 in Lewisburg
 - i) US 22 / PA 522 in Mount Union
 - j) Reagan Street in Sunbury
 - k) PA 150 (High Street) in Lock Haven
- 17) Are there any other locations that should be a safety priority in the long-range transportation plan?
- a) _____
- 18) **CONGESTION:** SEDA-COG has identified the following highway segments as among the most congested in the region. Please indicate your level of agreement with each. (1- Strongly Disagree/5- Strongly Agree)
- a) PA 54 (Mill Street) in Danville (including approaches from US 11 Northumberland St. and PA 54 Elysburg Road)
 - b) US 11/15 to PA 61 in Shamokin Dam



- c) US 11/PA 147 Intersection in Northumberland
 - d) US 15 in Lewisburg
 - e) PA 487 Bloomsburg (Light Street)
 - f) PA 254 in Milton (Broad Street)
- 19) Are there any other locations that should be a congestion priority in the long-range transportation plan?
- a) _____
- 20) **RESILIENCY:** SEDA-COG has identified the following roadway segments as critical areas prone to flooding or susceptible to extreme weather events. Please indicate your level of agreement with each. (1- Strongly Disagree/5- Strongly Agree)
- a) I-80 at Toby Run Creek near Danville
 - b) PA 61 (Market Street) between Shamokin Creek and Little Shamokin Creek in Sunbury
 - c) US 11 (Columbia Blvd) east of Wolf Hollow Road (east of Bloomsburg)
 - d) PA 522 (Main Street) at Middle Creek in Middleburg
 - e) PA 147 (Bridge Avenue) in Northumberland
 - f) PA 120 in Clinton County
- 21) Are there any other locations that should be a resiliency priority in the long-range transportation plan?
- a) _____
- 22) **FREIGHT:** SEDA-COG has identified the following roadway segments as those that are vital for the safe and efficient movement of freight. Please indicate your level of agreement with each. (1- Strongly Disagree/5- Strongly Agree)
- a) I-80
 - b) I-180
 - c) US 11 from Northumberland to Danville
 - d) US 15
 - e) US 220
 - f) US 322
 - g) PA 54 from Elysburg to I-80
- 23) Are there any other locations that should be a freight priority in the long-range transportation plan?
- a) _____
- 24) Are there any other highway corridors in the region that should be considered and added to the Corridors of Opportunity list? If yes, please specify and provide more details.
- a) _____

Project Evaluation & Rating Factors

The Long-Range Transportation Plan outlines a new approach to rating proposed projects that will advance projects with the best overall opportunity for construction. The new evaluation measures are presented below for your review and feedback.

- 25) Please rate the importance of each Project Impact Rating Factor on a scale of 1 to 5. (1-Not important/5-Very Important)



- a) Improves safety
- b) Reduces traffic congestion
- c) Includes connections among different modes of transportation (i.e., pedestrian, public transportation, trail, rail, etc.)
- d) Improves pavement & bridge conditions
- e) Readiness for construction
- f) Project is located on a priority roadway
- g) Alternative transportation projects (non-motorized and non-highway projects)
- h) Promotes access to minority and low-income communities
- i) Improves freight flow
- j) Improves high-risk flooding locations
- k) Supports economic development

Funding

Transportation funding is inadequate and complicated by rising freight traffic, concerns about future gas tax revenues, and federal revenues that have not kept pace with inflation. In addition, the wide-ranging negative effects from the COVID-19 pandemic have resulted in decreased overall travel, a significant economic downturn, less transportation fuel tax and toll revenues, and delays in transportation project design and construction. Our investment needs have outgrown our current funding, and this gap gets worse every year.

- 26) When it comes to investing in transportation improvements, what is most important to you and your family? Please use your mouse to drag and reorder the options below based on your priorities (i.e., the first item is your top priority).
- a) **Road Pavement** - Repairing, restoring, reconstructing and maintaining state and local roadways to improve your travel
 - b) **Bridges** - Repairing, replacing and maintaining state and local bridges
 - c) **Traffic Flow** - Using technology to improve traffic flow and construct new roads and additional travel lanes to safely move people and goods more efficiently
 - d) **Interstate Highway** - Specific, prioritized investments in reconstructing the region's interstate highway mileage
 - e) **Walking** - Accessible and connected routes to get you where you need to go safely
 - f) **Transit** - Accessible and timely public transportation that covers an extensive service area and crosses regions
 - g) **Aviation** - Modern facilities, operations and a wide range of commercial airline choices at airports
 - h) **Bicycle** - Safe bicycle routes and facilities to get you where you need to go
 - i) **Passenger Rail** - Intercity and commuter rail service with out-of-state connections
 - j) **Freight** - Modern highways, railways, airports and waterways to support the economy and ensure the efficient movement of goods and services

**Other General Questions****Central Susquehanna Valley Transportation Project**

The Central Susquehanna Valley Transportation Project is a highly visible and major public works project currently under construction through our region. The northern segment of the new roadway will open to traffic in 2022, while the southern segment is expected to open in 2027.

27) What thoughts or concerns do you have regarding the eventual opening of the Central Susquehanna Valley Transportation project? (e.g., safety; environmental impacts; shorter commute times; elimination of bottlenecks; concern with suburban sprawl; impacts to economy; no change, etc.)

a) _____

Safety

28) Please rank the safety improvement needs below with the first being most important to you.

- a) Improve Access to Public Transportation
- b) Make Intersection Improvements (Roundabouts, improved, more connected sidewalk systems and related infrastructure, visibility improvements, intersection realignments)
- c) Reduce Emergency Response Times
- d) Conduct Emergency Management and Evacuation Planning
- e) Address at-grade Rail Crossings
- f) Improve Work Zone Safety
- g) Plan for Connected and Autonomous Vehicles

Bicycle & Pedestrian Facilities

29) Would you walk or bike more frequently if additional bicycle or pedestrian facilities were available?

- a) Yes
- b) No

30) If you answered "yes" above, please note the location where improvements are needed:

a) _____

Future Project Listing

31) In examining the draft plan's project listing, do you have any comments or reactions regarding these lists?



9.3 APPENDIX C: Project Lists

Table 49: Proposed Asset Management Projects

S.R.	Section	MPMS	Project	Source	County	Project Type/Location	Year Beginning	Projected Cost	Comments/Funding Approach
44	A01	3859	SR 44	Twelve-Year Plan	Clinton	PA 44/Pine Creek Br.	2028	\$8,403,782	
120		93317	SR 120	Twelve-Year Plan	Clinton	SR 120 over Norfolk Southern Bridge	2029	\$6,691,349	
220		-	220 Twin Bridges over Susquehanna east of McElhattan	Bridge Condition Report	Clinton	220 Twin Bridges over Susquehanna east of McElhattan	TBD	\$18,000,000 each, \$36,000,000 total	Bridge Preservation or Rehab based on condition report
1002		93318	SR 1002	Twelve-Year Plan	Clinton	SR 1002 over West Branch of Susquehanna River	2029	\$14,556,842	
1005		-	SR 1005 over Susquehanna at McElhattan	Bridge Condition Report	Clinton	SR 1005 over Susquehanna at McElhattan	TBD	\$23,500,000	Bridge Preservation or Rehab based on condition report
2015	A02	106306	SR 2015	Twelve-Year Plan	Clinton	SR 2015 Bridge over SEDA-COG JRA	2028	\$7,086,157	
42	089	100443	SR 42	Twelve-Year Plan	Columbia	SR42 from Poor House Rd to Catawissa Creek (Highway Restoration)	2026	\$5,533,360	
80	140	97736		Twelve-Year Plan	Columbia	I-80 Eastbound Rest Area	2027	\$4,951,816	
80	174	110221	I-80	Twelve-Year Plan	Columbia	I-80 Hetlerville Rd to Rest Area WB	2028	\$4,530,000	
75		82994		Twelve-Year Plan	Juniata	Commuter Parking Study	2029	\$6,059,484	
22	C05	4582	SR 22/SR 322	Twelve-Year Plan	Juniata/ Mifflin	Lewistown Narrows (Highway Restoration)	2025	\$8,333,689	
522	719	72767		Twelve-Year Plan	Mifflin	522 Betterment (Lewistown to County Line)	2025	\$5,182,598	
522		114010	SR 522	Twelve-Year Plan, 2021-2024 TIP	Mifflin	SR 522 Betterment (East of Lewistown)	2024	\$5,510,894	
655		81491	SR 655	Twelve-Year Plan	Mifflin	655 County Line to Belleville (Highway Restoration)	2026	\$6,837,358	
2004	A03	69507		Twelve-Year Plan	Mifflin	SR 0322 Bridge	2027	\$4,915,860	
2004	P45	114303	SR 22	Twelve-Year Plan	Mifflin	Bridge Preservation (SR 2004 over 322)	2025	\$4,887,843	
3006	A01	85299	Lewistown Bridge (Charles St. Ramps)	Twelve Year Plan	Mifflin	Lewistown Bridge (Charles St. Ramps)	2028	\$5,923,180	
3006	A02	85300	Lewistown Bridge II (Charles St. Ramps)	Twelve Year Plan	Mifflin	Lewistown Bridge II (Charles St. Ramps)	2028	\$3,848,637	
54	90	103853	SR 54	Twelve-Year Plan, 2021-2024 TIP	Montour	SR 54 Corridor Safety Improvement	2025	\$17,350,000	
11		-	US 11 over West Branch Susquehanna	Bridge Condition Report	Northumberland	US 11 over West Branch Susquehanna	TBD	\$25,000,000	Bridge Preservation or Rehab based on condition report



Table 49. Proposed Asset Management Projects, cont'd.

S.R.	Section	MPMS	Project	Source	County	Project Type/Location	Year Beginning	Projected Cost	Comments/Funding Approach
147	120	99188	PA 147	Twelve-Year Plan	Northumberland	Highway Restoration (PA 45 to Muddy Run)	2029	\$7,225,000	
1024	88H	102810	SR 1024	Twelve-Year Plan	Northumberland	Highway Construction (CSV T to US 11)	2026	\$15,070,562	
11	131	99241	US 11	Twelve-Year Plan	Snyder	SR 11 from Ulsh Road to Penn's Creek	2026	\$8,791,000	
11	150	113787	US 11	Twelve-Year Plan	Snyder	US 11 Roosevelt Ave to SR 15/11 Split	2029	\$5,050,000	
15	88F	76403	SR 15 (CSV T)	Twelve-Year Plan, 2021-2024 TIP	Snyder	CSV T Southern Section Paving	2024	\$135,000,000	
15	88I	102811		Twelve-Year Plan	Snyder	CSV T ITS	2024	\$16,603,297	
15	88E	76402	SR 15 (CSV T)	Twelve-Year Plan	Snyder	CSV T Southern Section Structures	2024	\$110,000,000	
15	88D	76401	SR 15 (CSV T)	Twelve-Year Plan, 2021-2024 TIP	Union	CSV T Southern Section	2022	\$120,000,000	
80	186	113612		Twelve-Year Plan	Union	I-80 WB from Mile Run to SR 1010	2028	\$4,780,000	
80	I08	112323	I-80	Interstate Priority List	Clinton	ITS Only, Exit 161 to MM 193.3		\$10,088,000	Fiber optic network expansion
80	B65	109250	I-80	Interstate Priority List	Clinton	Preservation, MM 170 - 185		\$21,640,000	Microsurface, bridge rehabilitation, DMS sign, 1 CCTV, 2 HAR replacements
80	B66	109251	I-80	Interstate Priority List	Clinton	Preservation, MM 185 - 194		\$41,330,000	Mill and overlay, guiderail updates, bridge preservation and 2 replacements
80	B51	109239	I-80	Interstate Priority List	Clinton	Preservation, MM 185 - 194		\$5,230,000	Microsurface, minor mill and overlay, drainage upgrades, CCTV, and 2 HAR replacements
80	131	97561	I-80	Interstate Priority List	Columbia	Reconstruction	2025	\$45,607,357	Reconstruction I-80 from Creek Rd to SR 487
80	177	110231	I-80	Interstate Priority List	Union	Mill & Resurface	2026	\$5,330,000	Mill and Resurface I-80 EB from Mile Run to SR 1010
80	136	93697	I-80	Interstate Priority List	Columbia	Reconstruction	2032	\$58,673,388	Reconstruction I-80 from SR 487 to US 11
80	175	110226	I-80	Interstate Priority List	Northumberland	Mill & Resurface	2038	\$8,030,000	Mill and Resurface I-80 EB from SR 405 to Montour Co Line
80	176	110227	I-80	Interstate Priority List	Northumberland	Mill & Resurface	2038	\$7,485,000	Mill and Resurface I-80 WB from Union Co Line to Montour Co Line



Table 50. Proposed High-Priority Discretionary Projects

Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
Bald Eagle Valley Trail	Middle Susquehanna Bicycle and Pedestrian Plan	Clinton	Active Transportation	Pine Creek Township	Medium-term	\$1,125,000	Possible non-PennDOT sources; DCNR/CFA/Trails.		Bicycle/Pedestrian Path - complete unconstructed sections
Hogan Boulevard Safe Bike/Ped Route	Middle Susquehanna Bicycle and Pedestrian Plan - Clinton County's No. 2 project from the 2018 Plan.	Clinton	Active Transportation	Bald Eagle Township, Flemington Borough	Short-term	First needed is a study; then a design. We would hope for TA for the study.	CFA or PennDOT Multimodal or PennDOT TAP construction project. Multimodal; RVT serves this strip and it is the most used bus route in the county. We would also like a bus shelter or two along 150 here.	SR 0150 from Pennsylvania Avenue in Bald Eagle to Canal Street in Flemington. This section connects Mill Hall Borough to Lock Haven City via Bald Eagle Twp and Flemington.	Safety, safety, safety. Very busy corridor, lots of pedestrians and mobility chairs. Bicycle access is highly desired if we could make it safe. (This is PennDOT Bike Route G.) This is Clinton County's "downtown." In Bald Eagle, in 2020, a woman was struck by a car trying to cross 150. In Flemington, a man on a mobility chair tipped over into traffic from the too-narrow sidewalk on the canal bridge. Sidewalks are direly needed throughout this shopping area and going into Flemington.
Lock Haven Pedestrian Crossings	Middle Susquehanna Bicycle and Pedestrian Plan	Clinton	Safety Improvement - Intersection, Active Transportation	City of Lock Haven	Short-term	\$80,000	Some are already completed.	SR 150 & SR 120, SR 120 & Grove St., SR 150 & Mill St., N. 4th St. & W. Church St.	Lock Haven Walkable Community Program identified key intersections to consider for safety improvements
New buses-only entrance to Central Mountain Jr/Sr High School	2020 Clinton County Transportation Committee nominee	Clinton	School bus safety improvement with traffic congestion relief	Bald Eagle Township	Long-term, getting started ASAP	First needed is a study; then a design. We would hope for TA for the study.	Will need to explore programs for design. Safe Routes to School for construction?	SR 0150 at Lusk Run Road.	A school bus lane that bisects the V-turn onto Lusk Run Road, for a direct entrance to the Central Mountain campus. The Lusk/150 intersection is confusing for drivers turning left onto 150 from Lusk. Poor sight distance for those turning either way from Crystal Beach Road to 150 (see aerial and Google Earth street view). All of this is in a 100-year flood zone and wetland.
Permanent fix of subsidence issues at Ice Mine Cut	2020 Clinton County Transportation Committee nominee	Clinton	Betterment	Bald Eagle Township	Long-term	\$1,000,000		Ice Mine Cut on Route 120, Bucktail Trail/Renovo Road	Route 120 is the only access from the 220/ I-80 corridors to the townships and boroughs of Western Clinton County and Sinnemahoning and Emporium in Cameron County. Daily heavy vehicle traffic continues to compact this abrupt dip at the Ice Mine Cut, which frequently reappears and requires repair.
Rock point removal near Bush Dam	2020 Clinton County Transportation Committee nominee	Clinton	Hazard removal - betterment	Leidy Township	Long-term	\$2,500,000		SR 4001 above Bush Dam (Kettle Creek Road)	Rock point removal near the dam, deteriorated cribbing at Segment 170



Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
SR 150/High Street Betterment	2020 Clinton County Transportation Committee nominee	Clinton	Betterment	Flemington Borough	Long-term	\$4,000,000		SR 150 /High Street stone retaining walls on both sides of 150 in the vicinity of Herr Street	The wall on the north side has visible sags; any collapse will fully block 150.
Arbutus Road Trail	Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Active Transportation	Town of Bloomsburg	Long-term	\$2,750,000	The Town was awarded the ARLE grant and planned to put it out to bid in Fall 2020.	Arbutus Park Road from intersection with Clints Lane to intersection with Welsh Circle	Trail construction along existing ROW
Bloomsburg Bicycle Lanes	Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Active Transportation	Town of Bloomsburg	Short-term	\$221,000	Market Street will be heavily used during the East Street Project and underground utilities have torn up the road significantly throughout Market Street. Multi-modal.	Route 11 Segments 110 - 140, Market St. Segments 10 - 60, 2nd St. & E. 5th St.	Installation of painted bicycle lanes
Bloomsburg Crossing Improvements	Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Safety Improvement - Corridor, Active Transportation	Town of Bloomsburg	Short-term	\$162,800		Town of Bloomsburg	Installation of marked crosswalks at 88 locations throughout town, installation of decorative crosswalks at 22 locations on main corridors, ADA improvements to ramps and curb cuts
Bloomsburg Traffic Signal Improvements	PennDOT Green Light-Go	Columbia	Operations & Management	Town of Bloomsburg	Short-term	\$172,624	Current ARLE application. Pending to hear back on award. The Town was awarded ARLE and during COVID-19 the State denied award.	Route 11 Signals along segments 110 - 170	Retiming traffic signals at nine intersections, upgrading controllers, and providing connectivity to the regional Traffic Management Center; Project defunded in 2020
Columbia County Susquehanna Trail	Middle Susquehanna Bicycle and Pedestrian Plan	Columbia	Active Transportation	Town of Bloomsburg, Mt. Pleasant Township, Scott Township			County funding project.		Provide a trail connection from the end of the existing trail in the Iron Street area of Bloomsburg to Kocher Park in Light Street.
E. Sixth Street Side Path	Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Active Transportation	Town of Bloomsburg	Long-term	\$230,000	Remove vehicles along railroad. This road will be used for the detour route for East Street. Multi-modal. Leads into housing on Market and Sixth Streets to help citizens get to East side of Bloomsburg.	East Sixth Street Segment 10	Side path construction
Fort McClure Boulevard Walk/Bike Paths	Middle Susquehanna Bicycle and Pedestrian Plan, Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Active Transportation	Town of Bloomsburg	Medium-term	\$4,250,000	Multi-modal. DNCR. DCED.	Fort McClure Blvd. from intersection with SR 487 to intersection with SR 11	Add paths, walks, or exclusive lanes to existing roadway; side path concept from Bloomsburg Walk-Bike Connectivity Master Plan
I-80 Integrated Corridor Management (Exit 232 to 241) + Parallel Corridor Improvements	PennDOT RTMC Central Region Operations Plan	Columbia	Operations & Management	Multi-municipal	Long-term	\$4,180,000		I-80 Interchange at SR 42, Route 11	Upgrade and install equipment to facilitate use of parallel corridor as detour for I-80. Signal upgrades at 12 intersections; install 2 DMS and 2 Cameras
Kinney Run Diversion/Industrial Drive Bypass Channel Clearing and Reconstruction	Bloomsburg H&H Study	Columbia	Resiliency	Town of Bloomsburg	Short-term	\$90,000	Pending application at DCED level with CDBG-DR application.	Industrial Drive south of SR 1004 Segment 30	Clear and reconstruct flooding bypass channel connecting Kinney Run to river.
Main Street & Light Street Road Pedestrian Crossing	Middle Susquehanna Bicycle and Pedestrian Plan	Columbia	Safety Improvement - Intersection, Active Transportation	Town of Bloomsburg	Medium-term	\$250,000		Intersection of SR 11 & SR 487	Define and implement safety and signal improvements at the intersection



Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
Mayor's Trail	Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Active Transportation	Town of Bloomsburg	Long-term	\$350,000	Multi-modal.	E. 5th Street from intersection with Park Street to Town Line	Construct side path or multi-use trail parallel to 5th Street
Memorial Elementary School	Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Safety Improvement - Intersection, Active Transportation	Town of Bloomsburg	Short-term	Less than \$100,000	ALREADY AWARDED (Bloomsburg)	Market Street & Main Street Intersection	Groups together Walk-Bike Connectivity projects for crossing improvements at intersection of 5th and Market Street with School Walking Route improvements
North Branch Canal Trail, Bloomsburg to Berwick and Warrior Run Trail	Middle Susquehanna Bicycle and Pedestrian Plan	Columbia	Active Transportation	Town of Bloomsburg, South Centre Township, Scott Township, Berwick Borough	Long-term	\$4,000,000		Parallel to NSHR RR	Construct a bicycle/pedestrian trail
North Branch Canal Trail, Catawissa to Bloomsburg	Middle Susquehanna Bicycle and Pedestrian Plan	Columbia	Active Transportation	Montour Township, Town of Bloomsburg	Long-term	\$3,000,000	Multi-modal, DCNR, DCED. No amount known.	Parallel to SR 42 Segments 390 to 420	Construct a bicycle/pedestrian trail
Patterson Drive Culvert Replacement	Bloomsburg H&H Study	Columbia	Resiliency	Town of Bloomsburg	Short-term	\$150,000		Patterson Drive south of SR 1004 Segment 20	Increase size of pipe carrying Kinney Run
Railroad Street Intersection Improvement	Bloomsburg Walk-Bike Connectivity Master Plan	Columbia	Safety Improvement - Intersection	Town of Bloomsburg	Long-term	\$300,000	Traffic lights too close together. Incline of road for traffic coming west bound on Main Street may not be able to slow down for traffic signal in winter conditions. Light is most likely needed in that area but PennDOT is against due to the proximity of the existing light at West Street and Main Street. Location is needed to connect trail to trail. Also, there is traffic congestion that occurs. Multi-modal.	Intersection of Railroad Street and Main Street	Install traffic signal and crossing improvements
Safe Routes to School	Middle Susquehanna Bicycle and Pedestrian Plan	Columbia	Safety Improvement - Corridor, Active Transportation	Berwick Borough	Medium-term			Berwick Borough	Define and implement safety and walkability improvements along major walking and biking routes to borough schools
Walnut Street Culvert Replacement	Bloomsburg H&H Study	Columbia	Resiliency	Town of Bloomsburg	Short-term	\$90,000		Walnut Street north of SR 1004 Segment 30	Increase size of pipe carrying Kinney Run or dead-end street on each side to remove flooding restriction
Cedar Springs Road/Industrial Park Road	2021 TIP Discussions	Juniata	Safety Improvement - Intersection	Fermanagh Township	Short-term	\$250,000	This intersection is currently being studied by PennDOT due to a high number of vehicular accidents. This intersection will also become more critical with the expansion of the Industrial Park. More vehicular (truck) traffic will be traveling via the Port Royal Interchange off of the 22-322 Interchange. The result of the traffic study is expected to warrant the installation of a traffic signal.	Intersection of SR 2006 and SR 2001	Investigate causes and propose solutions for safety issues at intersection
Juniata County Short Span Bridge Program	2021 TIP Discussions	Juniata	Asset Management - Local Bridge	Fayette Township	Short-term	\$1,912,140		Fayette Twp. Bridges on T-424, T-531, T-602 (0003), T-602 (0005), T-556, T-558	Bundle project rehabbing several local bridges



Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
T-309 (Burnt Church Road) over Tributary to Tuscarora Creek	2021 TIP Discussions	Juniata	Asset Management - Local Bridge	Bridge over tributary to Tuscarora Creek	Long-term	\$2,350,000	Federal Project	Brkey 34-7212-0309-0005	Rehab or replace local bridge in Tuscarora Twp., one of the largest local bridges in Juniata County
SR 235 Safety Improvements	2011 LRTP	Juniata/Snyder	Safety Improvement - Corridor	(Juniata - Greenwood Township, Snyder – Beaver Township)	Medium-term	\$2,000,000	This corridor has had a number of vehicular crashes.	SR 235 Segments 410-470 (Juniata), Segments 10-110 (Snyder)	History of heavy-vehicle crashes
Electric Avenue/Mill Street Intersection Safety Improvements	2018 Improvement Study	Mifflin	Safety Improvement - Intersection	Derry Township	Short-term	\$300,000	Medium level of complexity, though aided by previous study; comparatively low cost; timeframe for implementation would be best sooner than later due to time that has passed since study completed— quick win	SR 1005 segments 40 & 50, intersections with SR 0322 ramps and SR 2005	Alignment of ramp terminals, intersections and driveways creates a concentration of traffic conflicts. Implement low-cost geometric improvements identified in study.
Lewistown Active Transportation Plan Downtown to Amtrak Station Implementation	Mifflin County	Mifflin	Safety Improvement - Corridor, Active Transportation	Lewistown Borough, Granville Township	Medium-term	\$750,000	ROW Acquisition may be complicated but the basics have already been determined; medium construction costs; timeframe is funding dependent; multi-jurisdictional	Helena Street, SR 103 Segment 0556, SR 1005 Segment 10	Construction of Bike/Pedestrian path, crossing improvements and amenities
Lewistown Amtrak Station Improvements	Mifflin County	Mifflin	Rail/Transit	Lewistown Borough, Granville Township	Medium-term	\$1,200,000	Largely dependent upon interest in project by landowner; would create a better terminal for public transportation and a key asset for the community	Amtrak Station at west end of Helena Street	Circulation and access improvements at Amtrak station to accommodate intercity bus service at train station
Route 322 Interchange Improvement Study	2016 LRTP	Mifflin	Planning - Geometric Improvements	Multi-municipal	Short-term	\$351,000	Fairly complex to find room to expand interchange size; possible high construction costs due to ROW acquisition; timeframe would be engineering analysis dependent	SR 8006, 8008, 8018	Further explores recommendations in the County Comprehensive Plan. Interchanges at Electric Avenue, Walnut Street and Charles Street are substandard and impact accessibility. They do not meet current AASHTO standards.
T-368 (Spring Run Road) over Kishacoquillas Creek	2021 TIP Discussions	Mifflin	Asset Management - Local Bridge	Bridge over Kish Creek	Medium-term	\$425,000	Any bridge improvement is a high priority.	Brkey 44-7209-0368-0009	Requested as a priority for the 2021-2024 TIP update
US Route 22 Corridor/Transportation Study	2016 LRTP	Mifflin	Planning - Access Management	Multi-municipal	Short-term	\$526,000	This should possibly be two separate projects. Huntingdon County is a strong partner to advocate for improvements between Lewistown and Huntingdon; multi-jurisdictional; high construction costs but provides a fairly level corridor	SR 22 segments 10 to 422, SR 522 segments 80 to 360	This would look at both the North and South corridors connecting Huntingdon and Snyder counties. This combines two studies that were recommended in the comprehensive plan. The northern corridor looks at improved access to the corridor between Lewistown and Snyder counties, which is linked to Selinsgrove. The southern portion looks at how to improve traffic capacity from Lewistown to Huntingdon. The study would build on issues noted in the County Comprehensive Plan to improve safety along the entire 522 corridor.



Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
Bloom Road (SR 2008) & Woodbine Lane (T-372) & Kaseville Road ROW Acquisition	Danville Area Traffic Study	Montour	Safety Improvement - Intersection	Mahoning Township	Short-term	\$250,000 - \$500,000		SR 2005 intersection with SR 2008 and Woodbine Road	Acquire property to improve sight distance and safety
Kaseville Road/ Red Lane Intersection Improvement	Danville Area Traffic Study	Montour	Safety Improvement - Intersection	Mahoning Township	Long-term	\$500,000 - \$1,000,000		SR 2005 intersection with Red Lane	Correct sight distance issues and/or construct roundabout
Liberty Street Extension	Danville Area Traffic Study	Montour	Congestion Management	Danville Borough	Medium-term	\$1,000,000 - \$5,000,000		Route 11 Segments 80	Extend Liberty Street north to create a new intersection with Route 11
Market Street/Railroad Street Roundabout	Danville Area Traffic Study	Montour	Congestion Management	Danville Borough	Long-term	\$250,000 - \$500,000		SR 2006 intersection with Railroad Street	Construct a roundabout
New Geisinger Access/Alignment from PA 54	Danville Area Traffic Study	Montour	Congestion Management	Danville Borough, Mahoning Township	Long-term	\$1,000,000 - \$5,000,000			Construct a new access road from PA 54 to Red Lane
New Susquehanna River Bridge	Danville Area Traffic Study	Montour	Congestion Management	Danville Borough, Mahoning Township, Riverside Borough, Rush Township	Long-term	\$53,750,000			Conduct a feasibility study for the construction of a new river bridge upstream from the existing structure along PA 54
Railroad Street Bridge	2016 LRTP	Montour	Asset Management - Local Bridge	Bridge over Sechler Run (Danville)	Medium-term	\$750,000		BRKEY 28466	Bridge Rehabilitation
Railroad Street Realignment	Danville Area Traffic Study	Montour	Safety Improvement - Intersection	Mahoning Township	Long-term	\$1,000,000 - \$5,000,000		SR 2008 Segment 10	Realign Railroad Street to intersect Bloom Road opposite Drexel Road west of current intersection opposite Academy Avenue
US 11 and PA 54 Access Management Plans	Danville Area Traffic Study	Montour	Planning - Access Management	Danville Borough, Mahoning Township, Valley Township	Short-term	\$125,000		PA 54 and US 11 Corridors	Collaborate with local officials to develop access plans for future development and encourage local officials to adopt Official Maps documenting plans
US 11, Railroad Street, and East Market Street H & H Study	Danville Area Traffic Study	Montour	Resiliency	Borough of Danville	Short-term	\$75,000		Route 11, Railroad Street and Market Street	Consider H & H study to identify causes of and mitigations for repeated flooding
US 11/Woodbine Lane Geometric Improvements	Danville Area Traffic Study	Montour	Congestion Management	Mahoning Township	Long-term	\$1,000,000 - \$5,000,000		Route 11 intersection with Woodbine Lane	Construct dual turn lanes along both US 11 approaches and dual receiving lanes along Woodbine Lane
Wall Street/State Hospital Drive Corridor	Danville Area Traffic Study	Montour	Safety Improvement - Corridor	Safety Improvement/Congestion Management (Widening - Danville/Mahoning Twp.)	Long-term	Less than \$250,000		Hospital Drive south of Route 11	Coordinate with Danville State Hospital to widen State Hospital Drive
5-County Fixed-route Service Pilot	2021-2024 TIP	Multi-County	Transit	Partnership among the Greater Susquehanna Valley United Way, PennDOT, Bucknell University, and Geisinger Health System	Short-term	\$2,040,000	Concern with locations for pickup in Town area.		
Establish additional carpool, vanpool, and car-sharing programs	SEDA-COG/Williamsport MPOs Coordinated Public Transit–Human Services Transportation Plan	Multi-County	Transit	Multi-municipal			Juniata County continues to utilize Mifflin - Juniata Call -A-Ride (M-J CARS) services to provide transportation services for the elderly of our communities.		Work with transit providers, major employers, and other stakeholders to establish or expand services in SEDA-COG counties



Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
Expand existing and develop additional park-and-ride lots	SEDA-COG/Williamsport MPOs Coordinated Public Transit–Human Services Transportation Plan	Multi-County	Transit	Multi-municipal			Juniata comment: Park-and-ride services have been addressed in prior "PennDOT Connects" meetings. A park-and-ride study for the Port Royal Interchange has been in discussion for many years. We suggested an agreement between PennDOT and Walker Township be utilized at the Walker Township Park. We also suggested an agreement between PennDOT and Delaware Township be utilized at the Thompsonstown Interchange (The AMVETS Parking Lot.)	Multiple locations	Work with stakeholders to identify sites and funding for new park-and-ride locations, and improve operations, safety, and utilization for existing park-and-rides
More ADA-Accessible Vehicles or Spaces on Vehicles, Better Amenities	SEDA-COG/Williamsport MPOs Coordinated Public Transit–Human Services Transportation Plan	Multi-County	Transit	Multi-municipal	Short-term				Shared-ride ADA improvements – More ADA-Accessible Vehicles or Spaces on Vehicles, Better Amenities
I-180/PA 54 Interchange	US 11/15 Corridor Revitalization and Master Plan	Northumberland	Planning - Access Management	Delaware Township				Interstate 180 Segments 544 & 544, SR 54 Segments 130 - 140	Interchange improvements to address future development
Liberty Hollow Rail Trail	Middle Susquehanna Bicycle and Pedestrian Plan	Northumberland	Active Transportation	Northumberland Borough	Short-term	\$250,000		Washington Avenue Extension alignment between Washington Avenue and Susquehanna Road	Construct a bicycle/pedestrian trail along existing sewer ROW
Mount Carmel to Sunbury Multi-Use Trail	Plan Go Shamokin	Northumberland	Active Transportation	Multi-municipal	Long-term			PRR Alignment from Susquehanna River to Mt. Carmel	Implementation of feasibility study
Shamokin Creek Greenbelt/Kehler Park Multi-Use Trail	Plan Go Shamokin	Northumberland	Active Transportation	City of Shamokin	Long-term	\$740,000		Connection between Arch Street & Water Street between 3rd Street & 5th Street	Bicycle/Pedestrian Connection over Shamokin Creek
Sunbury Street/Route 61 corridor improvements	Plan Go Shamokin	Northumberland	Active Transportation	City of Shamokin	Long-term	\$1,500,000		SR 61 Segments 140 to 160	Crossing, lighting, and streetscape improvements to complement MPMS 99329 resurfacing project on SR 61
NS Bridge over Susquehanna	2016 LRTP	Northumberland/Snyder	Rail	Lower Augusta Township, Selinsgrove Borough	Long-term	\$93,000,000		River Bridge from Buffalo line to Selinsgrove line	Rehabilitate 3,500-foot railroad bridge across Susquehanna River, east of Selinsgrove. This is the only access to rail in Snyder County.
CSVT Southern Section Special Impact Study	Stakeholder discussions	Snyder	Planning - Access Management	Multi-municipal	Short-term	\$150,000		Municipalities along the southern section of the CSVT	Study of existing routes 11 & 15 and surrounding area to include consideration of induced development in surrounding municipalities, and coordination with municipalities to develop tools and policies to positively manage changes in land use and growth after completion of the CSVT.



Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
Franklin Township Short Span Bridges	2016 LRTP	Snyder	Asset Management - Local Bridge	Franklin Township	Medium-term	\$600,000		Dock Hill Road and Swinehart Road Bridges over Tributary to Middle Creek	Rehab or replacement of two small span (under 20') bridges in Franklin Township
Middleburg Borough Traffic Study	2016 LRTP	Snyder	Safety Improvement - Corridor	Middleburg Borough, Franklin Township	Short-term	\$150,000		SR 522 Segments 360 to 410, SR 104 Segments 240 to 260	Study to investigate causes of congestion and conflicts at intersections with SR 104 and provide potential mitigations
University Ave./Market St. Pedestrian Crossing Improvements	STC Survey	Snyder	Safety Improvement - Corridor, Active Transportation	Selinsgrove Borough, Penn Township	Short-term	\$40,000		SR 1011 Segments 10-20, West Pine Street from Eighteenth Street to Broad Street	The crosswalks for students to use crossing University Avenue are improperly marked. The pillars near the crosswalk hide the students waiting to cross, making it very difficult for drivers to see pedestrians.
US 11 & 15 Traffic Signal Enhancements, Hummels Wharf to Shamokin Dam	2016 LRTP	Snyder	Operations & Management	Monroe Township, Shamokin Dam Borough	Medium-term	\$1,500,000		US 11 Segments 320 to 420, Route 15 Segments 10 to 21	Update/enhance signals and hardware; consider preemption, adaptive, detection, battery backup, pedestrian accommodations, lane use changes. Complements intersection improvements included in CSVT Southern Section
US 522 Improvements Study	2016 LRTP	Snyder	Safety Improvement - Corridor, Active Transportation	Multi-municipal	Medium-term			SR 522 Segments 150 to 180, 200 to 230, 360 to 400 and 460 to 480	Study to improve pedestrian safety in small urban areas along the 522 corridor including Middleburg, Kreamer, Beavertown, and Beaver Springs. Consider lighting, PwD accessibility, marked crossings, walkability, and traffic calming.
US 522 Interchange Study	Stakeholder discussions	Snyder	Planning - Access Management	Monroe Township, Selinsgrove Borough	Medium-term	\$150,000		SR 522 Segments 600 to 615, CSVT Southern Interchange	Study of the CSVT Southern Interchange to improve operations at the interchange and better accommodate truck and regional traffic using the interchange to access 522 west of the Susquehanna
US 522/Salem Road/University Avenue	2011 LRTP	Snyder	Safety Improvement - Intersection	Penn Township	Medium-term	\$2,000,000		Intersection of SR 1011 and 522	Address crash history issues at ISIP intersection. Consider roadway safety review and potential resolutions to traffic and pedestrian/bike issues.
Allenwood Village to Montgomery Borough Multi-Use Riverfront Trail	Middle Susquehanna Bicycle and Pedestrian Plan	Union	Active Transportation	Gregg Township, Brady Township, Clinton Township		\$1,500,000	Issues with NS crossing prevent full implementation.	Susquehanna riverfront, Allenwood to Montgomery Borough	Address NS crossing issues and construct a bicycle/pedestrian trail
Buffalo Valley Rail Trail US 15 Crossing	STC Survey, Middle Susquehanna Bicycle and Pedestrian Plan	Union	Active Transportation	Lewisburg Borough, East Buffalo Township	Short-term	\$125,000	Awaiting completion of northern section of CSVT and subsequent traffic volume study	BVRT crossing, between Saint Mary Street and Market Street	Coordinate with stakeholders to provide a safe crossing along trail alignment
Buffalo Valley Rail Trail Western Extension- Mifflinburg to Swengel	Middle Susquehanna Bicycle and Pedestrian Plan	Union	Active Transportation	Mifflinburg Borough, Lewis Township, West Buffalo Township	Medium-term	\$1,200,000		Parallel to SR 3010, Mifflinburg to Swengel	Construct a bicycle/pedestrian trail



Project	Source	County	Project Type	Municipality	Year Beginning/ Implementation Horizon	Projected Cost	Comments/Funding Approach	Location	Narrative
Hospital Drive/JPM Boulevard Roundabout	STC Survey	Union	Safety Improvement - Intersection	Kelly Township	Short-term	\$1,200,000	Project in-process. High visibility & high benefit.	SR 1005 at intersection with JPM Road	Realign intersection approaches and install roundabout
Kelly Township Signal Improvements	STC Survey, US 15 Smart Transportation Corridor Improvement Plan; PennDOT Green Light-Go	Union	Operations & Management	Kelly Township	Short-term	\$263,094		US 15 segments 200 to 251	Signals on US 15 from William Penn Drive to Ziegler Road. Traffic signal retiming, controller upgrades, and communication at seven intersections
New Columbia Park-and-Ride	STC Survey	Union	Operations & Management	Park-and-Ride Lot (SR 15 New Columbia Interchange)	Short-term	\$1,000,000	Low cost, high benefit, and high visibility	SR 1008 Segment 90	Identify suitable location and construct a park-and-ride location to replace or supplement the current unofficial park-and-ride at the New Columbia Interchange
Rehab / Replacement of County bridge #2	TIP	Union	Asset Management - Local Bridge	Gregg Township	Medium-term	\$2,000,000	Eligible for statewide metal truss preservation funds, designated exceptional value for preservation	T-421 over White Deer Hole Creek, BRKEY 33587, County Bridge 2	Rehab exceptional value metal truss bridge, implement recommendations of study.
Rehab / Replacement of County bridge #23	TIP	Union	Asset Management - Local Bridge	Hartley Township	Medium-term	\$1,500,000		T 319 over Penns Creek, BRKEY 33593, County bridge 23.	Rehab covered bridge, implement recommendations of study.
SR 15 & Beagle Club Road/River Road Improvements	US 15 Smart Transportation Corridor Improvement Plan, STC Survey	Union	Safety Improvement - Intersection	East Buffalo Township	Medium-term	\$200,000- \$500,000	High safety concern.	US 14 Segments 120 & 121	Noted as an unsafe intersection with high speeds and frequent pedestrian crossings. Consider realignment and/or turn lanes.

9.4 APPENDIX E: Environmental Justice Benefits and Burdens Analysis

In 2011, the Federal Highway Administration (FHWA) issued an Environmental Justice Emerging Trends and Best Practices Guidebook. In 2012, the USDOT issued Order 5610.2(a), Final DOT Environmental Justice Order, and FHWA issued Order 6640.23A, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. In 2015, FHWA issued an Environmental Justice Reference Guide. These documents highlight three main environmental justice (EJ) objectives:

- To identify, address, minimize, mitigate and (preferably) avoid disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process. This objective is met by providing public involvement opportunities and dissemination of information, including meaningful access to public information concerning human health or environmental impacts. In addition, solicitation of input from affected minority and low-income populations is required when considering alternatives during the planning and development of transportation infrastructure investments.
- To ensure that no person—particularly those of minority or low-income populations—is excluded from participating in, denied the benefits of, or in any other way subjected to discrimination under any program or activity receiving federal assistance.

As defined by the USDOT Final Environmental Justice Order, adverse effects means:

... the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to:

- Bodily impairment, infirmity, illness, or death
- Air, noise, and water pollution and soil contamination
- Destruction or disruption of man-made or natural resources
- Destruction or diminution of aesthetic values
- Destruction or disruption of community cohesion or a community's economic vitality, destruction or disruption of the availability of public and private facilities and services
- Vibration
- Adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations
- Increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community
- The denial of, reduction in, or significant delay in the receipt of benefits of DOT programs, policies, or activities.

Disproportionately high and adverse effect on minority and low-income populations means an adverse effect that is: a) predominantly borne by a minority population and/or a low-income population; or b) will be suffered by the minority population and/or low-income population and is appreciably more severe or



greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

In 2019, the South Central Pennsylvania MPO EJ Process Development Study was released. The Unified Environmental Justice Process and Methodology Guide is the result of an inter-regional collaborative process by MPOs in PennDOT District 8, the PennDOT Central Office, the Federal Highway Administration, and the Federal Transit Administration, and provides guidance for addressing environmental justice requirements as part of this LRTP update.

A key portion of the new methodology is the definition of Low-Income and Minority Populations.

- Low-Income – The FHWA and USDOT EJ Orders define a “low-income” individual as a person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines.
- Minority Populations – The FHWA and USDOT EJ Orders define a “minority” individual as a person who is:
 - Black
 - Hispanic or Latino
 - Asian American
 - American Indian and Alaskan Native
 - Native Hawaiian and Other Pacific Islander

9.4.1 Identification of Environmental Justice Populations

In response to the identified Environmental Justice policies, SEDA-COG MPO staff conducted a distributive geographic analysis to identify the locations and concentrations of minority, low-income, and other traditionally underserved populations (TUP). The demographic profile describes the social composition of the SEDA-COG MPO region and illustrates how demographic patterns vary spatially.

Identification of these populations is essential to establishing effective strategies for engaging them in the transportation planning process. When meaningful opportunities for interaction are established, the transportation planning process can draw upon the perspectives of communities to identify existing transportation needs, localized deficiencies, and demand for transportation services. Mapping of these populations not only provides a baseline for assessing impacts of the transportation investment program, but also aids in the development of an effective public involvement program.

According to the guidance, MPOs are expected to:

- Avoid the use of thresholds. The use of thresholds can cause some populations to be unaccounted for in the analysis because they are not of a certain size in comparison to the region.
- When mapping, use smaller, more disaggregated census geographies (e.g., block groups). The more aggregated the geographic level of the analysis, the higher the probability that pockets of low-income and minority populations will be missed.
- Consider geographically dispersed or transient persons. USDOT guidance directs funding recipients to consider all people present in an area, not just the residents. Non-resident persons who travel through or to an area and belong to minority or low-income populations should be considered.



- Verify data and be aware of limitations. Much of the data used in the process are estimates and may have significant margins of error.
- Engage representatives and leaders of minority or low-income populations. MPOs should conduct outreach to leaders of minority or low-income populations to verify data and gain a deeper understanding of the culture and diversity of the area.

Given the unique composition of the SEDA-COG MPO, census block group geography does not allow for accurate, representative analysis. Many block groups are very rural, and upon analysis it was found that the margin of error in block group geography is frequently higher than the number of people residing there. Therefore, census tracts have been used as the geography best suited to EJ-related analysis of the SEDA-COG region at this time.

The American Community Survey (ACS) provides information on population characteristics. ACS data are sample-based and different samples would yield different estimates of the actual population value. Approximately 1 in 38 U.S. households per year receives an invitation to participate in the ACS. The margin of error is a measure of the possible variation of the estimate of the population value. ACS estimates carry larger margins of error than decennial U.S. Census sample estimates. This is especially true for small areas and population groups. Due to the small population located within certain Census tracts in the SEDA-COG MPO region, margin of error must be considered when considering the population represented by the data.

Table 51 provides a summary of the 2018 U.S. Census American Community Survey (ACS) data at the county and MPO levels. The regional average of minority populations is 7.02 percent. This is an increase from the 2011 ACS regional average of 4.6 percent. The regional average for population for whom poverty status is determined has remained consistent from previous analysis.



Table 51. Profile of Traditionally Underserved Populations in the SEDA-COG MPO Region

	SEDA-COG MPO Region									
	Clinton County	Columbia County	Juniata County	Mifflin County	Montour County	North-umberland County	Snyder County	Union County	Total Population	Regional Threshold (Average Concentration)
Total Population	39,074	66,220	24,562	46,362	18,294	92,325	40,466	45,114	372,417	
Minority Population¹	1,479	3,382	818	1,445	1,383	4,811	1,422	5,926	20,666	7.02%
Senior Population²	7,035	12,183	4,770	9,633	3,737	18,885	7,206	7,750	71,199	19.1%
Total Population for whom Poverty Status is Determined	37,248	61,399	24,267	45,514	17,605	88,097	38,139	35,945	348,214	
Low-Income Population³	6,491	8,800	2,876	6,574	1,957	12,283	4,046	4,059	47,086	13.77%
Total Population Age 5 or Older	36,989	63,200	23,162	43,510	17,278	87,572	38,340	43,010	353,061	
Limited English Proficiency Population⁴	627	623	872	1,104	339	1,224	1,039	1,136	6,964	2%
Total Civilian Non-Institutionalized Population	38,504	65,477	24,325	45,761	17,656	88,397	40,152	39,603	359,875	
Disabled Population⁵	6,344	8,730	3,423	7,435	2,513	14,763	4,760	5,063	53,031	14.7%
Total Households	14,744	26,582	9,404	19,094	7,482	39,132	14,716	14,739	145,893	
Zero Vehicle Households⁶	1,434	1,634	730	2,055	880	4,136	956	1,220	13,045	8.9%
Female Head of Household with own Children⁷	618	1,419	350	1,054	410	2,111	654	691	7,307	5%
Source: U.S. Census Bureau, American Community Survey (ACS), 5-Year Estimates (2018)										
Notes:										
¹ Minority Population: Table DP05, ACS Demographic and Housing Estimates, -RACE-Calculated as "Total Population" minus "One race - White".										
² Senior Population: Table DP05, ACS Demographic and Housing Estimates, SEX AND AGE - Value given as "Total Population: 65 years and over".										
³ Low-Income Population: Table S1701, Poverty Status in the Past 12 Months - Value given as "Population for whom poverty status is determined: Below poverty level".										
⁴ Limited English Proficiency Population: Table S1601, Language Spoken At Home - Value given as "Population 5 years and over: Language other than English: Speak English less than 'very well'".										
⁵ Disabled Population: Table S1810, Disability Characteristics - Value given as "Total civilian non-Institutionalized population: With a disability".										
⁶ Zero Vehicle Households: Table B08201, Household Size by Vehicles Available-Value given as "Total Households: No vehicle available".										
⁷ Female Head of Household with Children: Table DP02, Selected Social Characteristics in the United States, Households by Type-Value given as "Family households: Female householder, no husband present family: With own children under 18 years".										

Figure 94 presents gradient mapping of the percentage of minority populations by Census tract. As illustrated, there are some areas of distinctly high percentages of minority populations, two of which are located in Union County. These two areas both contain federal penitentiaries that skew the results for those tracts. Similarly, in southern Northumberland County there is a tract with a State Correctional Institution that explains the significantly higher minority population indicated for that tract.

Figure 94. Minority Population Density by Census Tract

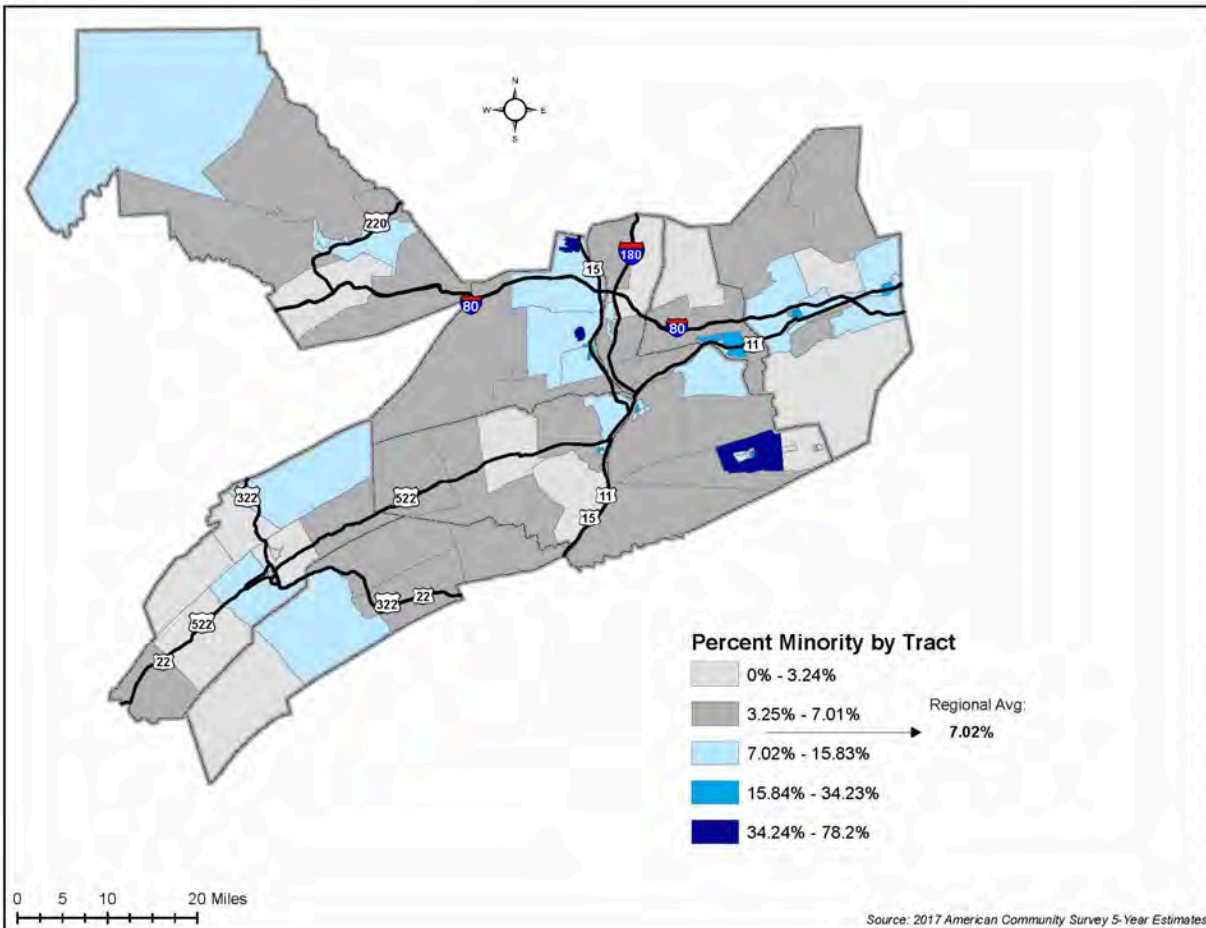


Figure 95 and Figure 96 show dot density mapping methods required by the unified methodology guide. Dot density maps display concentrations and provide an intuitive tool for understanding the size of the populations represented in the mapping. The dot density method enhances the effectiveness of these maps by displaying areas where, according to gradient mapping methods, high/low in low-income or minority populations are shown; however, the actual population in those areas as represented by the dot is rather small/large.

Figure 95. Dot Density Map of Minority Population Concentrations

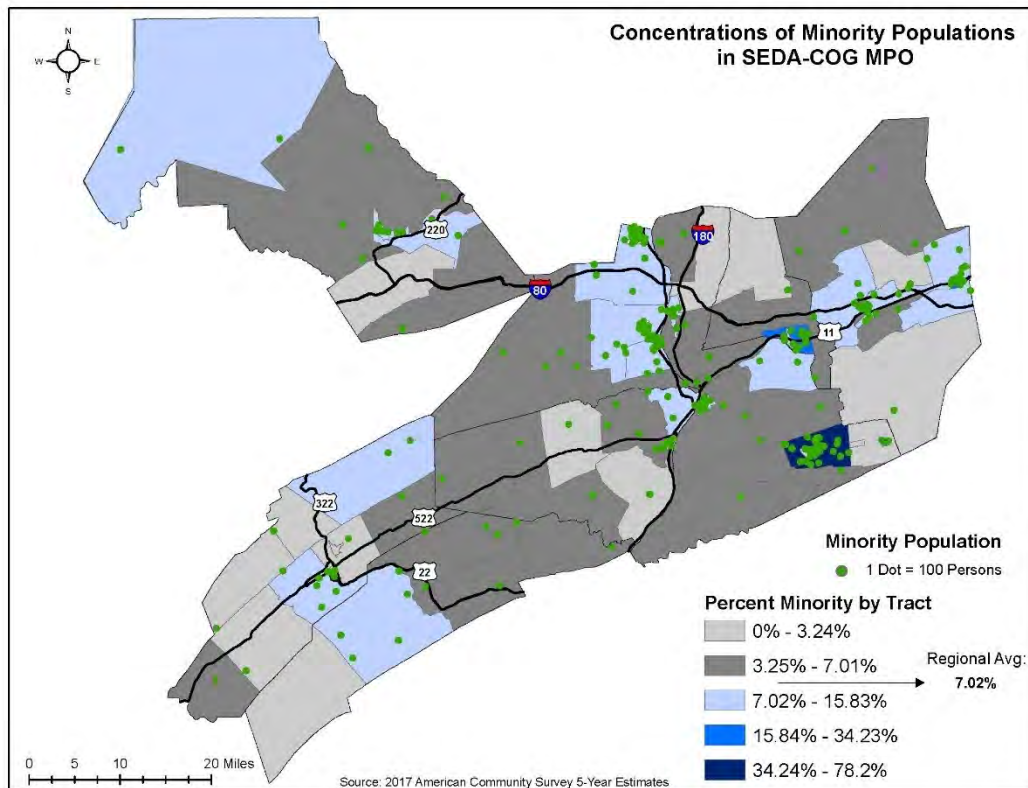


Figure 96. Dot Density Map of Low-Income Population Concentrations

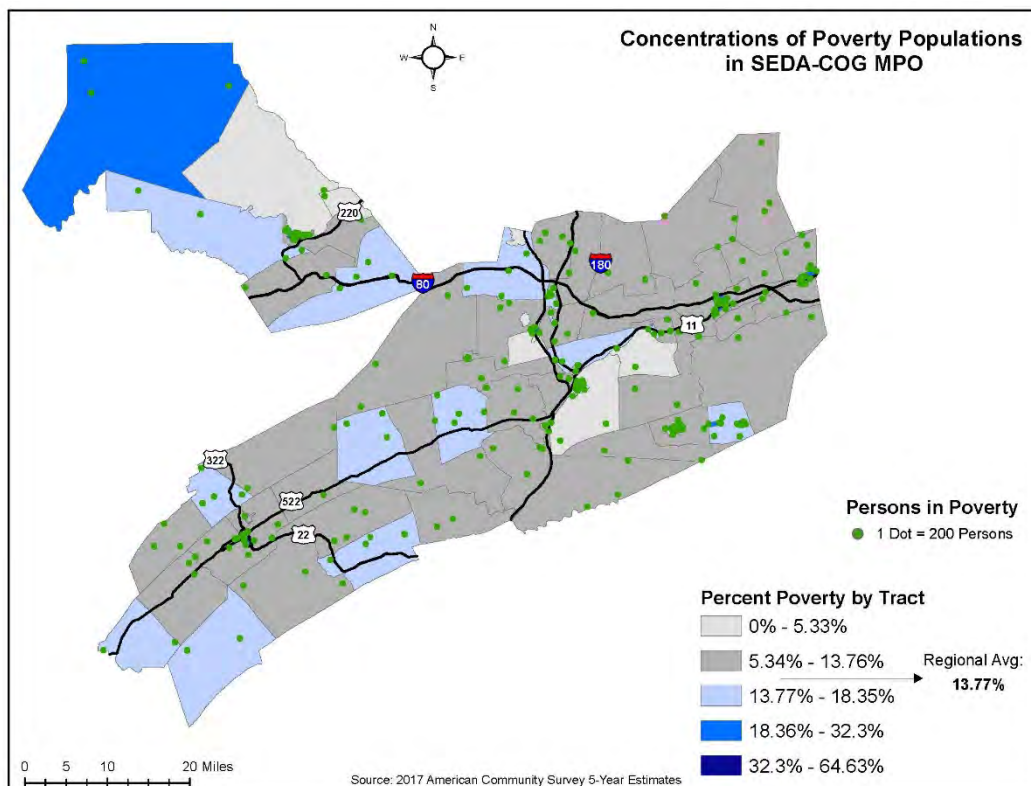
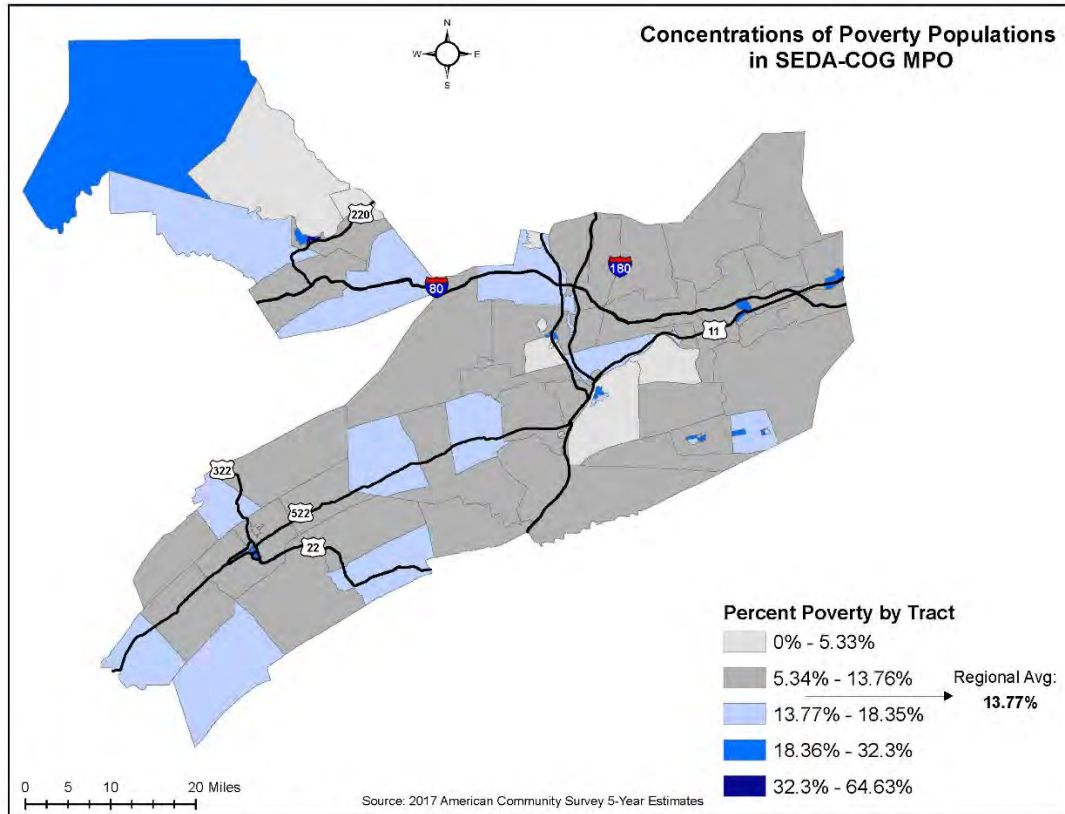


Figure 97 presents gradient mapping of the percentage of low-income populations by census tract. As illustrated, the areas with the highest number of low-income households also tend to be the areas with the densest population in the MPO region.

Figure 97. Low-Income Population Density by Census Tract



9.4.2 Condition Assessment and Needs Identification

Table 52 highlights the distribution of fatal and serious injury crashes in the SEDA-COG region. There is a high number of crashes occurring regardless of low-income or minority status. As shown in the far-right column and bottom row, the areas with the densest populations of low-income or minority population do not have disproportionate occurrences of fatal or serious injury crashes. Figure 98 and Figure 99 map the fatal and serious injury bicycle and pedestrian crashes in the region.

Table 52. Number and Percentage of Fatal and Injury Crashes, 2013-2017

SEDA-COG MPO			% of Minority Population in Block Group				
			0.00 - 3.24	3.25 - 7.01	7.02 - 15.83	15.84 - 34.23	34.24 - 78.20
SubTotals			2213 (21%)	4845 (45%)	1776 (17%)	1374 (13%)	499 (5%)
% of Low Income Population in Block Group	0.00 - 5.33	5653 (53%)	1470 (14%)	2630 (25%)	901 (8%)	547 (5%)	105 (1%)
	5.34 - 13.76	2537 (24%)	332 (3%)	1363 (13%)	307 (3%)	364 (3%)	171 (2%)
	13.77 - 18.35	1557 (15%)	172 (2%)	694 (6%)	287 (3%)	342 (3%)	62 (1%)
	18.36 - 32.30	852 (8%)	131 (1%)	158 (1%)	281 (3%)	121 (1%)	161 (2%)
	32.31 - 64.63	108 (1%)	108 (1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	Total Crashes		10707				

Figure 98. Concentrations of Minority Populations and Bicycle/Pedestrian Crash Locations

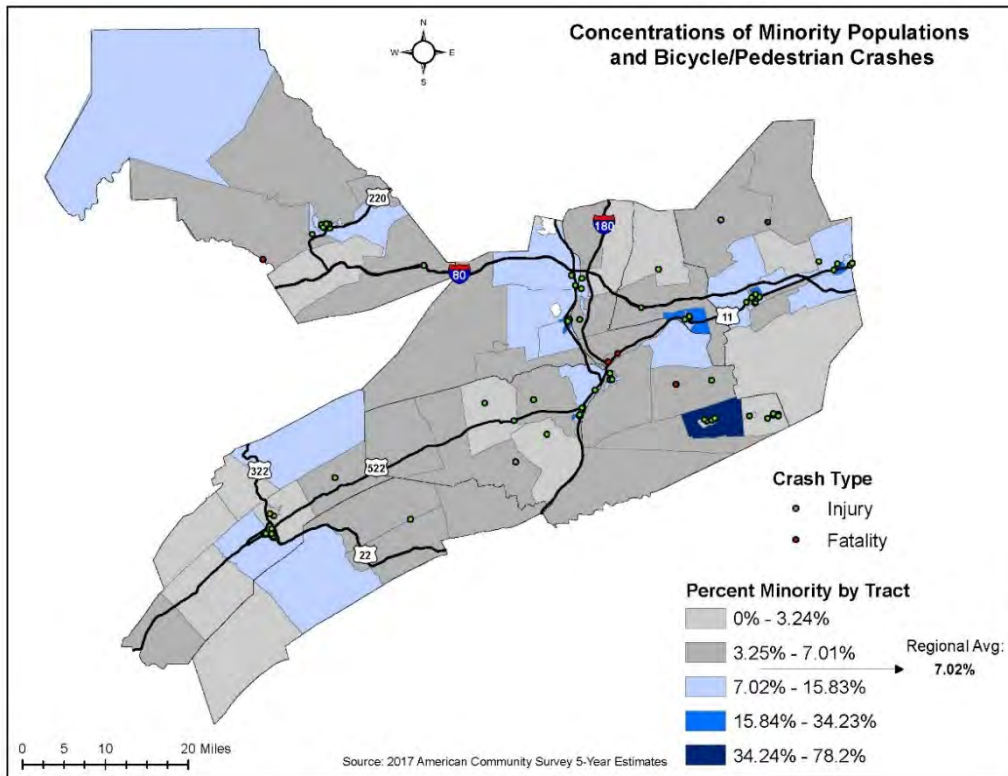


Figure 99. Concentrations of Low-Income Populations and Bicycle/Pedestrian Crash Locations

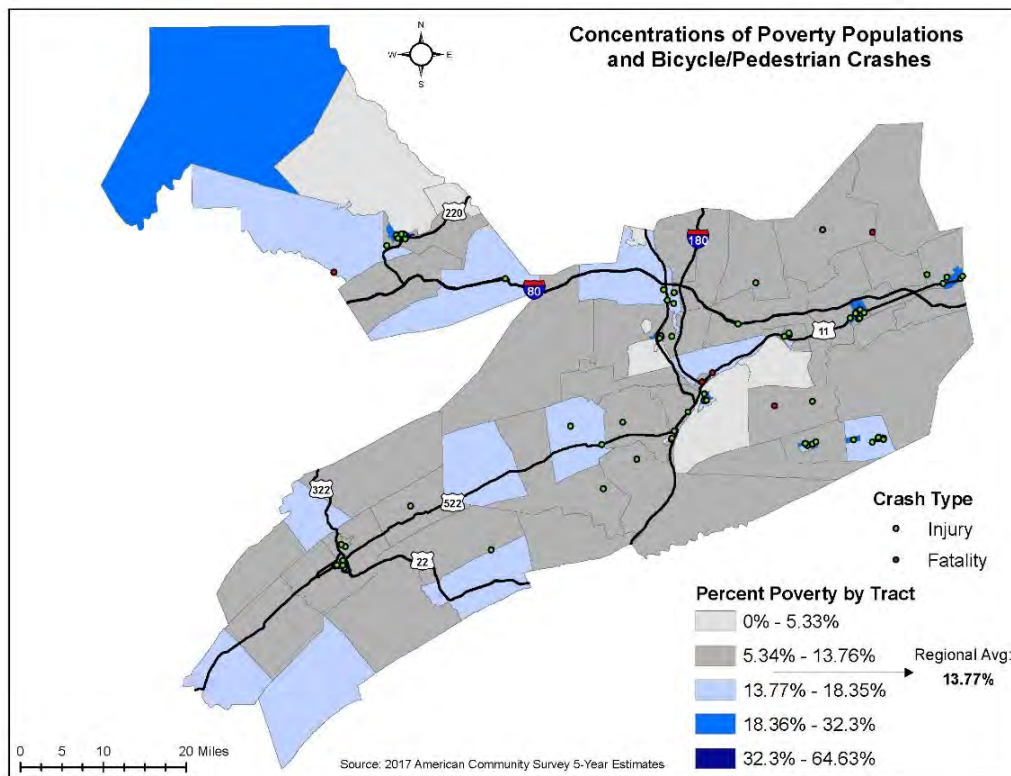


Figure 100 and Figure 101 map the region's bus routes. The Lower Anthracite Transportation System (LATS) has seasonal routes and regular service throughout the southeast corner of Northumberland County.

Figure 100. Concentrations of Minority Populations and Public Transit Routes

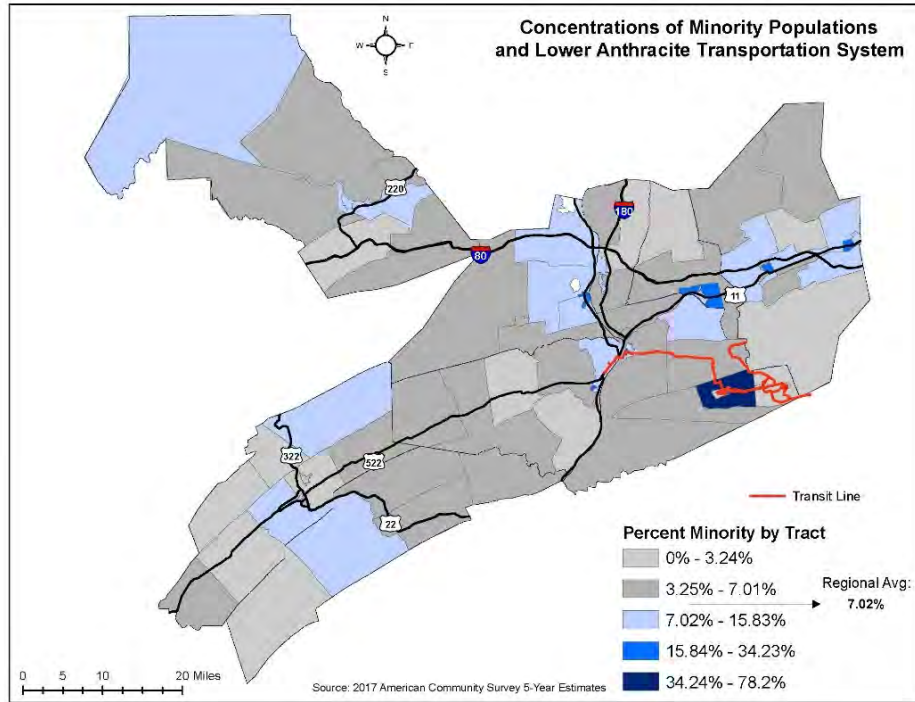


Figure 101. Concentrations of Low-Income Populations and Public Transit Routes

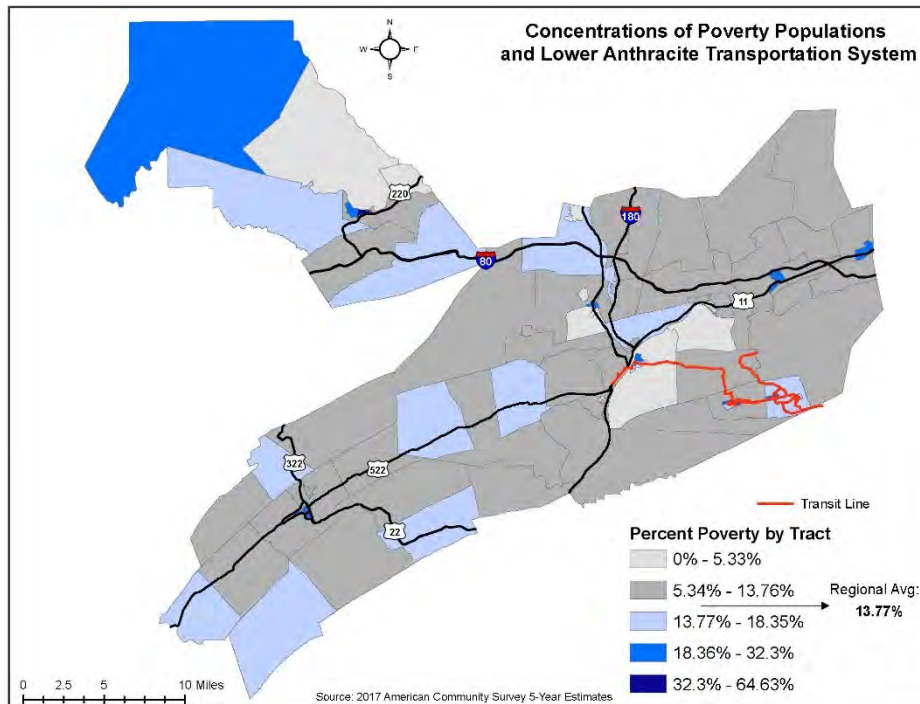


Table 53 and Table 54 along with Figure 102 and Figure 103 highlight the distribution of Poor and Excellent condition pavement as defined by the International Roughness Index (IRI) of state-owned roads. Poor condition pavement does not disproportionately impact minority or low-income populations. However, the majority of the Excellent condition pavement is found in areas that do not have high levels of minority or low-income populations.

Table 53. Mileage and Percentage of Poor Condition Roadway Pavement, 2019

SEDA-COG MPO			% of Minority Population in Block Group				
			0.00 - 3.24	3.25 - 7.01	7.02 - 15.83	15.84 - 34.23	34.24 - 78.20
SubTotals			71 (17%)	230 (56%)	71 (17%)	33 (8%)	4 (1%)
% of Low Income Population in Block Group	0.00 - 4.34	237 (58%)	53 (13%)	131 (32%)	38 (9%)	15 (4%)	0 (0%)
	4.35 - 16.56	130 (32%)	13 (3%)	75 (18%)	24 (6%)	16 (4%)	2 (1%)
	16.57 - 22.80	37 (9%)	4 (1%)	23 (6%)	8 (2%)	2 (0%)	1 (0%)
	22.81 - 47.30	4 (1%)	1 (0%)	1 (0%)	2 (0%)	1 (0%)	0 (0%)
	47.31 - 92.74	1 (0%)	1 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total Mileage			409				

Table 54. Mileage and Percentage of Excellent Condition Roadway Pavement, 2019

SEDA-COG MPO			% of Minority Population in Block Group				
			0.00 - 3.24	3.25 - 7.01	7.02 - 15.83	15.84 - 34.23	34.24 - 78.20
SubTotals			299 (24%)	634 (50%)	190 (15%)	114 (9%)	21 (2%)
% of Low Income Population in Block Group	0.00 - 4.34	794 (63%)	232 (18%)	356 (28%)	137 (11%)	68 (5%)	1 (0%)
	4.35 - 16.56	328 (26%)	37 (3%)	203 (16%)	36 (3%)	40 (3%)	12 (1%)
	16.57 - 22.80	79 (6%)	14 (1%)	53 (4%)	5 (0%)	6 (0%)	1 (0%)
	22.81 - 47.30	52 (4%)	11 (1%)	21 (2%)	12 (1%)	0 (0%)	8 (1%)
	47.31 - 92.74	5 (0%)	5 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total Mileage			1257				

Figure 102. Concentrations of Minority Populations and Pavement Condition

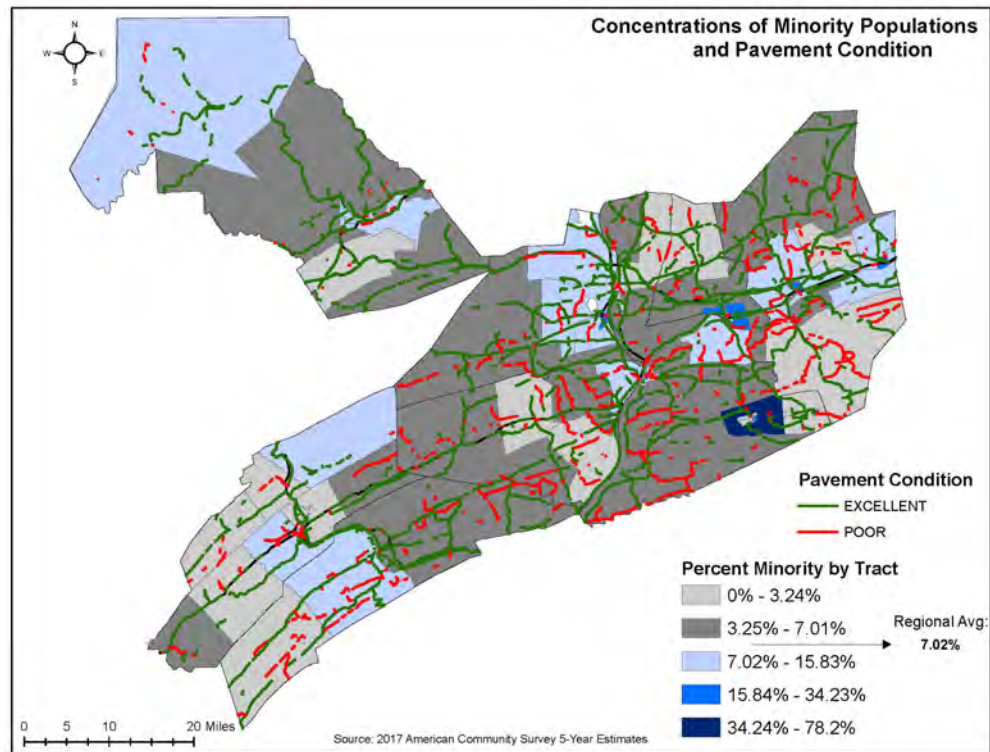


Figure 103. Concentrations of Low-Income Populations and Pavement Condition

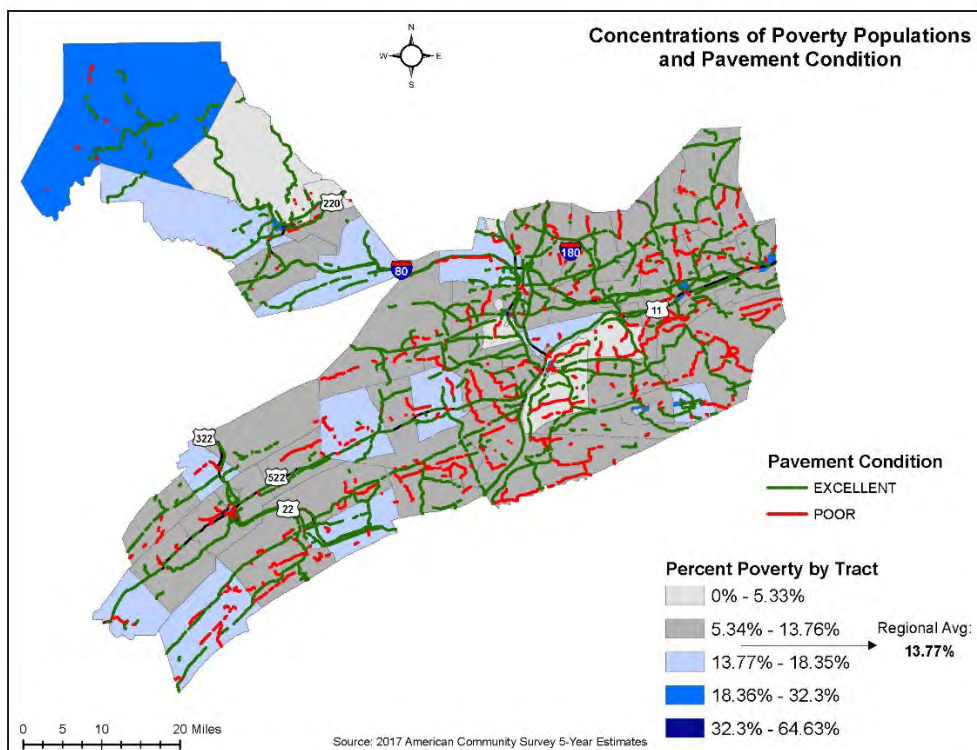




Table 55 along with Figure 104 and Figure 105 highlight the distribution of Poor-rated bridges in the SEDA-COG region. Bridge condition is a regularly evaluated federal performance measure. Bridges are evaluated and a Poor rating is assigned if one or more of its major components have deteriorated. As the chart demonstrates, the number of Poor bridges does not disproportionately impact minority or low-income populations.

Table 55. Distribution of Poor-Condition Bridges

SEDA-COG MPO			% of Minority Population in Block Group				
			0.00 - 3.24	3.25 - 7.01	7.02 - 15.83	15.84 - 34.23	34.24 - 78.20
SubTotals			49 (18%)	127 (47%)	64 (23%)	28 (10%)	5 (2%)
% of Low Income Population in Block Group	0.00 - 5.33	160 (59%)	38 (14%)	77 (28%)	34 (12%)	10 (4%)	1 (0%)
	5.34 - 13.76	92 (34%)	10 (4%)	35 (13%)	29 (11%)	15 (5%)	3 (1%)
	13.77 - 18.35	18 (7%)	1 (0%)	14 (5%)	1 (0%)	2 (1%)	0 (0%)
	18.36 - 32.30	3 (1%)	0 (0%)	1 (0%)	0 (0%)	1 (0%)	1 (0%)
	32.31 - 64.63	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Total Bridges			273				

Figure 104. Concentrations of Minority Populations and Poor-Condition Bridges

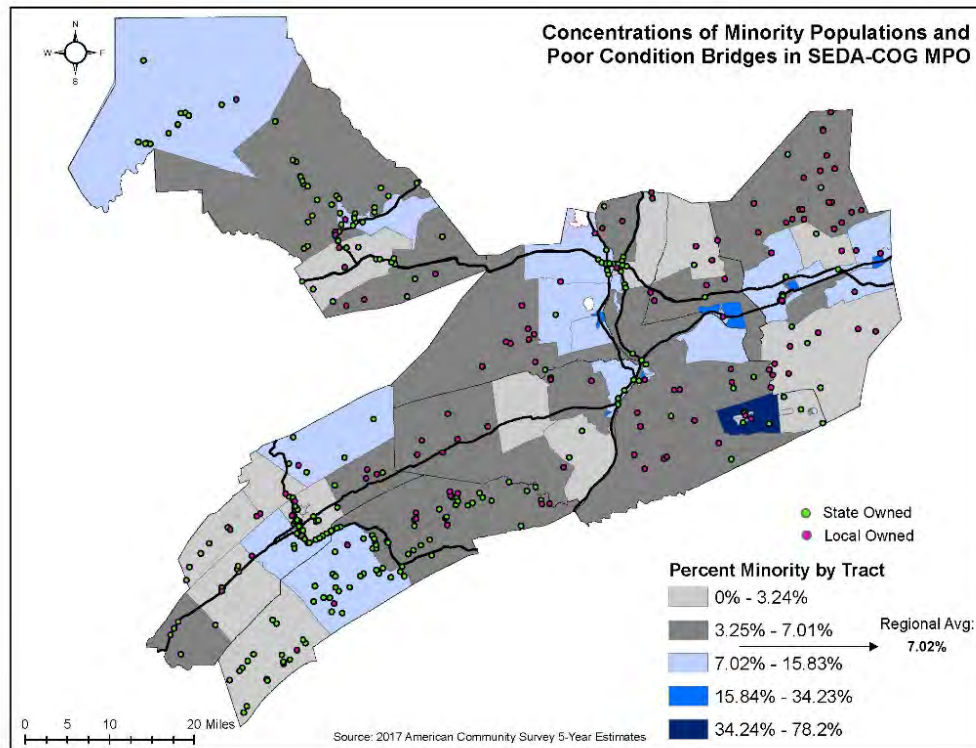
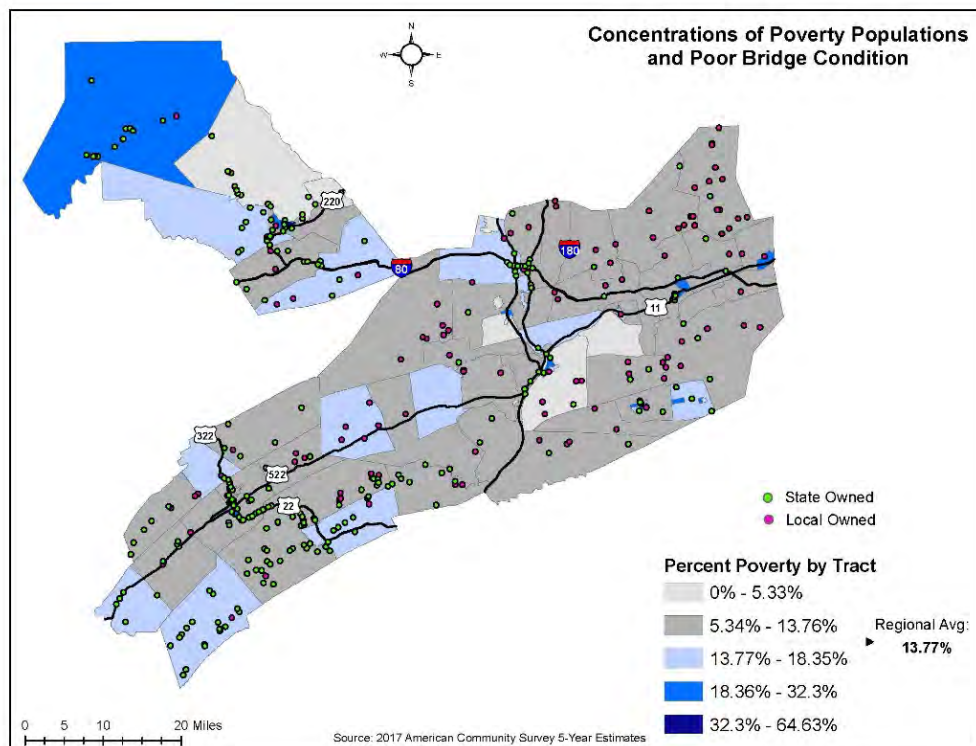


Figure 105. Concentrations of Low-Income Populations and Poor-Condition Bridges





9.4.3 Analysis of Benefits and Burdens

The Benefits and Burdens Analysis provides feedback on the equity of the LRTP, examines the impact that it has on minority and low-income populations, and identifies any disproportionate impacts.

Benefits are the positive impacts from investment such as enhancements in transportation services/options, increases in public safety, congestion relief, increased economic vitality, and reduced travel times. Burdens are the adverse effects of investment such as pollution (noise and air), disruption of community cohesion, displacement of persons or businesses, destruction or decrease of economic vitality, adverse employment effects, decline in tax base or property values, diminished esthetics, disruption of businesses, parking/access to transit, congestion, or the denial, delay, or reduction of receipt of benefits.

Figure 106 and Figure 107 show the Asset Management projects distributed across the region. Table 56 shows projects that will impact low-income or minority populations under the Type of Impact column. The Level of Impact column displays a high/medium/low ranking for each project. The information below details the significance of those rankings:

- Projects of Concern – High Potential for Adverse Impacts (examples below):
 - New Rights-of-Way
 - Roadway Expansion
- Medium Potential for Adverse Impacts/Potentially Beneficial (examples below):
 - Roadway and bridge maintenance
- Low Potential for Adverse Impacts/Inherently Beneficial (examples below):
 - Transit
 - Bike/Ped
 - Safety
 - Studies

Figure 106. Concentrations of Minority Populations and Asset Management Project Locations

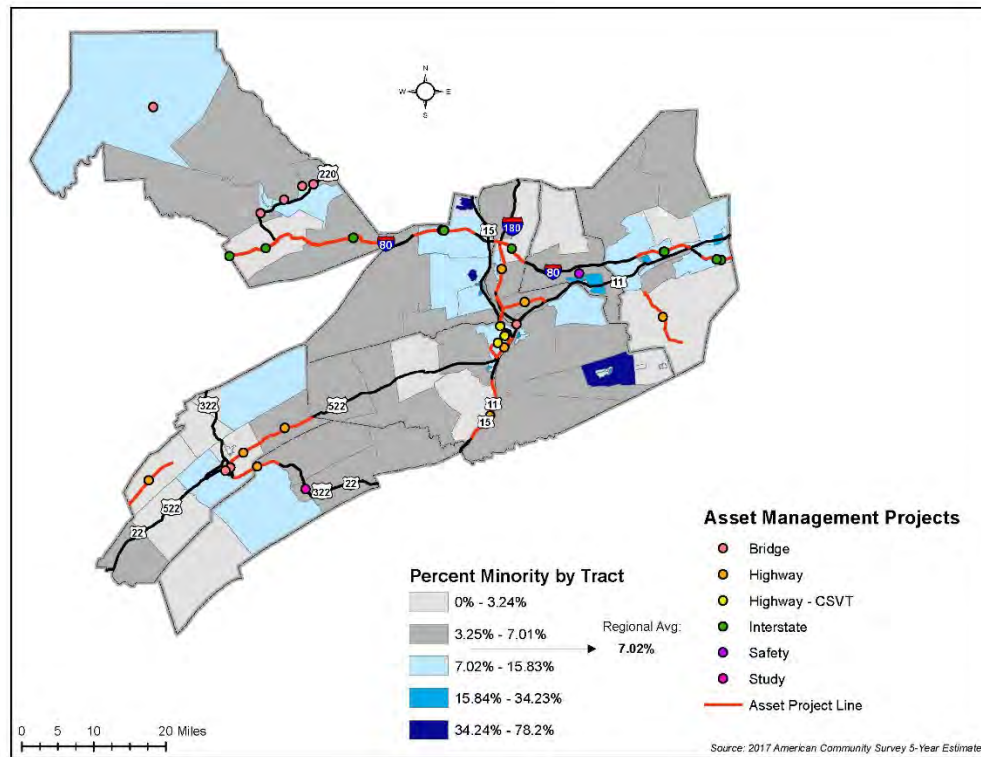


Figure 107. Concentrations of Minority Populations and Asset Management Project Locations

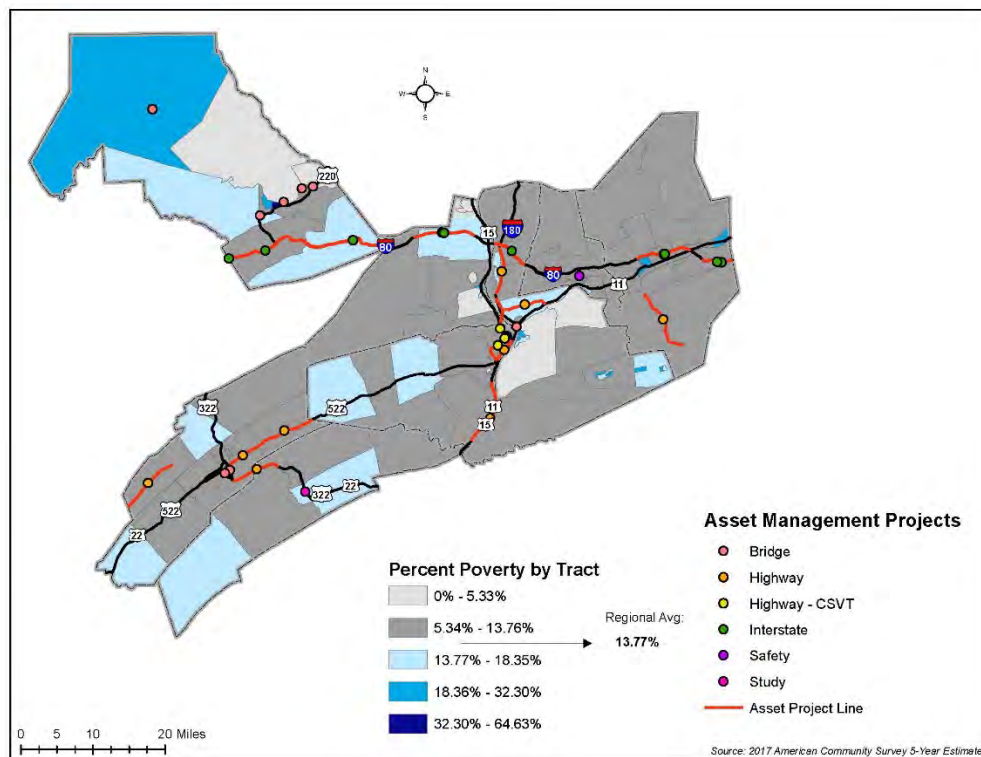


Table 56. Asset Management Projects and Environmental Justice Impact

County	Project Title	Project Type	Level of EJ Impact	Type of EJ Impact
Clinton	SR 120 over Norfolk Southern Bridge	Bridge	Medium	Both
Clinton	SR 2015 Bridge ov SEDACOG JRA	Bridge	Medium	Low Income
Clinton	SR 1002 over West Branch of Susquehanna River	Bridge	Medium	Minority
Clinton	SR 1005 over Susquehanna at McElhattan	Bridge	Medium	Minority
Clinton	220 Twin Bridges over Susquehanna East of McElhattan	Bridge	Medium	Minority
Clinton	PA 44/Pine Creek Bridge	Bridge	Medium	Neither
Clinton	I-80 Preservation MM170-185	Interstate	Medium	Neither
Clinton	I-80 ITS Only, Exit 161 to MM 193.3	Interstate	Medium	Low Income
Clinton	I-80 Preservation MM185-194 A	Interstate	Medium	Low Income
Clinton	I-80 Preservation MM185-194 B	Interstate	Medium	Low Income
Columbia	SR 42 from Poor House Rd to Catawissa Crk	Highway	Medium	Neither
Columbia	Reconstruction I-80 from Creek Rd to SR 487	Interstate	Medium	Both
Columbia	Reconstruction I-80 from SR 487 to US 11	Interstate	Medium	Both
Columbia	I-80 Helterville Rd to Rest Area WB	Interstate	Medium	Minority
Columbia	I-80 Eastbound Rest Area	Interstate	Medium	Minority
Juniata	Commuter Parking Study	Study	Low	Low Income
Juniata	Lewistown Narrows	Highway	Medium	Minority
Mifflin	655 County Line to Belleville	Highway	Medium	Neither
Mifflin	Lewistown Bridge (Charles St. Ramps)	Bridge	Medium	Low Income
Mifflin	Lewistown Bridge II (Charles St. Ramps)	Bridge	Medium	Low Income
Mifflin	SR 322 Bridge	Bridge	Medium	Neither
Mifflin	SR 2004 over 322	Bridge	Medium	Neither
Mifflin	SR 522 Betterment (East of Lewistown)	Highway	Medium	Neither
Mifflin	SR 522 Betterment (Lewistown to County Line)	Highway	Medium	Neither
Montour	SR 54 Corridor Safety Improvement	Safety	Low	Minority
Northumberland	Mill and Resurface I-80 from SR 405 to Montour Co Line	Interstate	Medium	Neither
Northumberland	Mill and Resurface I-80 from Union Co Line to Montour Co Line	Interstate	Medium	Neither
Northumberland	PA 147 Highway Restoration PA 45 to Muddy Run	Highway	Medium	Both
Northumberland	Highway Construction CSVT to US 11	Highway	Medium	Low Income
Northumberland	US 11 over West Branch Susquehanna	Bridge	Medium	Low Income
Snyder	US 11 from Ulsh Rd to Penn's Creek	Highway	Medium	Neither
Snyder	US 11 Roosevelt Ave to SR 11/15 Split	Highway	Medium	Minority
Snyder	CSVt PA 61 Connector	Highway	High	Minority
Snyder	CSVt ITS	Highway	High	Minority
Snyder	CSVt Southern Section Paving	Highway	High	Minority
Snyder	CSVt Southern Section	Highway	High	Minority
Union	I-80 WB from Mile Run to SR 1010	Interstate	Medium	Both
Union	Mill and Resurface I-80 EB from Mile Run to SR 1010	Interstate	Medium	Both

A few projects have a high level of impact on EJ populations. While these do have the opportunity to be detrimental, they are expected to yield significant overall benefits by reducing congestion and increasing safety. In Table 57, the approximate costs for Asset Management projects has been outlined by type of impact. Overall, the distribution of funds is equitable for all groups.



Table 57. Asset Management Project Investment by Environmental Justice Population

Project Category	High Minority Only	In-Poverty Only	Both High Minority and High In-Poverty	Neither High Minority nor High In-Poverty	Region Total
Bridge	\$74,056,842.00	\$41,857,974.00	\$6,691,349.00	\$18,207,485.00	\$140,813,650.00
Highway	\$369,974,812.00	\$15,070,562.00	\$7,225,000.00	\$31,855,210.00	\$424,125,584.00
Interstate	\$9,481,816.00	\$56,648,000.00	\$98,596,425.00	\$37,155,000.00	\$201,881,241.00
Safety	\$17,350,000.00	\$0.00	\$0.00	\$0.00	\$17,350,000.00
Study	\$0.00	\$6,059,484.00	\$0.00	\$0.00	\$6,059,484.00
Total					\$790,229,959.00

Figure 108 and Figure 109 show the distribution of Discretionary projects across the MPO region. These projects cover a wider range of project types. Table 58 shows the level of impact and type of impact for each of the projects. A large number of the discretionary projects are related to active transportation or safety, which inherently benefit all populations and have a low likelihood of adverse impacts.

Figure 108. Concentrations of Minority Populations and Discretionary Project Locations

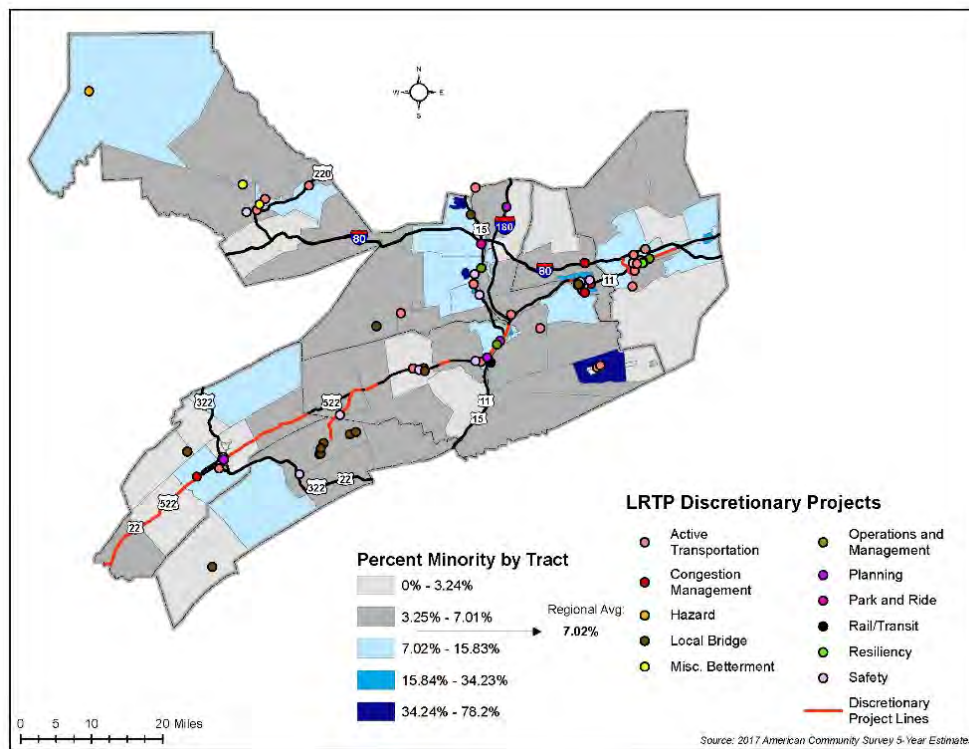


Figure 109. Concentrations of Low-Income Populations and Discretionary Project Locations

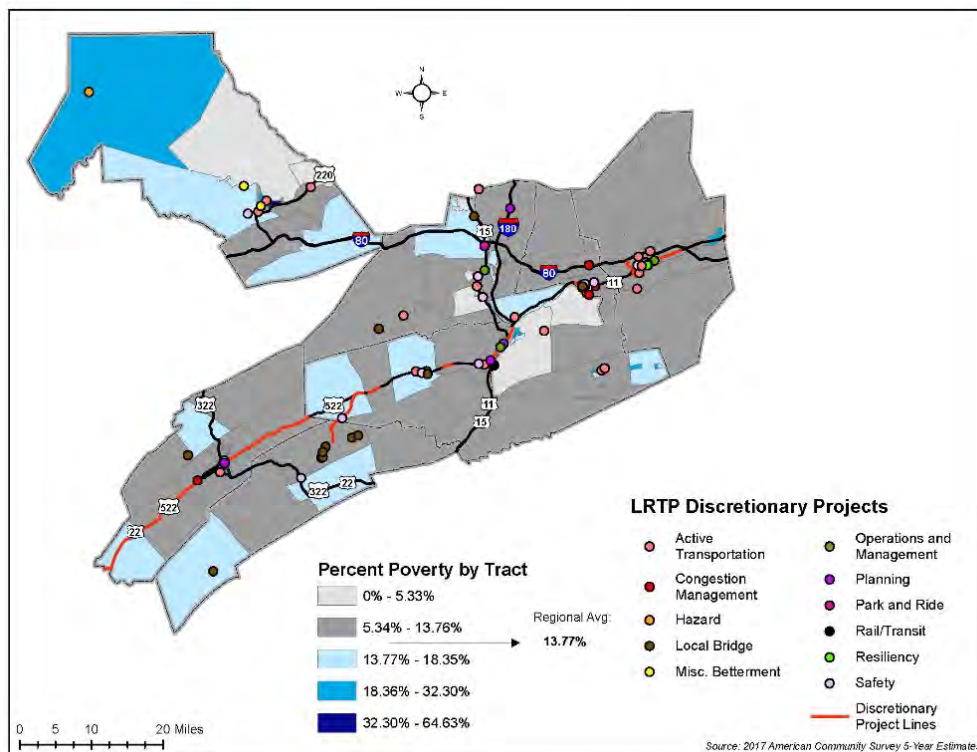


Table 58. Discretionary Projects and Environmental Justice Impact

County	Project Title	Project Type	Level of EJ Impact	Type of EJ Impact
Clinton	Rock Point Removal near Bush Dam	Hazard Removal	Low	Both
Clinton	Permanent Fix of Subsidence Issues at Ice	Misc. Betterment	Low	Low Income
Clinton	Buses Only Entrance Central Mountain High	Safety	Low	Low Income
Clinton	Hogan Blvd. Safe Bike/Ped Route	Active Transportation	Low	Both
Clinton	SR 150/High Street Betterment	Misc. Betterment	Low	Minority
Clinton	Lock Haven Pedestrian Crossings	Active Transportation	Low	Both
Clinton	Bald Eagle Valley Trail	Active Transportation	Low	Minority
Columbia	Columbia County Susquehanna Trail	Active Transportation	Low	Minority
Columbia	Fort McClure Blvd Bike/Ped Paths	Active Transportation	Low	Both
Columbia	Main St. & Light St. Road Pedestrian Crossing	Safety	Low	Both
Columbia	North Branch Canal Trail, Catawissa to	Active Transportation	Low	Neither
Columbia	I-80 Integrated Corridor Management Exit 232	Operations and Management	Low	Both
Columbia	Bloomsburg Traffic Signal Improvements	Operations and Management	Low	Both
Columbia	Bloomsburg Crossing Improvements	Active Transportation	Low	Both
Columbia	Bloomsburg Bicycle Lanes	Active Transportation	Low	Both
Columbia	Memorial Elementary School	Active Transportation	Low	Low Income
Columbia	Arbutus Road Trail	Active Transportation	Low	Both
Columbia	Railroad St Intersection Improvement	Intersection Safety	Low	Low Income
Columbia	Mayor's Trail	Active Transportation	Low	Both
Columbia	Kinney Run Diversion/Industrial Dr Bypass	Resiliency	Medium	Minority
Columbia	Channel Clearing and Reconstruction	Resiliency	Medium	Minority
Columbia	Walnut St Culvert Replacement	Resiliency	Medium	Minority
Columbia	Patterson Drive Culvert Replacement	Resiliency	Medium	Minority
Columbia	E. Sixth St Side Path	Active Transportation	Low	Both
Juniata	T-531 Rockland Rd	Bridge	Medium	Neither
Juniata	T-556 Foundry Rd	Bridge	Medium	Neither
Juniata	T-558 Whitehall Rd	Bridge	Medium	Neither
Juniata	T-602 Leonard Rd	Bridge	Medium	Neither
Juniata	T-602 Leonard Rd	Bridge	Medium	Neither
Juniata	T-424 Lost Creek Rd	Bridge	Medium	Neither
Juniata	Cedar Springs Rd/Industrial Park Rd	Safety	Low	Neither
Juniata	T-309 Burnt Church Rd over Trib to Tuscarora	Bridge	Medium	Low Income
Juniata/Snyder	SR 235 Safety Improvements	Safety	Low	Low Income
Mifflin	Electric Avenue/Mill St Intersection Safety	Safety	Low	Both
Mifflin	US Rt 22 Corridor Study	Congestion	Low	Both
Mifflin	Route 322 Interchange Improvement Study	Planning	Low	Both
Mifflin	T-368 (Spring Run Rd) Bridge over Kishacoquillas Creek	Bridge	Medium	Neither
Mifflin	Lewistown Amtrak Station Improvements	Rail/Transit	Low	Minority
Mifflin	Lewistown Active Transportation Plan Downtown to Amtrak Station Implementation	Active Transportation	Low	Minority

Continued next page



Montour	US 11, Railroad St, East Market St H & H Study	Resiliency	Low	Both
Montour	US 11 and PA 54 Access Management Plans	Planning	Low	Both
Montour	US 11 / Woodbine Ln Geometric Improvements	Congestion	Medium	Minority
Montour	Market St/Railroad Street Roundabout	Congestion	High	Both
Montour	Bloom Rd, Woodbine Ln, Kaseville Rd ROW Acquisition	Safety	High	Minority
Montour	Wall St/State Hospital Drive Corridor	Safety	Low	Both
Montour	Liberty St Extension	Congestion	High	Both
Montour	Railroad St Realignment	Safety	High	Minority
Montour	New Geisinger Access/Alignment from PA 54	Congestion	High	Neither
Montour	North Branch Canal Trail, Bloomsburg to Berwick and Warrior Run Trail	Active Transportation	Low	Minority
Montour	Railroad St Bridge	Bridge	Medium	Both
Montour/Northum	New Susquehanna River Bridge	Bridge	High	Minority
Northumberland	Liberty Hollow Rail Trail	Active Transportation	Low	Neither
Northumberland	I-180/PA 54 Interchange	Planning	Low	Neither
Northumberland	Mount Carmel to Sunbury Multi-Use Trail	Active Transportation	Low	Neither
Northumberland	Shamokin Creek Greenbelt to Sunbury Multi-Use Trail	Active Transportation	Low	Low Income
Northumberland	Sunbury St/Rt 61 corridor improvements	Active Transportation	Low	Both
Snyder	University Ave./Market St Pedestrian Crossing Improvements	Active Transportation	Low	Minority
Snyder	Swinehart Rd Bridge	Bridge	Medium	Low Income
Snyder	US522/Salem Rd/University Ave Safety Improvement	Safety	Low	Neither
Snyder	Norfolk Southern Bridge over Susquehanna Rehab	Rail/Transit	Medium	Neither
Snyder	US 522 Improvements Study	Active Transportation	Low	Low Income
Snyder	Middleburg Borough Traffic Study	Safety	Low	Low Income
Snyder	Dock Hill Rd	Bridge	Medium	Low Income
Snyder	US 522 Interchange Study	Planning	Low	Minority
Snyder	CSVT Southern Section Special Impact Study	Planning	Low	Minority
Snyder	US 11 & 15 Traffic Signal Enhancements	Operations and Management	Low	Minority
Union	Hummels Wharf to Shamokin Dam	Operations and Management	Low	Both
Union	Kelly Township Signal Improvements	Operations and Management	Low	Both
Union	T-421 Gregg Twp, Union Co	Bridge	Medium	Both
Union	Rehab/Replacement of County Bridge 2	Bridge	Medium	Neither
Union	Red Bridge T-319 Rehab	Bridge	Medium	Neither
Union	Hospital Dr/JPM Blvd Roundabout	Safety	High	Both
Union	Allenwood Village to Montgomery Borough	Active Transportation	Low	Neither
Union	Multi-Use Riverfront Trail	Active Transportation	Low	Neither
Union	Buffalo Valley Rail Trail Western Extension	Active Transportation	Low	Neither
Union	SR 15 & Beagle Club Rd/River Improvements	Safety	Low	Minority
Union	New Columbia Park and Ride	Park and Ride	Low	Both
Union	Buffalo Valley Rail Trail US 15 Crossing	Active Transportation	Low	Both

Overall, the SEDA-COG MPO has considered the needs of traditionally underserved populations in the development of this LRTP update in order to ensure that the transportation program is equitable to all populations.



9.5 APPENDIX D: Agency Coordination Meeting Summary

**SEDA-COG METROPOLITAN PLANNING ORGANIZATION
LONG-RANGE TRANSPORTATION PLAN
2021 UPDATE
March 24, 2021
10:00 A.M. – 12:00 P.M.
Teleconference/Videoconference Meeting**

**Agency Coordination Meeting
SUMMARY**

INTRODUCTION:

Nicole Aucker gave an overview of future ACM meetings and updates, followed by an introduction into SEDA-COG MPO's LRTP.

SEDA-COG MPO LRTP & ENVIRONMENTAL BUFFER ANALYSIS:

Don Kiel introduced himself, Jim Saylor, Katherine Wilde and the consulting team. An overview of SEDA-COG MPO, the Long-Range Transportation Plan, and environmental buffer analysis followed.

SEDA-COG MPO Region

- SEDA-COG Region is a local development and economic district comprised of 11 counties in central Pennsylvania. Various programs include transportation, weatherization and housing, economic and community development, a joint rail authority, and a natural gas cooperative.
- SEDA-COG MPO as a transportation planning organization is comprised of eight counties. The region is rural with small urban areas and a population of around 400,000 in its member counties. There are 6,700 miles of highway that traverse the region and 2,200 bridges. The region is served by PennDOT District 2 and District 3.

Long-Range Transportation Plan Update

Features of the Plan Update

- The last plan update took place in 2011, since that time there have been a number of changes to the process. Additional and more meaningful data has been added to the approach, in addition to the identified Corridors of Opportunity. Performance-based planning and performance measures have been incorporated into the process. Geographic Information Systems (GIS) have also been brought into the process, with a goal to create a perpetual dashboard where data is kept up to date for use in the next plan update.
- SEDA-COG's data-driven approach aligns with PennDOT's increasing data coordination. PennDOT has been rolling out initiatives to better maintain data and is in the early stages of developing a proposed data repository. This will assist in data sharing, planning, and analysis.
- The COVID-19 pandemic has had many domino effects within the MPO, and on other government levels, that have caused a need for SEDA-COG to be more flexible through the LRTP update process.



Project Steps and Schedule

- The MPO is in the final stages of the project schedule. The first round of outreach with the first draft will soon take place, followed by a 30-day public review and comment period that will include a virtual public meeting. Adoption will take place on June 25th.

Agency Input and Project Impact

- SEDA-COG requested input from the agencies as the presentation progresses. A few thought-provoking questions included:
 - What databases and information should we be looking at?
 - What mitigation opportunities are recommended?
 - What agencies/who should we be talking to at the regional level?

Twelve-Year Plan Projects in SEDA COG MPO Region

- SEDA-COG is focusing on the Twelve-Year Plan projects that include 370 projects. These projects have been mapped and overlayed with potential impact layers. Using a 250-foot buffer on each of the projects, the MPO was able to determine potential impacts that could occur.

Summary of Project Impact Screening Analysis

- All Twelve-Year Plan projects' average distribution of impacts were summarized. Agriculture impacts (25 percent), flood/resiliency (21 percent), water quality (15 percent) and environmentally sensitive (15 percent) were the most heavily impacted.
- By looking at the percentage of projects that impact each sector, historic properties (81 percent), agricultural impacts (74 percent), and environmentally sensitive (44 percent) were among the highest.

Project Impact Screening Analysis Examples

- Flood and Resiliency Impacts in Columbia County – layers that were incorporated into the determination of impacts included the 100-Year Floodplain, Approved Act 167 Watershed, Hydric Soils, and Hazard Mitigation Assistance Program Properties. An example of Columbia County shows there are groupings and clusters of projects within these layers that will need further consideration.
- Waterway and Hydric Soils Impacts in Juniata County – A rural section of Juniata County has a number of bridge improvement projects. Layers in these areas, such as Hydric Soils, Prime Farmland Soils, Chapter 93 Existing and Designated Use Streams, and Class A Trout Streams, all are cause for further consideration in regard to mitigation and wetland banking.
- Agriculture and Soils Impacts in Clinton County – Prime Farmland Soils, Agricultural Easements, and Soils of Statewide Importance are present in Clinton County with a cluster of projects.
- Archeological and Historic Properties Impacts in Montour County – In Danville, there are a number of Historical Properties ranging from old trails, old canal features, and railroad facilities.
- Waste Sites Impacts in Union County – The Lewisburg/Milton area is a more densely populated area of the MPO with transportation facilities on each side of the river. Given these characteristics, there are many projects that are clustered in this area. Potential impacts in this



area include Storage Tanks, EPA Sites, Captive Hazardous Waste Locations, Municipal Waste Sites, and Land Recycling Locations.

Analysis and Opportunities for Programmatic Mitigation

- Mitigation efforts have been identified by SEDA-COG that include wetland banking, preservation projects for historic bridges, and more funds being allocated to historic preservation (metal truss and covered bridges).

Unique Opportunities and Issues

- Unique Opportunities and Issues identified by SEDA-COG include:
 - Dirt & Gravel Roads Program: This relates to historic bridges.
 - Stormwater studies: These studies occur frequently in the MPO. Specifically, along US 11 in Bloomsburg, a study was recently completed. A study in Shamokin will be taking place shortly. These are topic areas SEDA-COG will be attentive to.
 - Lewisburg Market Street study: SEDA-COG is currently working with the study group on implementation.
 - Mid-Susquehanna Active Transportation Committee: Since the last LRTP update, SEDA-COG has worked to establish the Committee.
 - Provision of river access and boat access is also an area of focus.

Central Susquehanna Valley Thruway Update

- This is a major project in the area that will have far reaching, long lasting effects as the facility begins to open, with the northern segment opening in 2022, and the southern section opening in 2027. SEDA-COG is planning now for these forthcoming impacts, and the project itself is a major theme within the LRTP.

Agency Feedback

- In addition to feedback provided prior to this meeting from FWS, a few suggestions were provided:
 - The Natural Heritage Area Polygons would be beneficial in the MPO's analysis. This layer can be accessed through the Conservation Explorer map.
 - The Pennsylvania Fish and Boat Commission is working on a new strategic plan regarding boat access. Laurel Anders would be the contact for this project.

SEDA-COG Metropolitan Planning Organization

Long Range Transportation Plan (LRTP) 2021-2045

Agency Coordination Meeting

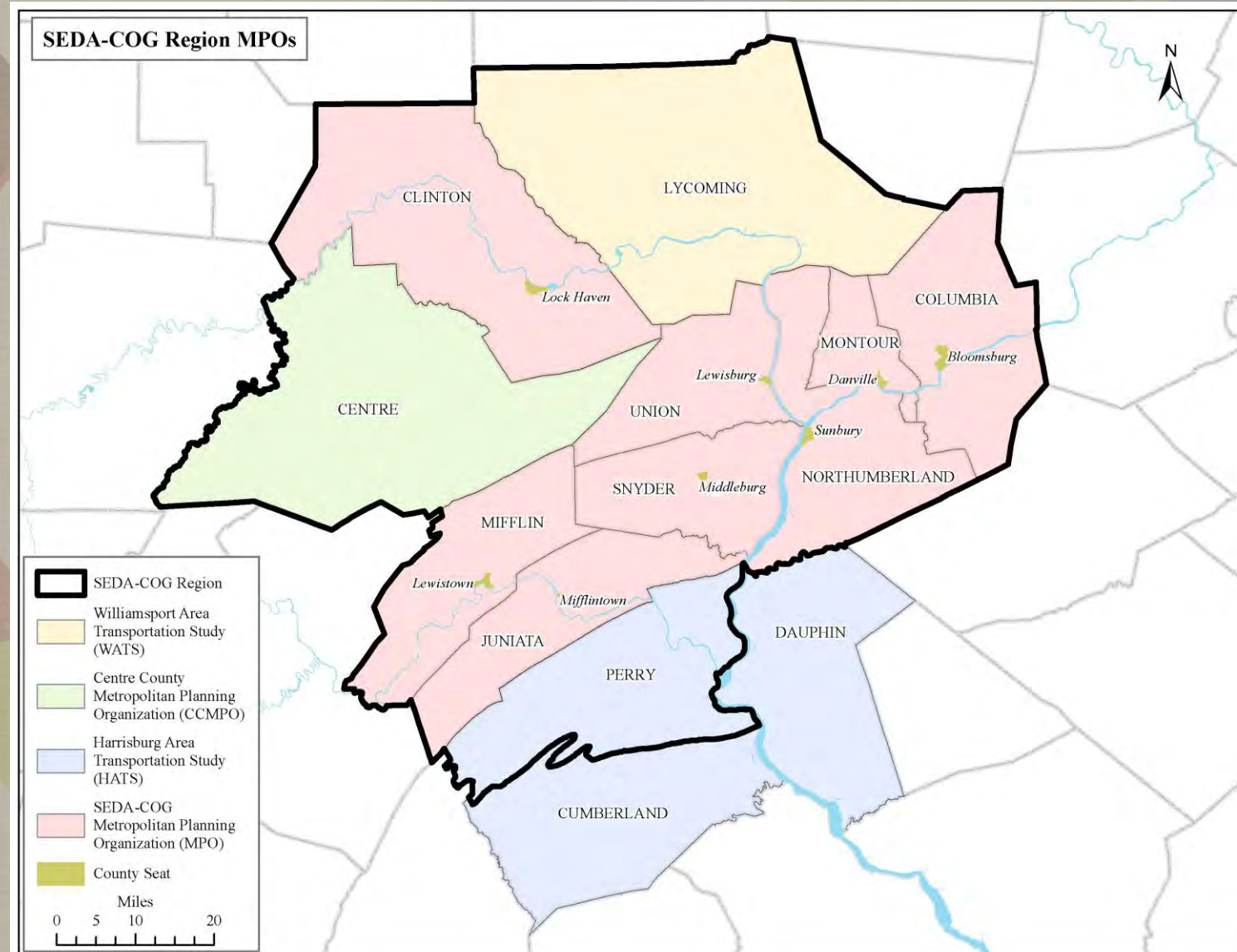
March 24, 2021



**Don Kiel
Jim Saylor
Katherine Wilde**

SEDA-COG MPO Region

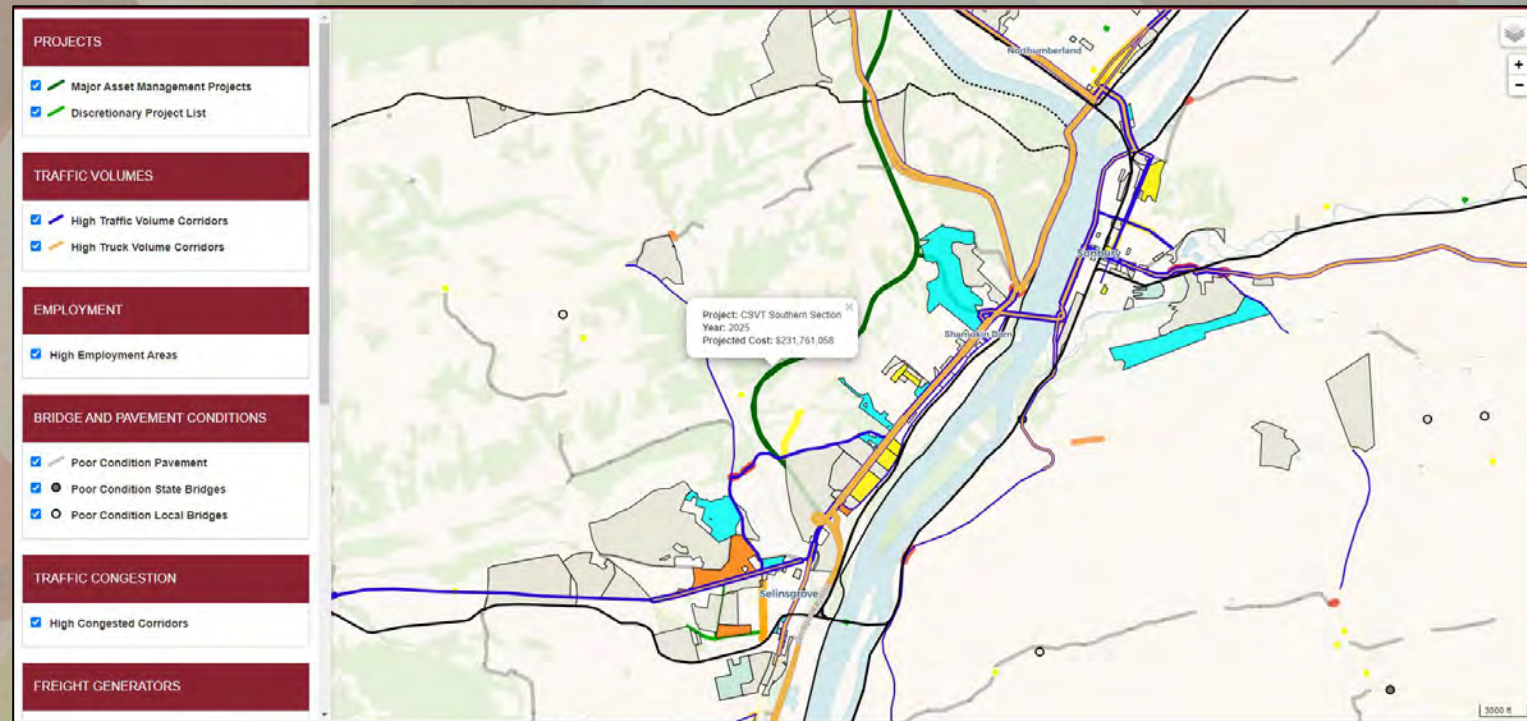
- The official transportation planning organization for 8 of SEDA-COG counties—Clinton, Columbia, Juniata, Mifflin, Montour, Northumberland, Snyder, and Union.



Features of the Plan Update

- Significant changes in project approach:
 - Bringing more meaningful data into the process
 - Designation of **“Corridors of Opportunity”**
 - Incorporation of Performance-based Planning
 - Increased use of GIS - online
 - ✓ Could grow into “perpetual dashboard”
 - ✓ Data to be better maintained over time, after LRTP is adopted
 - ✓ Increasing PennDOT data coordination with proposed data repository

“Corridors of Opportunity” Example



Project Steps and Schedule

Schedule for 2021 Long Range Plan Update

				F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
Project Start	2/7/2020																			
	5/4/2020	10/31/2020	Project List Development																	
	7/1/2020	12/4/2020	Develop Project Viability Model																	
	11/20/2020	11/20/2020	Initial Draft Plan Completed																	
	11/20/2020	12/4/2020	MPO Review of Initial Draft Plan																	
	11/20/2020	1/19/2021	Project Scoring and Selection																	
	11/20/2020	1/22/2021	Corridors of Opportunity Analysis																	
	12/1/2020	12/8/2020	Conduct District Strategy Days																	
First Round Outreach	12/1/2020	1/29/2021	Develop Public Outreach Web Site																	
	2/1/2021	2/28/2021	Perform Stakeholder Outreach																	
	2/1/2021	2/28/2021	Perform Public Outreach through Web Site																	
Final Edits of Draft Plan	2/28/2021	3/12/2021	Review Initial Public/Stakeholder Engagement Results																	
	2/19/2021	3/19/2021	Complete Final Draft Plan																	
	2/28/2021	3/19/2021	Project Fiscal Constraint Analysis, Impact Analysis																	
	2/28/2021	3/19/2021	Complete Environmental Justice Assessment																	
Second Round Outreach	5/21/2021	5/21/2021	Release Final Draft Plan for Public Review and Comment																	
	3/24/2021	3/24/2021	Present Summary of Plan at Agency Coordination Meeting in Harrisburg																	
	6/3/2021	6/3/2021	Virtual Public Meeting																	
	5/23/2021	6/22/2021	Public Comment Period																	
Finalization of Plan	6/22/2021	6/25/2021	Address Final Public/MPO Comments on LRTP																	
MPO Adoption	6/25/2021	6/25/2021	Adoption of final Plan at MPO Meeting, Publication																	
Project End		7/15/2021																		

Underlined cells indicate months with a scheduled MPO meeting.

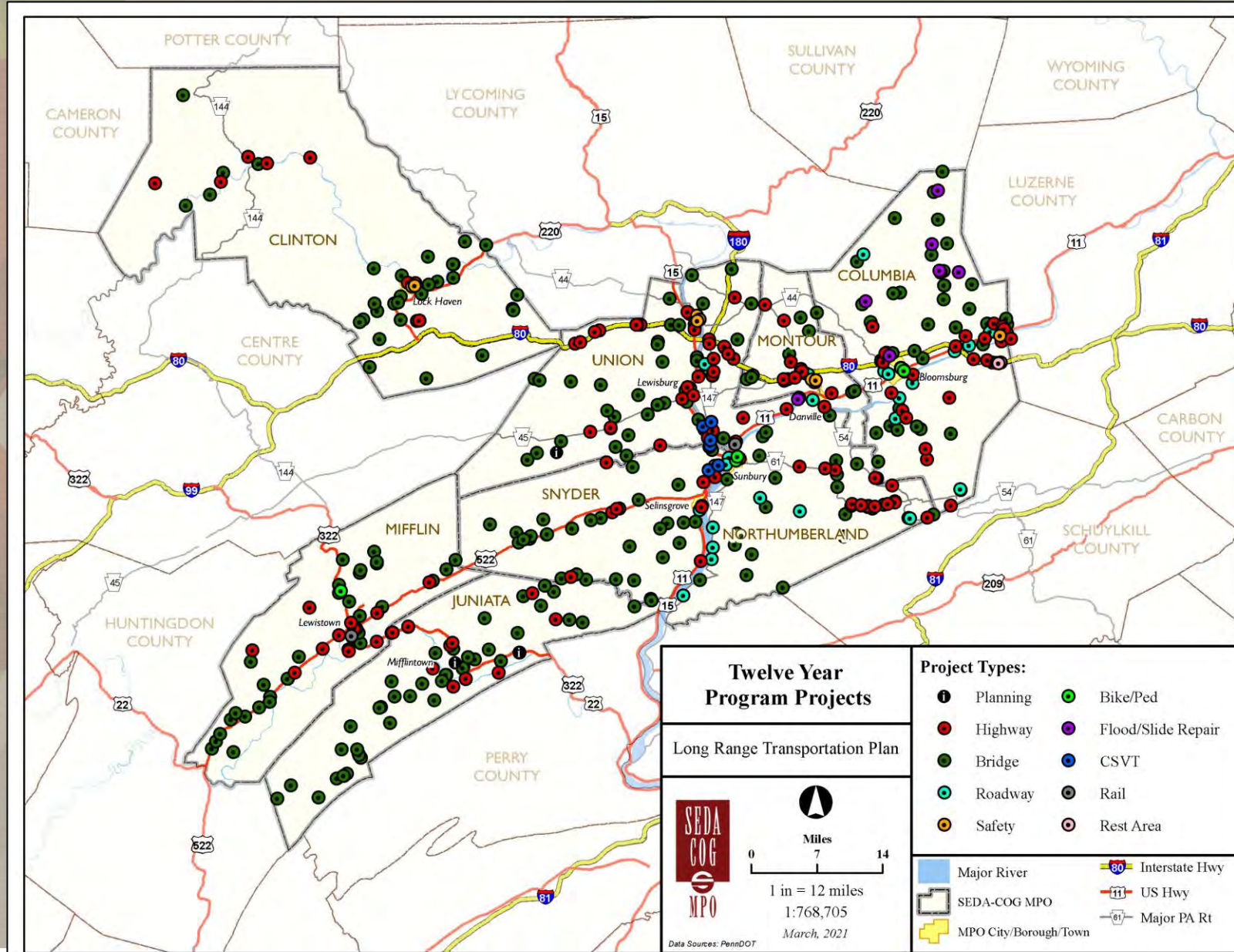
Agency Input Needed

- What databases and information should we be looking at?
- What mitigation opportunities are recommended?
- What agencies/who should we be talking to at the regional level?



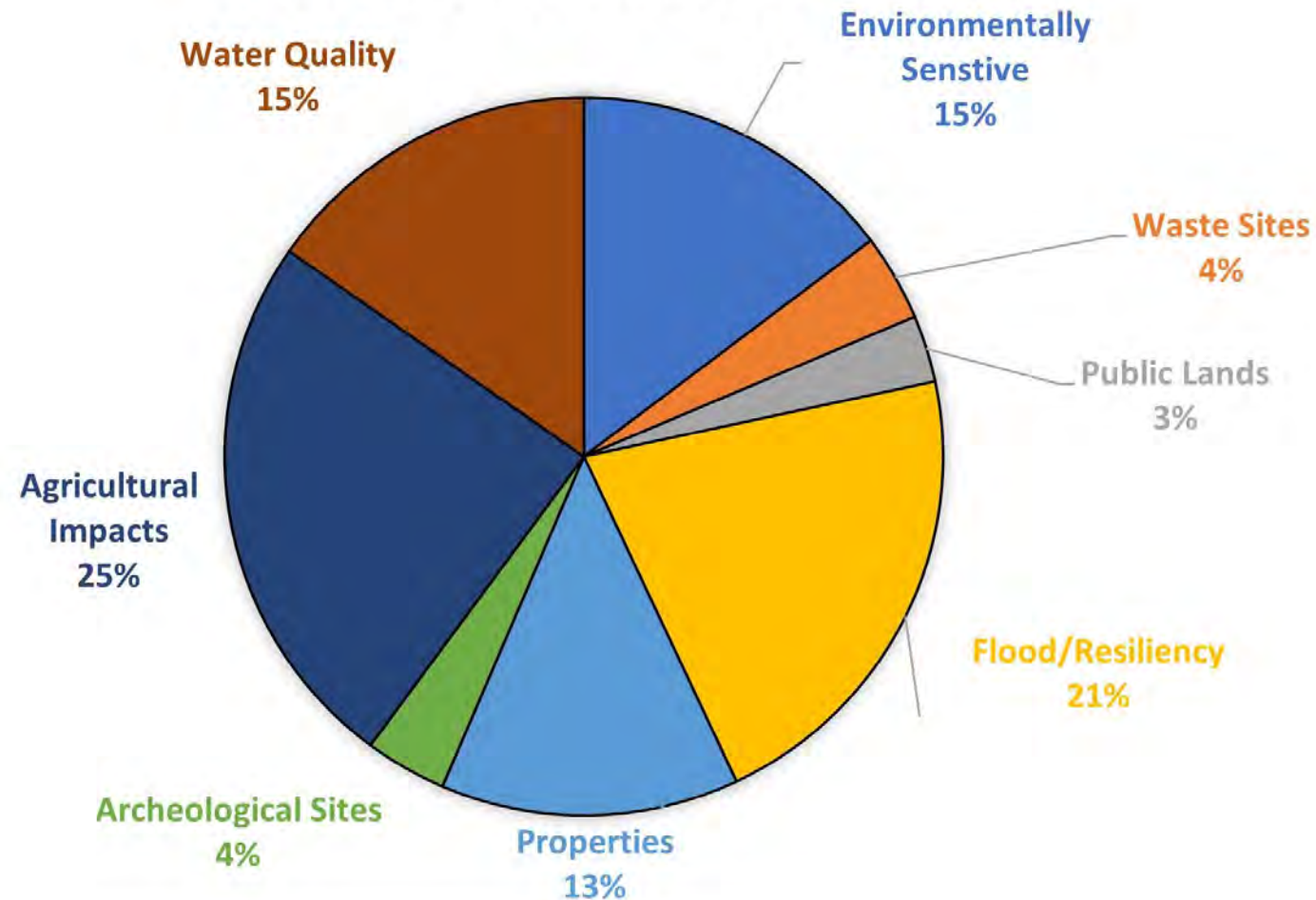
Twelve-Year Plan Projects in SEDDA-COG MPO Region

Project Type	No.
Planning	3
Highway	95
Bridge	217
Safety	4
Bike/Ped	3
Flood/Slide Rep.	7
CSVT	7
Rail	2
Rest Area	1
Total	370

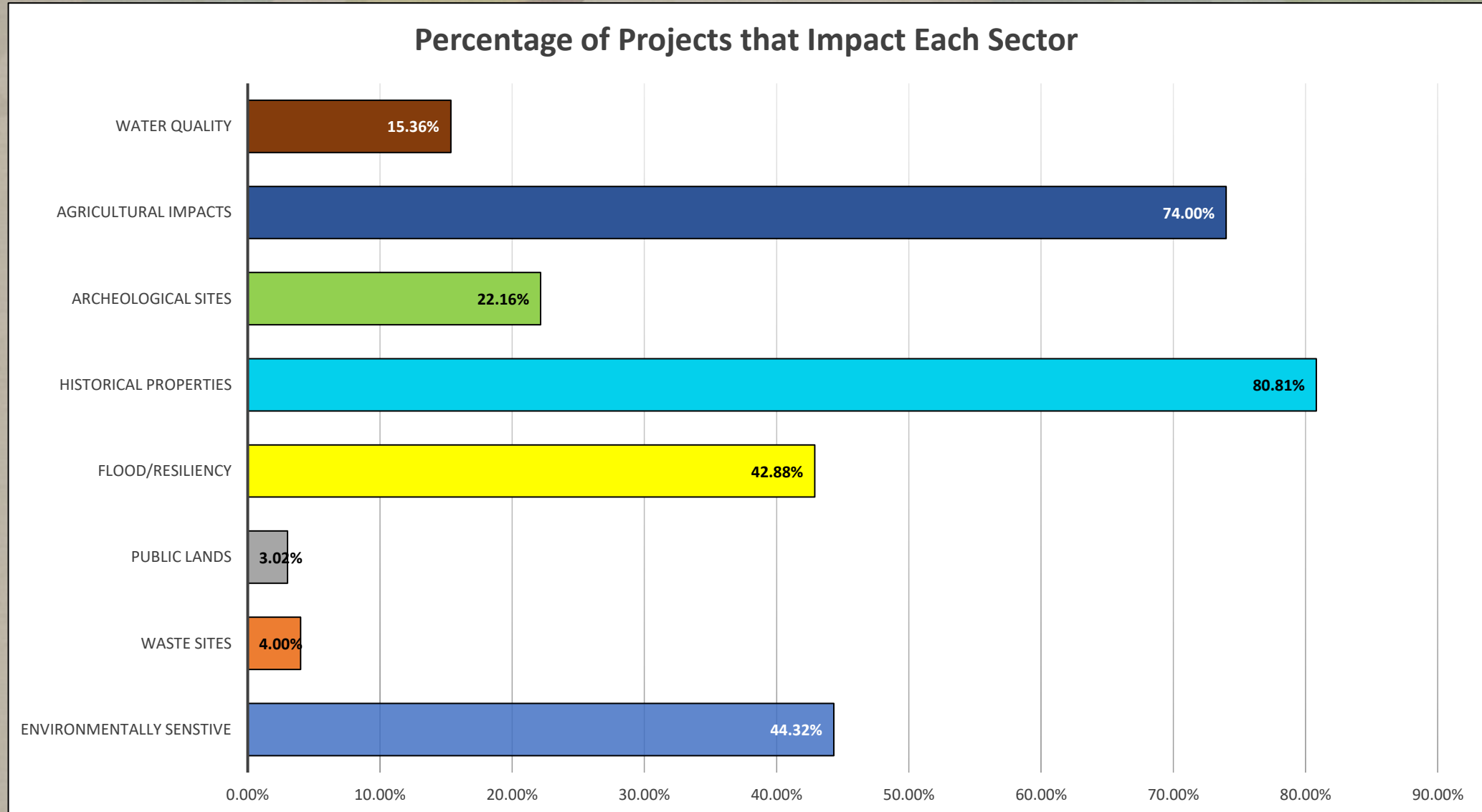


Summary of Project Impact Screening Analysis

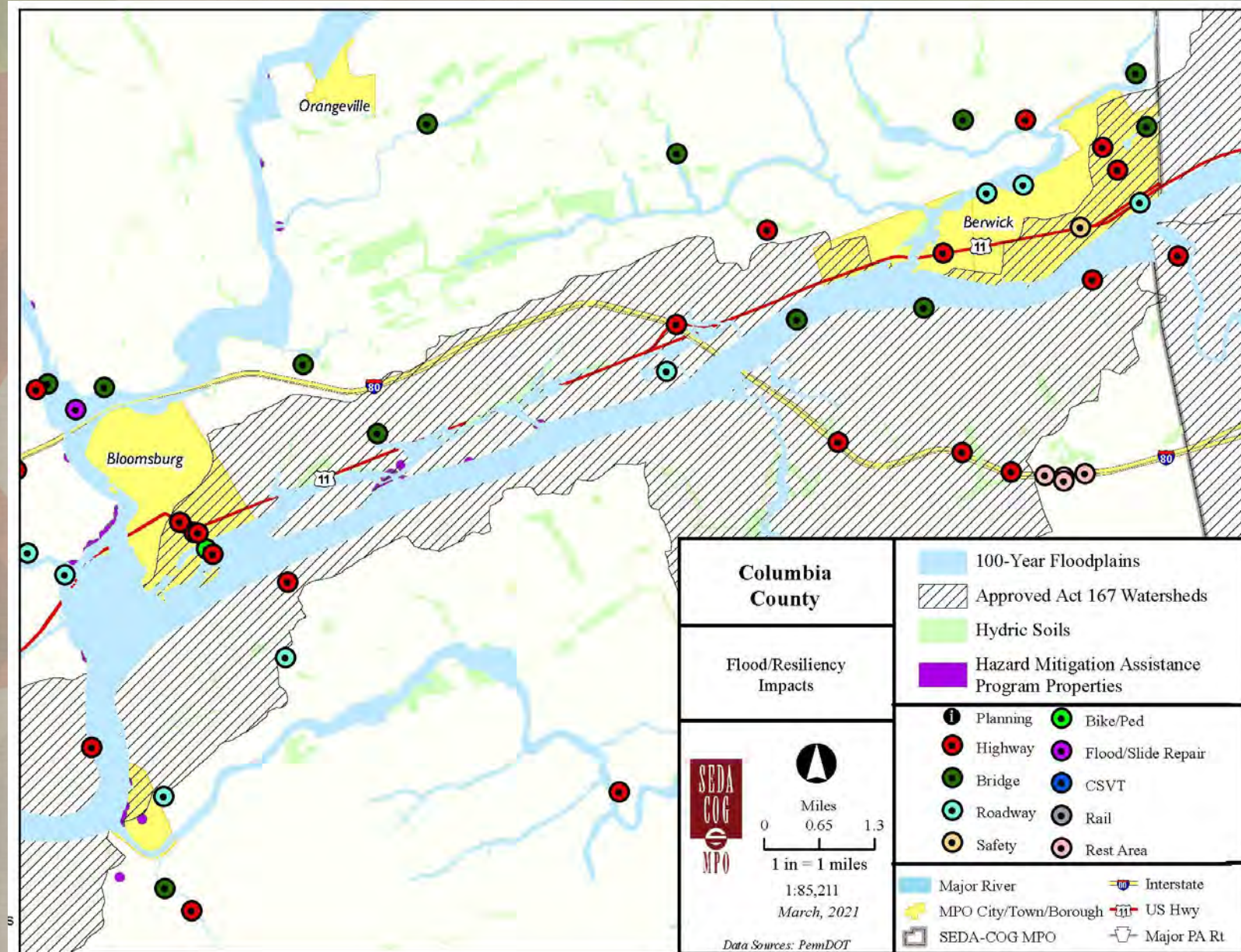
AVERAGE DISTRIBUTION OF IMPACTS ACROSS TWELVE YEAR PLAN PROJECTS



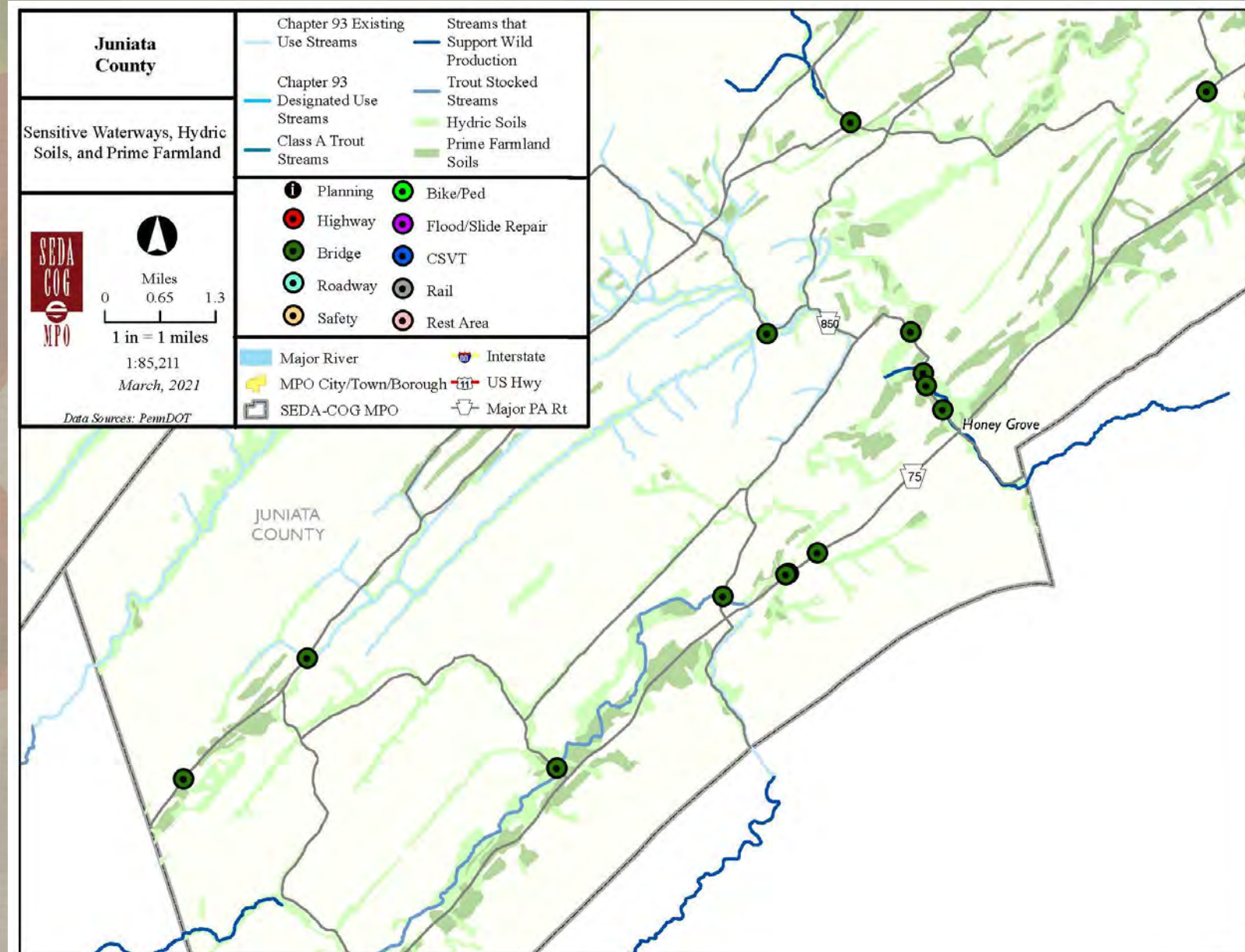
Summary of Project Impact Screening Analysis



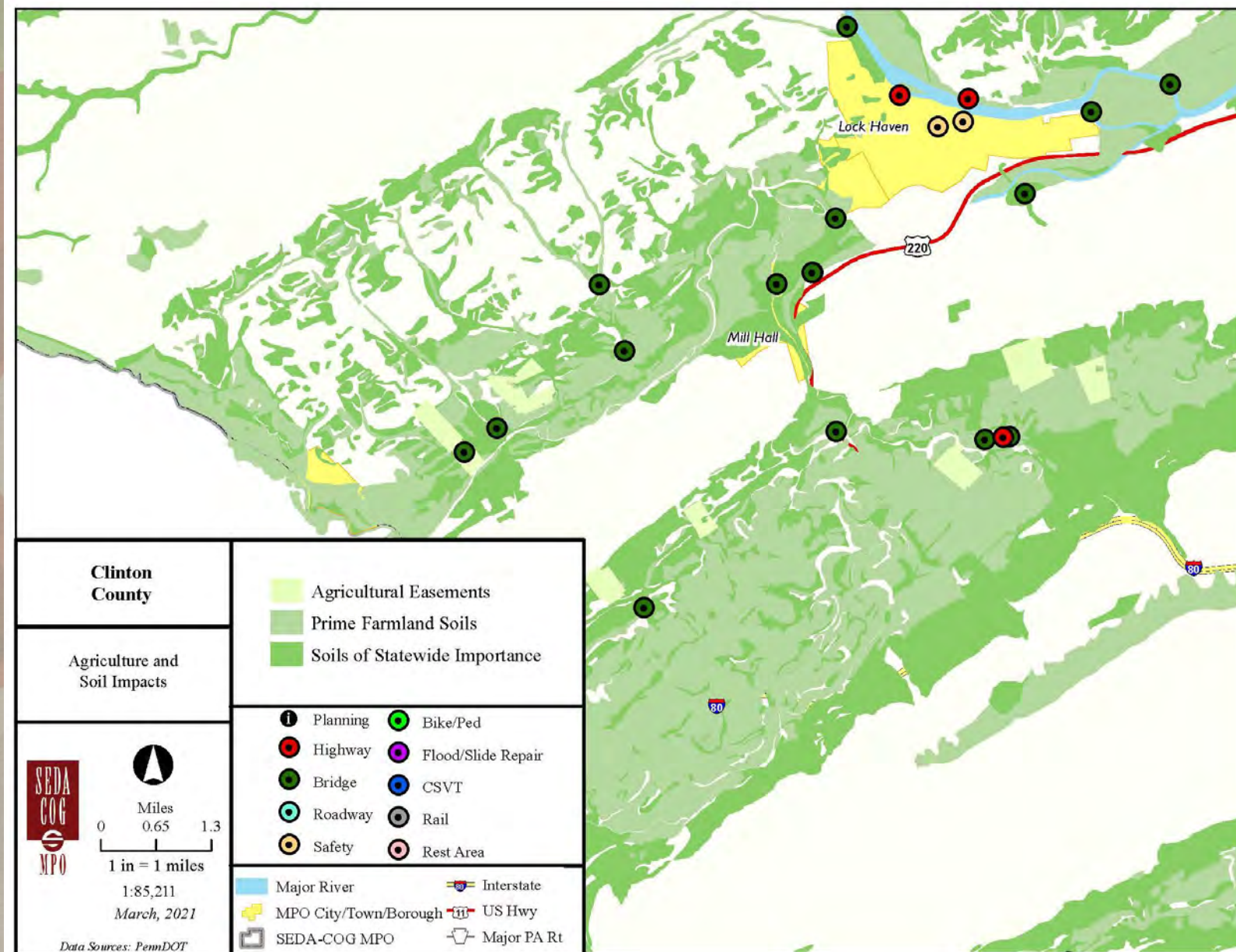
Example - Flood and Resiliency Impacts in Columbia County



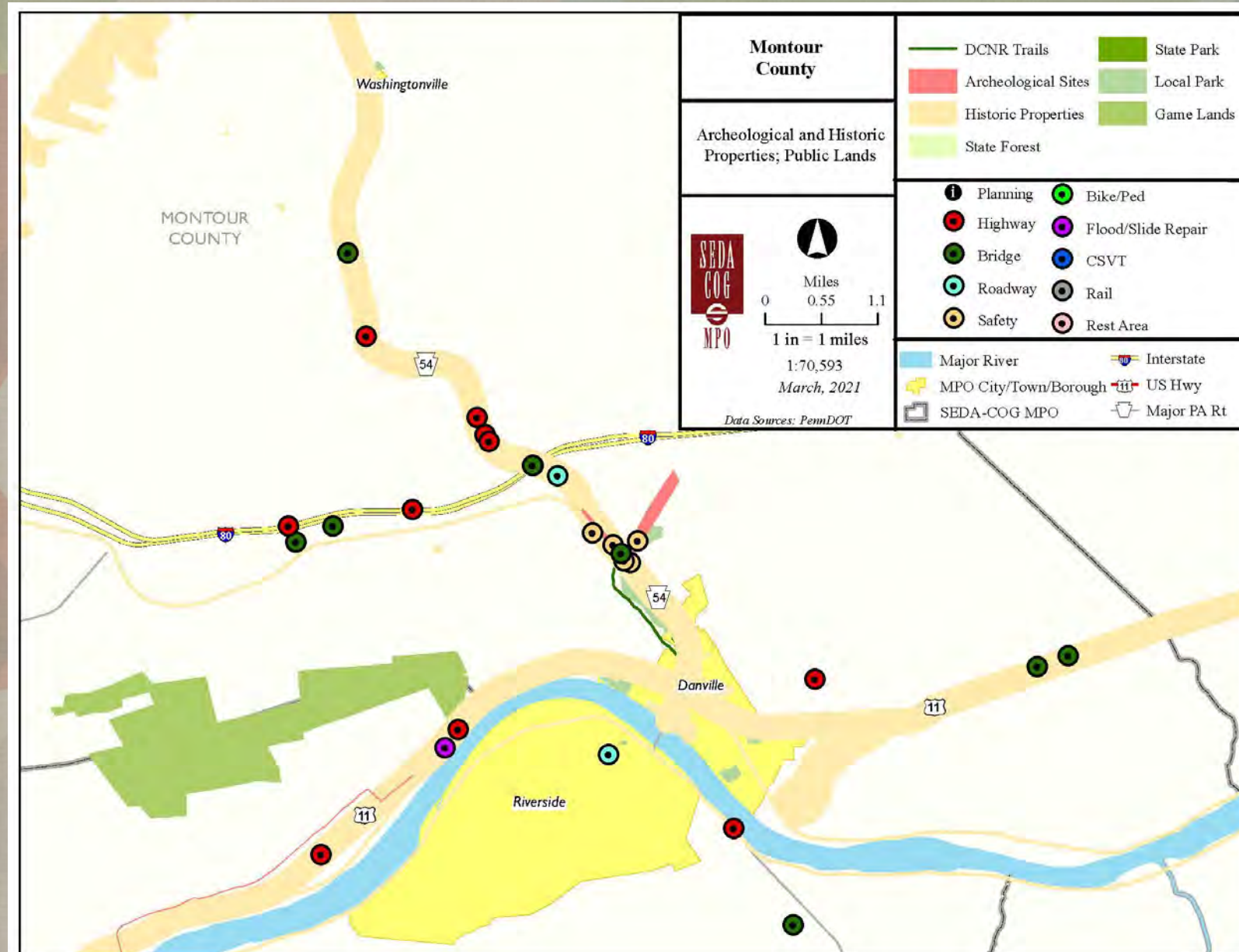
Example – Waterway and Hydric Soils Impacts in Juniata County



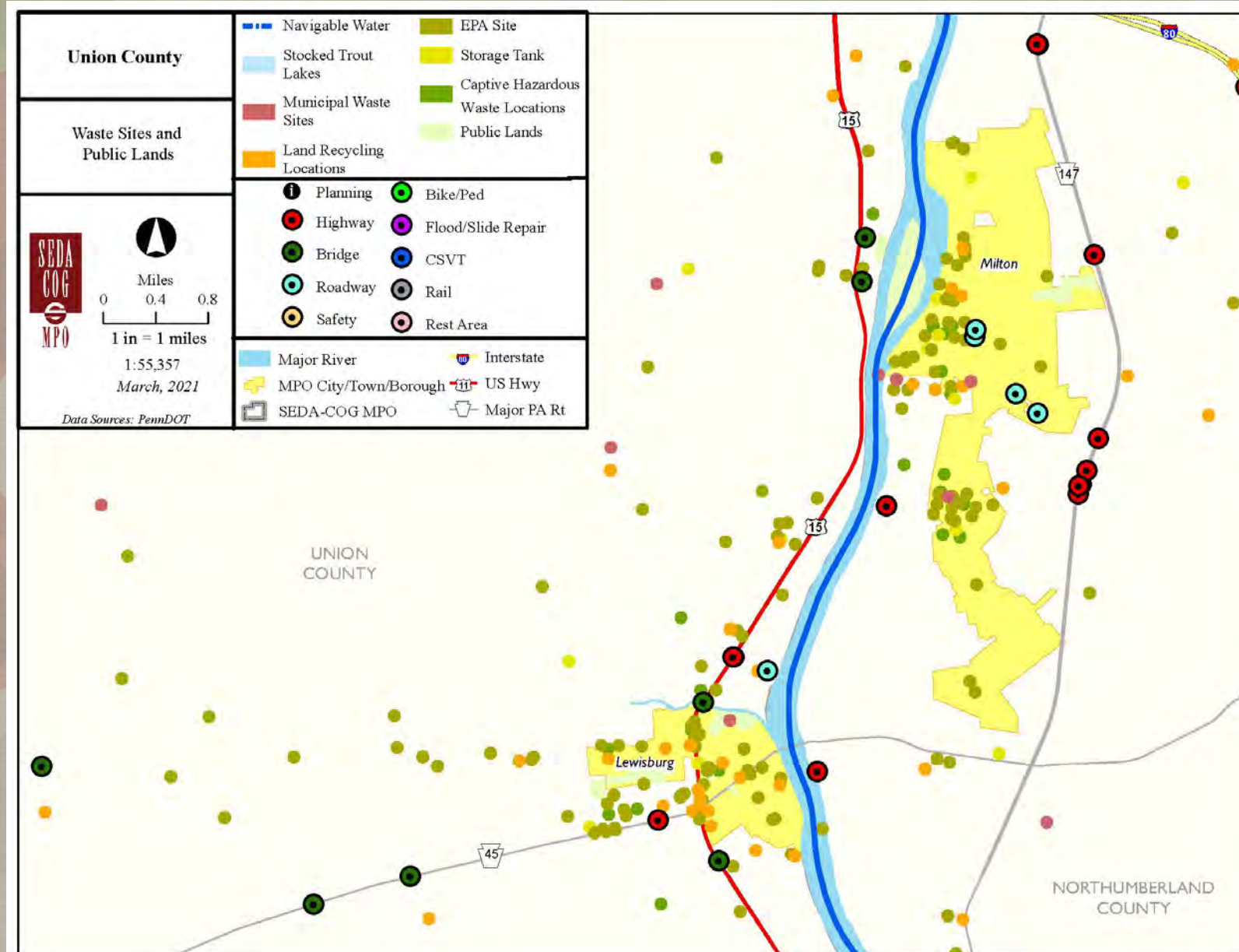
Example – Agriculture and Soils Impacts in Clinton County



Example – Archeological and Historic Properties Impacts in Montour County



Example – Waste Sites Impacts in Union County



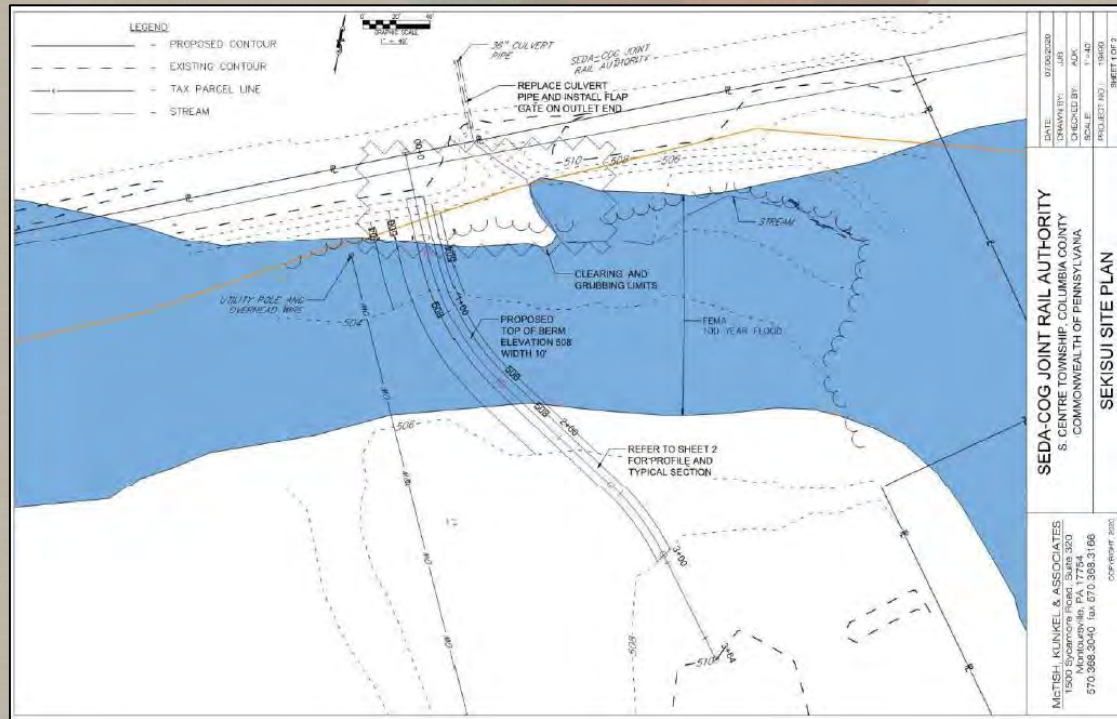
Analysis and Opportunities for Programmatic Mitigation

- Wetland banking
- Preservation projects for historic bridges
- More funds being allocated to historic preservation (metal truss and covered bridges)
- What else should we be exploring?



Unique Opportunities and Issues

Dirt & Gravel Roads Program
Stormwater studies



Lewisburg Market Street study
Mid-Susquehanna Active Transportation Committee



Central Susquehanna Valley Thruway Update

- Northern Section

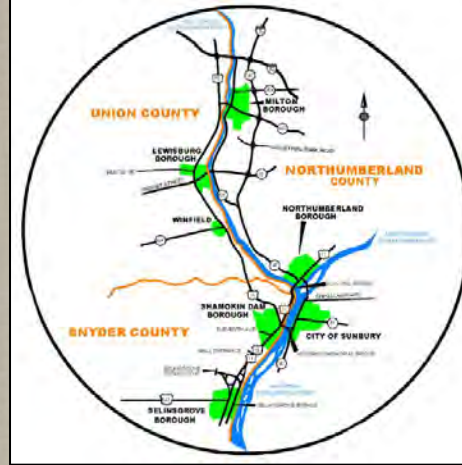
- Physical work complete on the bridge
- Paving on the bridge approaches and US 15 interchange in 2021
- Final Paving and associated Finishing work in 2022
- *On track to open to traffic in 2022*

- Southern Section

- Final design, ROW and utility coordination underway
- Waterway and wetland permits to be submitted by mid-March
- NPDES to be submitted in March/April
- Earthwork contract anticipated to be let in fall/winter of 2021
- *On track to start construction in 2022*

- Special impact study underway

- Collaboration with District 3-0 & Lycoming County
- Looking at future growth
- Providing tools for municipalities to manage development



Comments and Questions?

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