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SEDACOG’s strengths include a county-based policy board representing public and private interests, a high level of staff expertise, a commitment to innovation, and the flexibility to respond to new opportunities and challenges.

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SEDA-COG Metropolitan Planning Organization
Long Range Transportation Plan

2016-2040

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Adopted July 2016
EXECUTIVE SUMMARY

This Long Range Transportation Plan (LRTP) for the SEDA-COG Metropolitan Planning Organization (MPO) presents an overview, trend evaluation, condition assessment, and a guide for ongoing management and development of the transportation system serving the eight-county MPO region. The Plan’s goals mirror the ten federal planning factors expressed in the Fixing America’s Surface Transportation (FAST) Act, with the following overarching vision:

“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 economic vitality.”

This LRTP document assembles a summary of the inventories, processes, activities, and products produced during the 12-month plan development schedule.

Planning Themes

In many significant ways, the SEDA-COG MPO region finds itself in a transitional period, starting with the designation of the MPO in 2013 and continuing reactivation of the Central Susquehanna Valley Transportation (CSVT) project, new transportation funding through Act 89, and more prescriptive project programming philosophies, among other emerging economic and demographic trends. The transitions are developmental, as the MPO grows its role of leadership and support of transportation planning in the expansive eight-county area. The transitions are also transformational, as the impacts of the CSVT project are realized and performance-based planning exerts greater influence over project development and programming. The following key themes underpin the narratives in this LRTP:

- Identification of the Bloomsburg-Berwick Urbanized Area (UZA) led to the designation of the SEDA-COG MPO in 2013.
- Authorizing transportation legislation at the federal level moved the focus to performance-based planning, added new planning factors and changed the mix of funding programs.
- Pennsylvania Act 89 of 2013 brought significant new resources to bear, and the passage of Act 13 of 2012 made dedicated funding available for locally-owned, at-risk bridges at the county level.
- With funding available under Act 89, the project programming philosophy shifted from an exclusive focus on asset management to a carefully considered suite of repair, maintenance, and capacity projects that PennDOT has developed under the label “Decade of Investment”—including the Central Susquehanna Valley Transportation (CSVT) Project.
- Programming philosophies emphasize preservation techniques to extend the life of bridges between replacement or rehabilitation projects. Recent MPO efforts have also considered removal of closed bridges (as opposed to replacements) and bundling of local bridge projects for cost savings.
- Sustained oversupply of natural gas has led to a significant decrease in commodity prices for gas and oil, and drilling efforts in the Marcellus region have dropped off, reducing highway traffic and demand for rail service. It remains to be seen whether or not (and to what extent) gas drilling activity will resume in the future.
- Regionalization of transit services and the emergence of rabbittransit as the operator of transit services in four of the eight MPO counties are changing how public transportation is delivered.
Planning Outcomes

The planning outreach and activities worked progressively from identification of plan goals and transportation issues, through project identification and prioritization, and ultimately to a fiscally-constrained listing of 37 transportation projects that achieve the plan goals and fit the funding available from 2029 to 2040. The following planning outcomes are notable.

Regional Transportation Context

The SEDA-COG MPO planning region is characterized by its expansive size, encompassing more than 3,500 square miles, with a population of about 375,000 (2010 Census) throughout a web of urban clusters interspersed with large tracts of rural agricultural and forested land. The largest of the urban clusters—the Bloomsburg-Berwick UZA with a population of about 53,600 (2010 Census)—triggered the transition of the former Rural Planning Organization (RPO) to Metropolitan Planning Organization (MPO) status in 2013.

The MPO region has experienced modest growth during the last 10 years, with population and employment growth rates near the Pennsylvania average. Similar long-term growth rates are expected in the future. Ongoing growth in the Plain Sect communities (Amish and Old Order Mennonite) has raised attention to the accommodation and safety of horse-drawn vehicle traffic.

According to SEDA-COG’s 2014 survey of local stakeholders, transportation is generally viewed as a strength of the MPO region. The following transportation system elements were documented:

- The highway system includes more than 6,700 miles of roadway. Major highway routes include Interstates 80 and 180, US 220, US 11, US 15, and US 322. Completion of the $670 million Central Susquehanna Valley Transportation (CSVT) Project is planned for 2024 and will complete a 13-mile limited-access highway connection between US 11/15 south of Selinsgrove and I-80. The project is currently the largest new highway project in the state and presents the SEDA-COG MPO with a significant planning challenge.

- Transit service is almost entirely demand-responsive. Minimal passenger rail service is currently provided between Harrisburg and Pittsburgh (Pennsylvanian Line), with a station in Lewistown. Transit agencies are currently considering regionalization of services, whether through agency consolidation or contracting of services with outside operators.

- Freight rail service is significant, with two class 1 railroads and active short-lines. The SEDA-COG Joint Rail Authority is active in six of the eight MPO counties, overseeing approximately 200 miles of rail infrastructure and keeping it intact through public ownership.

- The MPO region is served by nine general aviation airports.

- The MPO region currently includes two rail-trails and other land and water trails. While most of the current trails network is recreational in nature, public and agency interest in formalizing and growing the functional and recreational trails networks are driving new discussions of how the region plans, funds, and maintains the trails and greenways network.
Core Transportation Inventories & Trends

The Core Inventories and Trends provide a systematic, data-driven evaluation of transportation infrastructure condition, travel demand, roadway safety, and system operation.

- The higher-level highway systems are in comparatively good condition, with mostly “good” and “excellent” pavement quality and bridge conditions meeting or exceeding PennDOT targets. As a result, SEDA-COG MPO has maximum flexibility in deciding its investment priorities.

- The MPO region’s Highways carry approximately 10 million vehicle-miles per day, with a decreasing trend of about one percent per year noted from 2010 to 2014.

- With construction of the CSVT Project, significant traffic congestion issues will be addressed; future traffic congestion will likely be concentrated on the I-80 corridor and at certain intersection and interchange points along US 522 and US 11.

- Trends in highway fatalities, serious injuries, and associated rates indicate that future targets are currently being achieved in the SEDA-COG MPO region. PennDOT and SEDA-COG MPO continue working toward the Federal goals for crash reduction and the aspiration for zero highway deaths through roadway safety reviews and other coordinated efforts for targeting high crash locations.

Issues & Implications

The Issues and Implications explore the “transitions” planning theme organized around the highest priority issues identified in the 2015 SEDA-COG MPO Strategic Plan.

A. Central Susquehanna Valley Transportation Project

The CSVT is a major capacity-adding project. The new roadway will address a major freight and passenger bottleneck. The CSVT is being designed in two sections with construction of the Northern Section commencing in 2016. Construction of the Northern Section is anticipated to be completed by 2021 and the Southern Section by 2024. Implications of the CSVT include:

- A 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 around interchanges providing local access.
- A need for recalibration of the impacted travel corridors in terms of functional classification, network classification (Business Plan, Corridor Modernization), operations and future maintenance needs.
- There is broad consensus that the land use and economic effects of CSVT deserve additional study, beyond what is provided in the CSVT Environmental Impact Statement (EIS). However, the method and driver of the study has not yet been established.

B. Economic Development

The current trend in economic development is from traditional, large scale manufacturing industries to smaller, technology-driven manufacturing and service industries. In terms of the MPO region’s economy, improving transportation infrastructure and services should improve the vitality of the
region’s downtowns and urban cores, connect workers to available jobs, and lower shipping costs for freight haulers. Per the 2015 Strategic Plan:

- There should be consideration as to overlapping priorities (i.e., Appalachian Regional Commission) that could assist project funding.
- The MPO should advocate and actively plan for improvements on strategic highway corridors in order to improve economic opportunities in the region.

The June of 2015 Comprehensive Economic Development Strategy (CEDS), updated for the entire 11-county SEDA-COG region, identified two Economic Development Centers (EDC’s) - the Bellefonte-State College EDC (Centre County) and the Central Susquehanna EDC. Only the Central Susquehanna EDC includes the MPO region. Planning issues identified in the CEDS and related to economic development include:

- Combining of the Transsearch data (freight data), the analysis from the SEDA-COG Comprehensive Economic Development Strategy (CEDS) and the new Commodity Information Management System (CIMS) tool available from PennDOT should be investigated moving forward.
- Efforts must be made to maintain the menu of enterprise development technical assistance services and to increase entrepreneurship opportunities and assistance.
- The region's basic infrastructure (water / sewer facilities, telecommunications, natural gas infrastructure, inter-regional transportation systems - rail, airports, and surface transportation, industrial parks / designated growth areas) needs to be upgraded and/or expanded.

C. Transportation Investment and Funding

Previous Transportation Improvement Programs (TIPs) have seen a decline of capacity adding projects. In addition, recent PennDOT financial guidance recommends that, as a rule of thumb, 90% of the TIP be allocated to maintenance. Spending trends clearly show a move toward asset management activities. Two other fundamental changes noted in funding include allocations are made more and more on a performance basis and more transportation funding is available through competitive grant programs. Issues related to these funding trends include:

- The Transportation Alternatives Program (TAP) process needs to be modified to ensure project continuity throughout the region.
- More education is needed on the state’s new Multimodal Transportation Fund to ensure that the region is proposing the best candidate projects that can successfully compete for these funds.
- Innovative funding solutions may be necessary to ensure projects are able to be completed. Partnerships for infrastructure investment are becoming increasingly necessary as public solutions become more constrained.
- Project funding priorities can sometimes be challenging for municipal officials in rural areas.
- Emerging State priorities may reduce the amount of funding available for transportation such as Act 13 funds - which could be redirected by the new administration.
The implications for the SEDA-COG MPO and its constituencies include the following:

- Increased need for education about the funding programs available and their eligibility.
- Increased importance of winning in competitive programs.
- Increased need for support in assembling functional partnerships and leveraging Public Private Partnerships (P3).
- Assisting local governments in understanding the Local Use Fund provision of Act 89.

D. Bridges and Asset Management

Trends for bridges and asset management include a move from bridge replacement only to maximum benefit strategy and from local only strategies to regionalized strategies and decision-making processes. PennDOT measures bridge condition by whether it is structurally deficient, which is an indication of a bridge’s overall status in terms of structural soundness and ability to service the traveling public.

The 2015 Strategic Plan stated that the region’s LRTP should seek to quantify the asset management demands of the system as part of a process to balance the economic development and adequate maintenance for the system. Specific strategies included collaboration with PennDOT to identify possible bridge bundling projects, further exploration of how PennDOT’s P3 Rapid Bridge Replacement Program has affected the region and remaining needs, use of the eight to twenty feet long bridge inventory for municipal outreach and to develop a municipal capital improvement program for SD local bridges that includes a training/assistance program, and investigation of potential funding streams for local bridges.

During the past several updates to the TIP, the members of the MPO have noted difficulty in programming local bridge projects on the TIP. They have also noted that several of the projects programmed have encountered a range of difficulties in moving to construction. As a result, trends in local bridge conditions show an increase in structurally deficient bridges and deck area, which is in stark contrast to the trends on the state system.

Working with a Local Bridge Subcommittee, the following activities were prioritized for MPO staff to provide more information to local owners of bridges:

- Continue to schedule LTAP sessions on classes related to local bridges on a regular basis.
- Schedule technical assistance sessions as requested, and work to make sure that local officials are aware of the option to schedule a technical assistance session on issues related to local bridges, the installation of GRS construction materials, and related topics.
- Develop a resource guide for local officials identifying funding programs that can be used in local bridge work. Post the guide on the SEDA-COG website, and publicize it at county conventions and other venues.
- Continue efforts to complete and share the inventory of local bridges between eight and twenty feet in the SEDA-COG area.

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1 SEDA-COG MPO, Outcomes and Recommendations from the SEDA-COG MPO Metropolitan Planning Organization Local Bridge Subcommittee, DRAFT dated January 26, 2016.
• Support county-led efforts to inspect, maintain and repair locally owned bridges between eight and twenty feet long.
• Support county-led efforts to find and apply low-cost replacement methods, including open-bottom aluminum culverts, pipe replacements and other locally developed solutions.

The Local Bridge Subcommittee also considered a bridge prioritization methodology, developed by the MPO staff, for scoring bridges based on ten factors, including condition, context, county priority, local impact, and resiliency.

E. Corridor Modernization

A recent trend in transportation planning has shifted from segmented, jurisdictional-based systems to more connected, corridor-based systems; from old technology (or no technology) to new technology; and from a projects-driven program to a performance based program. This more regional focus on corridors that cross jurisdictions centers on how to "modernize" strategically important corridors to better serve communities, regions and economic development centers. For the SEDA-COG MPO, corridor modernization is primarily focused on traffic signals and Intelligent Transportation Systems (ITS) improvements.

Specific strategies for the region include:

• Investigation of a TIP line item for traffic signals, funded by state and federal sources.
• An inventory of both traffic signal operation needs and ITS-related needs.

Another future and potentially significant need for the SEDA-COG MPO region will be the impact of CSVT on regional corridor operations, especially related to traffic signals.

F. Freight Movement & Priorities

Pennsylvania’s most recent update of its multimodal LRTP and the Commonwealth’s first comprehensive freight movement plan, "PA On Track," includes a main freight goal to expand and improve system mobility and integrate modal connections. In addition, the FAST Act includes two new programs specific to freight: the National Highway Freight Program and the Nationally Significant Freight and Highway Projects Program. This shows a trend from freight as a secondary issue to freight as a primary planning factor.

In the SEDA-COG MPO region, many of the needs of the general traveling public are similar to those of freight carriers and customers. However, some unique freight needs do exist and to that end, freight strategies in the MPO region include:

• Use of the Statewide Freight Plan to focus in on specific freight types and needs.
• Use of the PA Transportation Advisory Committee (TAC) 2007 study on truck access and parking to identify needs; and
• Identification of the Priority Freight Network in the SEDA-COG MPO region in coordination with PennDOT and FHWA.

Other strategic issues and issues of public concern addressed in the LRTP include horse-drawn vehicle travel and safety, the vulnerability of infrastructure to extreme weather trends, walkable/bikeable
communities, and transportation access and options. Specific planning considerations for these issues include:

- 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 to identify the roadways and pathways used most by the Plain Sect, key locations of conflict (intersections, bridges), use of edgeline rumble strips and the adequacy of shoulder widths will help target and prioritize projects.
- Continued monitoring of PennDOT’s extreme weather vulnerability study (to be completed by September 2016) and consideration as to whether strategies developed through the study should be (or need to be) implemented in the SEDA-COG MPO region.
- Community-based plans for developing walking and biking facilities are needed to give the municipalities support when faced with pressure to waive the requirements.
- To assist with planning for functional networks of sidewalks and paths, the creation of county or regional “model” ordinances could help where municipal ordinances do not have strong requirements.
- When designing and implementing walking and biking facilities, PennDOT’s Local Technical Assistance Program (LTAP) Walkable Communities Program should be referenced in terms of pedestrian facility safety and development of potential solutions.
- Transportation access and options considerations should include:
  - Expansion of shared-ride services to evening and weekend hours
  - Improvement of service convenience and amenities
  - Taxi subsidy program
  - Accessible taxi vehicles
  - Expansion of carpool and vanpool services
  - Car sharing programs
  - “Beyond the Region” (inter-city) commuter bus service
  - General public rural demand responsive service
  - Expansion of passenger rail (Amtrak’s Keystone West Pennsylvanian Service) to include 2 or 3 trips per day.

**Plan Implementation**

Plan Implementation synthesizes the core inventories, trend evaluations, and issues and implications through a process that scored, prioritized, and selected transportation projects that best achieve the goals set in the Plan. Strategies and activities that further the plan goals are also identified.

- Project identification and solicitation were completed through a pair of Transportation Issues Forums attended by 45 persons, mostly representing county decision makers and other agency staff. Attendees heard a “state of the District” presentation from PennDOT staff and then interacted with mapping of comment data received by the State Transportation Commission and PennDOT through recent, online webmap surveys. Clusters of comments were evaluated, project ideas suggested, and comments on the ideas (and new ideas) were recorded. The Issues Forums generated 20 new candidate projects to be considered in the LRTP.
- Candidate Projects from the Issues Forums were combined with projects held over from the previous LRTP, the MPO’s recent Safety Reviews, the Susquehanna Greenways Partnership, and
the MPO’s projects submitted for the Statewide PA On Track Long Range Transportation Plan. The full Candidate List included 81 projects.

- A Project Scoring and Selection Process was vetted through the Steering Committee, and the Candidate Projects were scored and prioritized according to the scoring criteria.

- Fiscal guidance from PennDOT and an analysis of historic revenue trends were used to estimate that revenues of approximately $1.5 billion would be available to fund transportation projects from 2017 to 2040. Approximately $803.6 million would be available in the LRTP Plan Period of 2029 to 2040. Of this amount, 90% was assumed to be a reserve for asset management.

- The Fiscally Constrained List of 37 projects was developed to include prioritized Candidate Projects whose costs fit within the remaining 10% of the revenue available during 2029 to 2040. All Candidate Projects outside of fiscal constraint were placed on the Illustrative Project List.

- The following new implementation items and strategies were added to the Implementation Plan, initially developed by SEDA-COG MPO in the 2011 LRTP:
  
  o Participate in the development of a multi-agency Greenway and Trail Authority.
  o Examine the establishment of a bicycle/pedestrian advisory committee at the MPO level.
  o Facilitate a coordinated land use-transportation study of CSVT impacts.
  o Support municipalities with CSVT local access interchanges in efforts to plan/prepare for land use and transportation impacts.

**Plan Assessment**

In Plan Assessment, the transportation investment program was evaluated to provide a feedback loop in the planning process, using performance measures to demonstrate effectiveness and environmental justice to ensure the social equity of the transportation investment program.

- Performance Measures – According to Federal regulation and State guidance, seven performance measures related to Highway Safety, Bridges, and Pavement were established. Baseline data for each measure was compiled, and future targets were either set or referenced to state and federal guidelines and rule-making. SEDA-COG MPO also maintains a separate Performance Measures Report, which tracks several other measures and is updated annually.

- Pennsylvania Scorecard of Influence – PennDOT has provided specific guidance for allocating transportation dollars to fund certain critical infrastructure categories—particularly for bridges and highway pavement. The guidance is tied to how well certain performance targets are being met. The SEDA-COG MPO program was found to meet the guidelines set, and based on the MPO’s achievement of performance targets, the guideline placed no limitation on spending for capacity-adding projects.

- Environmental Justice “Benefits & Burdens” Analysis – The Environmental Justice Benefits and Burdens Analysis identifies where high concentrations of minority, in-poverty, and other traditionally underserved populations reside in the SEDA-COG MPO region and evaluates the relative benefit or burden placed on them by the transportation system and ongoing investment
program. Overall, the transportation system and program is equitable across all populations. Analysis of project expenditures shows that, on a per roadway-mile basis, spending is highest in areas with both high minority and high in-poverty populations. Finally, where potential inequities were discovered, particularly for crashes in the vicinity of EJ populations, the plan also notes extensive investment in projects aimed at improving pedestrian and roadway safety.

**Plan Participation & Outreach Activities**

Planning activities for the 12-month LRTP process revolved around points of outreach, coordination, and participation. One of the first LRTP work plan activities was a Transportation Issues Forum, where trouble spots and project ideas were generated based on comment data from the State Transportation Commission and PennDOT. A LRTP Steering Committee was formed and engaged with guiding the plan process during seven meetings. A Project Scoring Group implemented a project scoring and selection process. Two Strategy Days were held with the PennDOT District staff. Local human services agencies and their staff were engaged in two Environmental Justice Workshops to discuss how to better meet the needs of persons who are underserved by the transportation system. Finally, the plan was presented for public comment during a 30-day comment period.

The LRTP’s public and stakeholder involvement process included opportunities for all interested parties to engage in development of the LRTP. Online surveys and in-person activities were conducted, including a Transportation Issues Forum, Environmental Justice Workshops, public comment period, and public meeting. The MPO’s Facebook and Twitter pages were used to make “real-time” connections with social media audiences. Finally, an ongoing conversation with MPO committee members was maintained via a Steering Committee, Advisory Group, and Project Scoring Group convened specifically for the LRTP process.
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INTRODUCTION

The SEDA-Council of Governments (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 11 SEDA-COG counties are Centre, Clinton, Columbia, Juniata, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder and Union (Figure 1).

The SEDA-COG Metropolitan Planning Organization (MPO) is the official transportation planning organization 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 Census estimated 2015 population of 374,551.

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

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

Prior to 2013, the eight-county area operated as a Rural Planning Organization (RPO). The 2010 decennial Census identified a new urbanized area (UZA) encompassing the core communities of Berwick, Bloomsburg, and Danville, thereby prompting the formation of an MPO around the new “Bloomsburg-Berwick UZA”\(^4\). Rather than split the RPO, local and state parties agreed that the MPO should include the entire eight-county 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 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; and one representative from the 2nd largest municipality (by population) in the Bloomsburg-Berwick UZA. 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.

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4 The designated UZA for the SEDA-COG MPO area is officially named the “Bloomsburg-Berwick UZA,” even though the UZA also includes Danville and other municipalities in Columbia, Montour, and Northumberland Counties.
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 strives to provide a balanced transportation system for the maximum benefit of people, businesses, and communities.

The most recent LRTP for the SEDA-COG MPO was adopted December 16, 2011, with an amendment adopted on July 18, 2014. The previous LRTP covered a period from 2011 to 2035. In 2015, the MPO initiated an update to the LRTP that will cover the period from 2016 to 2040 and meet the appropriate 5-year update cycle for an MPO within an air-quality attainment area.
A. LRTP Purpose

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. The LRTP spans an over 20-year period, through the year 2040, and is 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 new or upgraded transportation infrastructure. The plan takes a multimodal approach to transportation planning that includes projects for highways, streets, sidewalks, trails, rail, airports, and various modes of public transportation.

For the SEDA-COG MPO, the LRTP is required to be updated every five years by federal law. The update process entails a broad inventory of the regional context and current status of the transportation infrastructure. Forward-looking trends and issues are researched, and their implications are discussed. 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 revenue forecasts. Finally, the MPO adopts a list of fiscally constrained projects considered 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, implementation of land use policy is the responsibility of local governments under Pennsylvania law. Additionally, this LRTP does not address issues concerning police enforcement of traffic laws or security issues, as 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.

B. LRTP Vision

The vision for the transportation system in the SEDA-COG MPO region was derived in the 2011 LRTP from a review of resources at the statewide, regional, county, and local levels. That vision was maintained and developed through input from the LRTP Steering Committee to place economic development into the vision for the 2016 LRTP, 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 economic vitality.”

LRTP Facts

- Establishes a coordinated planning guide
- Identifies details of new or upgraded infrastructure
- Guides prudent investment of public funds
- Covers a minimum 20-year period
C. LRTP Goals

The LRTP will serve many purposes including setting the stage for the SEDA-COG MPO’s TIP. Additionally, it will be used to evaluate infrastructure investments for consistency with local, county and regional land use and development goals. Understanding this as a basis, the LRTP includes numerous goals. Goals were developed to encompass the array of users, conditions, needs and potential solutions exclusive to the overall transportation system within the SEDA-COG MPO region. Goals were specifically based on 23 C.F.R. 450.306 (a), with 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 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.

D. LRTP Themes – Transition and Adaptation

This update to the SEDA-COG MPO LRTP builds on the LRTP adopted in December 2011. Like the 2011 LRTP, this document explores trends in funding, maintenance costs, travel demand, regional characteristics, travel patterns, safety and other areas. In comparison to the 2011 update, one of the clearest trends is change. The MPO region has seen changes in demographics, legislation, programming philosophies and economic conditions. A few examples are highlighted below:

**Demographics:** Four new urbanized areas were identified in Census data for Pennsylvania released in 2012, including the Bloomsburg-Berwick UZA. This led to the designation of the SEDA-COG MPO in 2013. The MPO covers the same planning area as the former SEDA-COG RPO, but the MPO includes additional voting members for officials from municipalities located within the urbanized area.
Legislation: Since the 2011 LRTP was adopted, authorizing transportation legislation has been renewed twice at the federal level. New legislation has moved the focus to 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 at the state level has also changed, with the passage of Act 89 of 2013 bringing significant new resources to bear, and the passage of Act 13 of 2012 making dedicated funding available for locally-owned, at-risk bridges at the county level.

Performance Based Planning: Introduced as part of the federal MAP-21 legislation, performance based planning encourages agencies to set goals across a wide variety of programming areas, measure progress towards those goals, and employ a continuing process to program projects that improve the conditions measured. In anticipation of the performance measures required, the SEDA-COG RPO developed an annual performance-reporting program, and four years of performance data are available to support the current update. These data will provide a foundation as final rules for applying performance measures are released.

Programming Philosophies: The 2011 LRTP discussed the overall shortfall of funding required to maintain the transportation network. With funding available under Act 89, and the shift to performance based planning, a limited number of new projects have been programmed, including the highest priority project considered in the 2011 LRTP—the Central Susquehanna Valley Transportation Project (CSVT). While the funding needed to maintain the current system is still significant, the programming philosophy has shifted from an exclusive focus on asset management to a carefully considered suite of repair, maintenance, and capacity projects that PennDOT has developed under the label “Decade of Investment”. The projects and programs included in the Decade of Investment were conceived to deliver the best impact possible given the new funding available.

Programming philosophies have also continued to emphasize new approaches. Bridge programming efforts increasingly employ preservation techniques to extend the life of bridges between replacement or rehabilitation projects. In addition, recent efforts have considered removal of closed bridges (as opposed to replacements) and bundling of local bridge projects for cost savings.

Economic Conditions: The 2011 LRTP noted significant transportation impacts from activities to extract natural gas from the Marcellus Shale formation, and quoted a Public Utility Commission presentation that estimated a steady state rate approaching 2,500 wells drilled per year for the SEDA-COG region. Since 2011, changes in global demand and continued oversupply have led to a significant decrease in commodity prices for gas and oil, and drilling efforts have dropped off, with only 1,070 wells drilled statewide in 2015. This downturn in drilling has also resulted in a downturn in the traffic related to Marcellus Shale gas extraction, as well as immediate economic impacts on the communities where the activity occurred. While the urgency and pace of extraction activities has decreased for the time being, they would likely pick back up when/if the prices for oil and gas recover in the future.

Changing Tools: The 2011 LRTP coincided with the introduction of PennDOT’s Linking Planning and NEPA system and MPMS IQ visualization tool. The quality and quantity of data available through each system has continued to improve since 2011. PennDOT and the State Transportation Commission have also changed the approach used to collect data and project information used in the Twelve Year Plan updates, developing web-based survey tools to solicit input, and making the results available to Planning Partners and PennDOT Districts. At the MPO level, SEDA-COG has continued to develop tools to build on this process, including tools to support context determination using local GIS data, and to help provide
regional prioritization of bridge projects based on local land use, employment and zoning data. Implementation steps from the 2011 LRTP included the development of regional layers for park and ride lots and intermodal facilities, and these efforts were supplemented by data for major employers and freight generators. These factors are part of a general progression from a traditional planning process based on consultation and needs identification to one that is more data driven and performance based.

E. Recent SEDA-COG MPO Planning Activities

1. Strategic Plan (2015)

In 2015, the SEDA-COG MPO adopted a new Strategic 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.

Source: [http://www.seda-cog.org/transportation/Pages/MetropolitanPlanningOrganization.aspx](http://www.seda-cog.org/transportation/Pages/MetropolitanPlanningOrganization.aspx)

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 project.

The Public Participation Plan (PPP) 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 SEDA-COG MPO’s transportation planning efforts. The PPP identifies current outreach techniques and outlines steps for future improvement in order to increase and enhance public participation.

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.

Source: [http://www.seda-cog.org/transportation/Pages/PublicParticipationPlan.aspx](http://www.seda-cog.org/transportation/Pages/PublicParticipationPlan.aspx)


During the course of public involvement activities, persons with a 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 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, a 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.

Source: http://www.seda-cog.org/transportation/Pages/PublicParticipationPlan.aspx

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 ...”

To this end, the SEDA-COG MPO (as a recipient of federal funds) is committed to a policy of non-discrimination in its business practices and has adopted a written Title VI Policy to document goals, objectives, and activities that will be sustained in this effort. The policy also includes a formalized 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 Federal Highway Administration was received in 2016.

Source: http://www.seda-cog.org/transportation/Pages/PublicParticipationPlan.aspx


The Coordinated Public Transit-Human Services Transportation Plan was generated 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 2014. The plan primarily assesses and 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.

Source: http://www.seda-cog.org/transportation/Pages/Transit%20Planning.aspx

F. Pennsylvania’s Statewide LRTP & Comprehensive Freight Movement Plan

November 2012 marked the start of an update for the Pennsylvania state-wide LRTP, PA On Track, which incorporated the state’s first ever Comprehensive Freight Movement Plan (CFMP). Together these performance-based plans provide a strategic vision that will guide, direct and integrate multimodal system investments through 2040. The CFMP, in particular, will allow PennDOT to tap into new freight-specific funding designated through the Fixing America’s Surface Transportation (FAST) Act. As of April 2016, adoption of the PA On Track Final Report was pending.

Source: http://www.paontrack.com/about-the-2040-plan.html
G. **Fixing America’s Surface Transportation (FAST) Act**

The Fixing America’s Surface Transportation (FAST) Act was signed into law in December 2015, authorizing $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. FAST 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 FAST is the National Highway Freight Program, which carries a new funding stream and grant program for freight projects.

Source: [https://www.fhwa.dot.gov/fastact/](https://www.fhwa.dot.gov/fastact/)

H. **Interrelation of Goals, Factors, Principles, and Themes**

Throughout the various levels and jurisdictions of transportation planning—federal, state, county, municipality, region, district, partnership, etc.—various systems of planning goals, factors, principles, and themes have been developed to guide the planning process. Resembles exist among these different systems with common themes running through them, even though their organization, format and expression have variations. **Table 1** pulls together planning goals, factors, principles, and themes from several of the plans listed above and other guidance documents that will influence this long range planning effort.
**LRTP Goals (SEDA-COG MPO)**

1. Support the economic vitality of the region, especially by enabling global competitiveness, productivity and efficiency

2. Increase the safety of the transportation system for motorized and non-motorized users

3. Increase the security for transportation system users

4. Increase the accessibility and mobility of people and for freight

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

6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight

7. Promote efficient transportation system management and operations

8. Emphasize the preservation of the existing transportation system

9. Foster compatibility between land use and transportation facilities to yield orderly growth and development

---

**Federal Planning Factors**

- **PennDOT**: DRAFT PA On Track LRTP, October 1, 2014.

**LRTP Strategies**

- **Personal and Freight Mobility**: Provide efficient infrastructure, expand housing opportunities, ensure safety, Be fair, accommodate all modes of travel, promote alternative travel modes.

**Keystone Principles**

- **PA Economic Development Cabinet**: Promote economic vitality, provide efficient infrastructure, support state and local planning, promote consistency between transportation improvements and state and local planned growth and economic development patterns.

**Smart Transportation Themes**

- **PennDOT/NJDOT**: Leverage and preserve existing investments, understand the context, plan and design within the context, use sound professional judgment, accommodate all modes of travel, plan for alternative transport modes.

**LRTP Strategies**

- **Enhancement of Local Network**: Choose projects with high value/price ratio, tailor the approach, coordinate policies and leverage investment, enhance local network, accommodate all modes of travel, plan for alternative transport modes.

**Keystone Principles**

- **Historical & Museum Commission, NJDOT/PennDOT, March 2008.**

**Foster Sustainability**

- **Build towns not sprawl**, **Leverage and preserve existing investments**, **Enhance local network**, **Provide efficient infrastructure**, **Choose projects with high value/price ratio**, **Plan all projects in collaboration with the community**, **Understand the context, plan and design within the context**, **Use sound professional judgment**, **Value communities and neighborhoods**.

**Support Existing Communities**

- **Evaluate the community**, **Support existing communities**, **Provide more transportation choices**, **Tailor the approach**, **Coordinate policies and leverage investment**, **Leverage and preserve existing investments**, **Value communities and neighborhoods**.

**Promote Equitable, Affordable Housing**

- **Choose projects with high value/price ratio**, **Plan all projects in collaboration with the community**, **Leverage and preserve existing investments**, **Understand the context, plan and design within the context**, **Use sound professional judgment**, **Value communities and neighborhoods**.

**Federal Livability Principles**

- **Partners for Sustainable Communities**: Promote livable communities, support equitable, affordable housing, support sustainable businesses, support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.

---

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

<table>
<thead>
<tr>
<th>LRTP Goals (SEDA-COG MPO)</th>
<th>Federal Planning Factors (US DOT)</th>
<th>PA On Track LRTP Strategies (PennDOT)</th>
<th>Keystone Principles (PA Economic Development Cabinet)</th>
<th>Smart Transportation Themes (PennDOT/NJDOT)</th>
<th>Smart Transportation Principles (PennDOT)</th>
<th>Federal Livability Principles (Partners for Sustainable Communities)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Support the economic vitality of the region, especially by enabling global competitiveness, productivity and efficiency</td>
<td>Personal and Freight Mobility</td>
<td>Provide efficient infrastructure</td>
<td>Leverage and preserve existing investments</td>
<td>Plan all projects in collaboration with the community</td>
<td>Promote livable communities</td>
<td>Promote sustainable businesses, support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
<tr>
<td>2. Increase the safety of the transportation system for motorized and non-motorized users</td>
<td>Safety</td>
<td>Be fair</td>
<td>Safety always and maybe safety only</td>
<td>Use sound professional judgment</td>
<td>Support existing communities</td>
<td>Promote equitable, affordable housing</td>
</tr>
<tr>
<td>3. Increase the security for transportation system users</td>
<td>Personal and Freight Mobility</td>
<td>Be fair</td>
<td>Accommodate all modes of travel</td>
<td>Plan for alternative transport modes</td>
<td>Leverage and preserve existing investments</td>
<td>Support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
<tr>
<td>4. Increase the accessibility and mobility of people and for freight</td>
<td>Expand housing opportunities</td>
<td>Personal and Freight Mobility</td>
<td>Look beyond level-of-service</td>
<td>Plan for alternative transport modes</td>
<td>Plan for alternative transport modes</td>
<td>Promote livable communities, support sustainable businesses, support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
<tr>
<td>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</td>
<td>Concentrate development (i.e., redevelopment, infill)</td>
<td>Redevelop first</td>
<td>Choose projects with high value/price ratio</td>
<td>Tailor the approach</td>
<td>Leverage and preserve existing investments</td>
<td>Support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
<tr>
<td>6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight</td>
<td>Enhance Travel and Tourism</td>
<td>Stewardship</td>
<td>Enhance local network</td>
<td>Plan all projects in collaboration with the community</td>
<td>Plan for alternative transport modes</td>
<td>Promote livable communities, support sustainable businesses, support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
<tr>
<td>7. Promote efficient transportation system management and operations</td>
<td>Promote efficient transportation system management and operation</td>
<td>Personal and Freight Mobility</td>
<td>Money Counts</td>
<td>Plan for alternative transport modes</td>
<td>Plan for alternative transport modes</td>
<td>Promote livable communities, support sustainable businesses, support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
<tr>
<td>8. Emphasize the preservation of the existing transportation system</td>
<td>Emphasize preservation of the existing transportation system</td>
<td>System Preservation</td>
<td>Use sound professional judgment</td>
<td>Value communities and neighborhoods</td>
<td>Value communities and neighborhoods</td>
<td>Promote livable communities, support sustainable businesses, support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
<tr>
<td>9. Foster compatibility between land use and transportation facilities to yield orderly growth and development</td>
<td>Improve the resiliency and reliability of the transportation system</td>
<td>Stewardship</td>
<td>Leverage and preserve existing investments</td>
<td>Value communities and neighborhoods</td>
<td>Value communities and neighborhoods</td>
<td>Promote livable communities, support sustainable businesses, support existing communities, provide more transportation choices, tailor the approach, coordinate policies and leverage investment, leverage and preserve existing investments, value communities and neighborhoods.</td>
</tr>
</tbody>
</table>
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.

A. 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, 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.

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 further 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 quickly eclipsed by railroads built along many of the same riverbed alignments. Highways were then built parallel or adjacent to the rail lines, or feeding traffic to them, following the valley floors or winding along the gaps between adjacent ridges. Much of the current 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. http://www.gis.dcnr.state.pa.us/geology/index.html

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B. Transportation System

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), under the US Department of Transportation (USDOT)
- Pennsylvania Department of Transportation (PennDOT)
- Counties
- Cities and Municipalities (boroughs, towns, and townships)

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 2) are indicated not only by high 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. We note the following major highway construction projects are currently under construction:

- Central Susquehanna Valley Transportation (CSVT) Project – The project will complete 13 miles of new, 4-lane, limited-access highway through Snyder, Northumberland, and Union Counties as a bypass of the US 11 and 15 corridors, which traverse Hummel’s Wharf, Shamokin Dam, Northumberland, and Lewisburg, among other smaller communities. The roadway will complete a long-planned connection between US 11/15 south of Selinsgrove and I-80. Completion of the roadway is planned for 2024. As a primary strategic planning element for SEDA-COG MPO, a broader discussion of the CSVT project and its implications for the region is found in the “Issues and Implications” chapter, Section A.

- Potter’s Mills Gap Project (PMG) – The project will create about 3 miles of 4-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. Construction is expected to begin in 2017. 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, PMG and the ongoing development of a limited-access connection to I-80 are referenced as the county’s highest highway improvement priority.6

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### Table 2: Major Highway Corridors

<table>
<thead>
<tr>
<th>Route</th>
<th>SEDA-COG MPO Counties</th>
<th>2014 ADT²</th>
<th>Truck %³</th>
<th>ADHS Corridor¹</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-80</td>
<td>Clinton, Union, Northumberland, Montour, &amp; Columbia</td>
<td>22,000 - 40,000</td>
<td>60% to 70% west of I-180; 25% to 40% east of I-180</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-180</td>
<td>Northumberland</td>
<td>19,000</td>
<td>29%</td>
<td>Corridor P</td>
<td>Connects I-80 to Williamsport, PA (connects to ADHS Corridor U)</td>
</tr>
<tr>
<td>US 15</td>
<td>Snyder &amp; Union</td>
<td>16,000 south of I-80 to 47,000 at Shamokin Dam</td>
<td>7% to 10%</td>
<td>Only non-interstate in Pennsylvania designated as part of the Department of Defense's Strategic Highway Network</td>
<td></td>
</tr>
<tr>
<td>US 322</td>
<td>Juniata &amp; Mifflin</td>
<td>15,000 to 25,000</td>
<td>15% to 20%</td>
<td>Corridor M</td>
<td>Co-designated with US 22 south of Lewistown</td>
</tr>
<tr>
<td>US 522</td>
<td>Mifflin &amp; Snyder (east of Lewistown)</td>
<td>3,400 to 10,000</td>
<td>7% to 11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mifflin (west of Lewistown)</td>
<td>9,100 to 9,300</td>
<td>6% to 9%</td>
<td>Corridor M</td>
<td>Co-designated with US 22</td>
</tr>
<tr>
<td>US 11</td>
<td>Snyder, Northumberland, Montour &amp; Columbia</td>
<td>11,000 to 17,000</td>
<td>7% to 10% (section connecting PA 147 and US 15 - 20%)</td>
<td>Connects the Bloomsburg-Berwick Urbanized Area with I-80</td>
<td></td>
</tr>
<tr>
<td>PA 45</td>
<td>Union, Northumberland, &amp; Montour</td>
<td>1,600 (western Union County line) to 12,000 (Lewisburg)</td>
<td>20% (western Union County line) to 6% (Lewisburg)</td>
<td>Connects Danville / Lewisburg with State College, PA</td>
<td></td>
</tr>
<tr>
<td>PA 54</td>
<td>Northumberland &amp; Montour</td>
<td>2,000 to 9,500 (17,000 near Danville)</td>
<td>5% to 10%</td>
<td>Connects US 15 to I-81</td>
<td></td>
</tr>
<tr>
<td>PA 61</td>
<td>Northumberland &amp; Columbia</td>
<td>1,800 (southern Columbia County) to 21,000 at Sunbury / Shamokin Dam</td>
<td>8%</td>
<td>Links US 15 to I-81</td>
<td></td>
</tr>
<tr>
<td>CSVT</td>
<td>Snyder, Union, &amp; Northumberland</td>
<td>NA</td>
<td>NA</td>
<td>Corridor P-1</td>
<td>Under construction Completion planned for 2024</td>
</tr>
</tbody>
</table>

Source:
2. Truck %, PennDOT, PennDOT Internet Traffic Management System (iTMS), [http://www.dot7.state.pa.us/itms/main.htm](http://www.dot7.state.pa.us/itms/main.htm).
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 over 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 94 miles of locally-owned and maintained roadways. Detailed maps of the roadway system on a county scale can be found on the SEDA-COG MPO website.

### Table 3. Miles of Roadway by County and Functional Classification

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>INTER-STATE</th>
<th>OTHER FRWY/EXPWY</th>
<th>OTHER PRINC ARTERIAL</th>
<th>MINOR ARTERIAL</th>
<th>MAJOR COLLECTOR</th>
<th>MINOR COLLECTOR</th>
<th>LOCAL</th>
<th>TOTAL LINEAR MILES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLINTON</td>
<td>24.0</td>
<td>14.4</td>
<td>2.8</td>
<td>90.7</td>
<td>107.2</td>
<td>42.4</td>
<td>439.6</td>
<td>721.1</td>
</tr>
<tr>
<td>COLUMBIA</td>
<td>19.1</td>
<td>0.0</td>
<td>24.1</td>
<td>87.2</td>
<td>127.0</td>
<td>90.9</td>
<td>1,043.3</td>
<td>1,391.60</td>
</tr>
<tr>
<td>JUNIATA</td>
<td>0.0</td>
<td>20.3</td>
<td>1.6</td>
<td>46.8</td>
<td>68.8</td>
<td>89.6</td>
<td>504.4</td>
<td>731.5</td>
</tr>
<tr>
<td>MIFFLIN</td>
<td>0.0</td>
<td>20.3</td>
<td>41.6</td>
<td>31.5</td>
<td>62.8</td>
<td>64.4</td>
<td>405.1</td>
<td>625.7</td>
</tr>
<tr>
<td>MONTOUR</td>
<td>11.7</td>
<td>0.0</td>
<td>9.8</td>
<td>23.3</td>
<td>31.5</td>
<td>29.9</td>
<td>299.3</td>
<td>405.5</td>
</tr>
<tr>
<td>NORTHUMBERLAND</td>
<td>14.8</td>
<td>7.5</td>
<td>51.1</td>
<td>114.2</td>
<td>158.1</td>
<td>91.4</td>
<td>985.6</td>
<td>1,422.70</td>
</tr>
<tr>
<td>SNYDER</td>
<td>0.0</td>
<td>3.0</td>
<td>49.6</td>
<td>36.7</td>
<td>49.9</td>
<td>80.6</td>
<td>602.3</td>
<td>822.1</td>
</tr>
<tr>
<td>UNION</td>
<td>16.2</td>
<td>0.4</td>
<td>22.0</td>
<td>27.5</td>
<td>80.9</td>
<td>78.0</td>
<td>378.0</td>
<td>603.0</td>
</tr>
<tr>
<td>SEDA-COG MPO</td>
<td>85.8</td>
<td>65.9</td>
<td>202.6</td>
<td>457.9</td>
<td>686.2</td>
<td>567.2</td>
<td>4,657.6</td>
<td>6,723.2</td>
</tr>
<tr>
<td>PENNSYLVANIA</td>
<td>1,867.4</td>
<td>861.6</td>
<td>4,399.2</td>
<td>8,497.4</td>
<td>12,595.7</td>
<td>7,252.3</td>
<td>84,565.0</td>
<td>120,038.6</td>
</tr>
</tbody>
</table>

Source: 2014 Highway Statistics Report, Publication 600 (9-15), PennDOT.

In addition to the Federal Functional Classification and Federal Aid 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 are most relevant for metropolitan planning in Pennsylvania.

a. **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:

- **Interstate**: The Eisenhower Interstate System retains its separate identity within the NHS.

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7 2014 Highway Statistics Report, Publication 600 (9-15), PennDOT.
- **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.

**b. PennDOT Business Plan Network**

Figure 3 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 (4) 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.

**c. PennDOT Corridor Modernization Network**

PennDOT’s Corridor Modernization 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**

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Corridor Modernization</th>
<th>Business Plan Network</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tier</td>
<td>Criteria</td>
</tr>
<tr>
<td>Limited Access</td>
<td>1A</td>
<td>AADT &gt; 75,000</td>
</tr>
<tr>
<td></td>
<td>1B</td>
<td>AADT between 50,000 and 75,000</td>
</tr>
<tr>
<td></td>
<td>1C</td>
<td>AADT &lt; 50,000</td>
</tr>
<tr>
<td>Non-Limited Access</td>
<td>2A</td>
<td>AADT &gt; 25,000</td>
</tr>
<tr>
<td></td>
<td>2B</td>
<td>AADT between 10,000 and 25,000 or NHS with AADT &lt; 10,000</td>
</tr>
<tr>
<td>Low-Volume (Non-NHS)</td>
<td>3A</td>
<td>AADT between 2,000 and 10,000</td>
</tr>
<tr>
<td></td>
<td>3B</td>
<td>AADT &lt; 2,000</td>
</tr>
</tbody>
</table>

**Source:**
d. **PennDOT Multimodal Economic Competitiveness Network**

PennDOT’s Multimodal Economic Competitiveness Network (MECN) consists of critical multimodal transportation corridors and facilities connecting major economic drivers and regions to centers of commerce in PA and national and global markets. Its development was an outcome of the 2014 Pennsylvania Statewide Long Range Transportation Plan, *PA On Track*. The MECN includes Interstate highways, major highway facilities, intermodal, freight rail, public transit, airports, and ports. Failure within this network would have serious impacts on movement of goods and people, the state’s economy, and jobs.

e. **National Highway Freight Network**

The FAST Act repealed both the Primary Freight Network and National Freight Network developed as part of MAP-21 and directed the establishment of a National Highway Freight Network (NHFN) to strategically direct 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 consist of 41,518 centerlines 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 9,511 centerline miles of Interstate, nationwide, and will 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 Interstate 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 Interstate 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 51,029 centerline miles. Within the SEDA-COG MPO, Interstates 80 and 180 are part of the NHFN—I-80 as part of the PHFS and I-180 as an “other Interstate portion not on the PHFS.” Designation is likely an eligibility step for tapping the new federal funding stream directed to the NHFN.
Figure 3

Business Plan Network

Long Range Transportation Plan

Business Plan Network Classifications

- Interstates
- Non-Interstate NHS
- Non-NHS, > 2,000 ADT
- Non-NHS, < 2,000 ADT

Major River

SEDA-COG MPO

MPO City/Borough/Town

March, 2016

1 inch = 8.18 miles
1:518,354
1. 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 212 intersection signals (see Figure 4), 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).

2. Public Transportation & Ride Sharing

   a. 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.

(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) Complimentary 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.

(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 depart 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.

(3) Inter-City Services

Inter-city 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 which often results in less attractive services for persons desiring to make shorter trips (such as within the MPO area). PennDOT’s Bureau of Public Transportation contracts with five 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. Several routes pass through or originate within the SEDA-COG MPO region. These include links from State College to Wilkes-Barre and State College to Harrisburg, operated by Fullington Trailways and Greyhound (see Figure 5).

Of particular note is Fullington’s State College to Harrisburg Early Morning Bus. The route runs along Route 322 with stops in Lewistown, Mifflintown and Thompsontown. The bus schedule is conducive to commuter service, which was an important feature noted in the Park and Ride study for Juniata County recently conducted by PennDOT. Although many of the intercity routes connect parts of the region with common work destinations, this is the prime example of an alternative poised to provide commuter service. As a compliment to the Early Morning Bus, Greyhound offers two daily round trips as part of its Harrisburg-State College-Pittsburgh service.
Susquehanna Trailways provides the highest level of intercity bus service in the region. It has several stops in the region and operates routes connecting area towns to Harrisburg, Philadelphia, Hazleton, Lehighton, Elmira and New York. Further information about the routes and communities served can be found on the carriers' websites, or through the PennDOT Bureau of Public Transportation website.

Other private busing contractors also offer routes through the region. The most prominent example is Megabus. Although Megabus routes pass through the region (to stops in State College, Harrisburg, Philadelphia, Pittsburgh, New York, etc.), stops within the region have yet to be established. Trip availability varies, and can be identified by contacting Megabus directly or via http://us.megabus.com.

(4) Vanpool & Carpool/Rideshare

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.

As of April 2016, the Union-Snyder Transportation Alliance (USTA) webpage indicated the operation of one vanpool with one forming and another vanpool vehicle available. The Centre Area Transportation Authority (CATA) located in State College operates a vanpool program that serves Mifflin County. As of 2014, seven vanpools representing nearly 80 workers were operating between Lewistown and Penn State, downtown State College, and the Rockview State Correctional Institution, among others. CATA also facilitates the formation of carpools through their web-based CATA Commute portal.

(5) Park & Ride/Park & 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 5 shows the locations of 12 park & ride lots in the SEDA-COG MPO region. These include two park & ride facilities owned and maintained by PennDOT (green icons), and 10 other locations that operate as informal lots (red icons). The informal lots are places where commuters use existing parking lots or have created pull-off parking 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 & ride lots (orange icons in Figure 5), which are located at the planned Winfield Interchange (US 15) and the Ridge Road Interchange.

Due to high carpooling rates and potential safety issues with informal park & 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. The 2011 Feasibility Study report identified eight (8) areas of interest for park & ride facilities. Funds are still being sought for design and construction of a facility at one or more of the Juniata County locations. The objectives for the new Juniata County Park & 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

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8 Centre Area Transportation Authority (CATA), http://catabus.com/ServiceSchedules/CATACOMMUTE/index.html.
b. **Transit Providers & 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.

c. **Transit Regionalization**

Since the 2011 LRTP update, PennDOT’s Bureau of Public Transportation has conducted studies to investigate the feasibility studies for consolidating operations between existing transit providers. Specific provisions and incentives related to the studies were included in Act 89 of 2013. While the study approach is customized to each area considered, the studies generally follow a two-phase approach. The first phase considers a single scenario for combining services and presents outcomes to local decision makers. The stakeholders are given the chance to review outcomes. If the providers support the concept based on the findings, they can provide input on the scenario(s) to be considered in more detail. Once phase two is completed, local decision makers are given a chance to review the outcomes, and to work with PennDOT in implementing the outcomes of the study.

Providers, stakeholders and Commissioners from eight of the counties in the SEDA-COG MPO region and adjoining planning areas coordinated with PennDOT to conduct a study considering shared ride and fixed route operators in Centre, Clinton, Columbia, Lycoming, Montour, Northumberland, Snyder and Union Counties, with the study kicking off in February of 2014. A summary of phase one results was presented to stakeholders in the fall of 2015. At this point, several of the providers and counties have provided feedback to PennDOT on the study, but no county or provider has indicated a desire to move forward with a more detailed phase two portion of the study. Without further input, a second phase to the study will not be completed.

It should be noted that, as of May 2016, several counties had decided to contract with rabbittransit 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 2000, they began doing business as rabbittransit, and in January 2016, the authority was officially renamed as the Central Pennsylvania Transportation Authority (CPTA). In a sense, with five of the SEDA-COG MPO counties currently operating under the rabbittransit umbrella, a form of transit regionalization is occurring. It is expected that cooperation, cross-county efficiencies, greater quality of service, and access to new technology tools will result from the emerging relationships with rabbittransit.

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9 Coordinated Public Transit-Human Services Transportation Plan for the SEDA-COG and Williamsport Area Metropolitan Planning Organizations, May 2014.
## Table 5. Transit Providers in the SEDA-COG MPO Region

<table>
<thead>
<tr>
<th>Agency</th>
<th>Operator</th>
<th>Type of Service</th>
<th>Service Area</th>
<th>Hours of Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower Anthracite Transportation System (LATS)</td>
<td>Borough of Mount Carmel</td>
<td>Fixed Route</td>
<td>Lower Northumberland County area in and between the City of Shamokin, Coal Township, and the Boroughs of Kulpmont, Marion Heights, and Mount Carmel</td>
<td>Monday through Friday from 8:00 AM to 4:00 PM, and Saturday service runs between 9:00 AM and 1:00 PM.</td>
</tr>
<tr>
<td>Fullington Trailways</td>
<td>Fullington Trailways</td>
<td>Intercity bus</td>
<td>State College, Harrisburg, Wilkes-Barre and Pittsburgh service with stops in Lewistown, Lock Haven</td>
<td>5 AM to 9 PM Monday through Friday, Some Saturday Service</td>
</tr>
<tr>
<td>Greyhound</td>
<td>Greyhound</td>
<td>Intercity bus</td>
<td>Statewide service - stops in Lewistown, Thompson, Selinsgrove, Shamokin Dam, Sunbury</td>
<td>8 AM to 3 PM Monday through Wednesday &amp; Saturday; 8 AM to 6 PM Thursday &amp; Friday</td>
</tr>
<tr>
<td>Susquehanna Trailways</td>
<td>Susquehanna Trailways</td>
<td>Intercity bus</td>
<td>Harrisburg, New York and Philadelphia; stops in Lock Haven, Sunbury, Shamokin</td>
<td>Varies by stop / route - 7 AM to 8 PM in Sunbury / Shamokin; 1 PM to 9:40 PM at Lock Haven</td>
</tr>
<tr>
<td>Megabus</td>
<td>Megabus</td>
<td>Intercity bus</td>
<td>State College to Harrisburg, Philadelphia, Pittsburgh, Ohio and New York (no stops in MPO region)</td>
<td>Varies</td>
</tr>
<tr>
<td>Call A Ride Service, Inc. (CARS)</td>
<td>CARS</td>
<td>Shared-Ride</td>
<td>Mifflin and Juniata Counties</td>
<td>Monday through Friday from 8:00 AM to 4:00 PM.</td>
</tr>
<tr>
<td>Columbia County Transportation</td>
<td>Columbia County Transportation</td>
<td>Shared-Ride</td>
<td>Columbia County (primary service area), Montour, Northumberland and Luzerne Counties</td>
<td>Monday through Saturday from 6:00 AM to 6:00 PM.</td>
</tr>
<tr>
<td>Montour County Transit</td>
<td>Montour County government</td>
<td>Shared-Ride</td>
<td>Montour County (primary service area), Columbia, Northumberland, Snyder, and Union Counties (for Montour County residents only)</td>
<td>Monday through Friday from 8:00 AM to 4:00 PM, with the exception of MATP dialysis patients who are transported on legal holidays and Saturdays if needed</td>
</tr>
<tr>
<td>MTR Transportation / K-Cab</td>
<td>rabbittransit (K-Cab consolidated into rabbittransit)</td>
<td>Shared-Ride</td>
<td>Columbia, Montour, Northumberland, and lower Luzerne Counties (for residents of Columbia County only)</td>
<td>Monday through Friday from 6:00 AM to 8:00 PM and on Saturday from 6:00 AM to 6:00 PM.</td>
</tr>
<tr>
<td>Northumberland County Transportation</td>
<td>rabbittransit</td>
<td>Shared-Ride</td>
<td>Northumberland County, but rabbittransit provides trips up to 20 miles past the county line</td>
<td>Monday through Friday from 6:00 AM to 6:00 PM.</td>
</tr>
<tr>
<td>STEP, Inc.</td>
<td>Lycoming-Clinton Counties Commission for Community Action (STEP), Inc.</td>
<td>Shared-Ride</td>
<td>Lycoming, Clinton, Montour, and Union Counties; the system also provides MATP trips throughout Pennsylvania on an as needed basis</td>
<td>Monday through Friday 6:00 AM to 6:00 PM.</td>
</tr>
</tbody>
</table>
### Table 5. Transit Providers in the SEDA-COG MPO Region (continued)

<table>
<thead>
<tr>
<th>Agency</th>
<th>Operator</th>
<th>Type of Service</th>
<th>Service Area</th>
<th>Hours of Operation</th>
</tr>
</thead>
</table>
| Union/Snyder  
Transportation Alliance (USTA) | Union-Snyder Community Action Agency (US-CAA) rabbittransit to assume operations in mid-2016 | Shared-Ride | Union and Snyder Counties (primary area), Limited service to Harrisburg, Hershey, and Lebanon areas in Dauphin and Lebanon Counties, Williamsport in Lycoming County, and Lewistown Borough in Mifflin County | Monday through Friday 8:00 AM to 2:00 PM |
| Taxi Services | Various | Shared-Ride | Varies by operator | Varies by operator |
| Centre Area  
Transportation Authority (CATA) | CATACOMMUTE | Vanpool Service | Mifflin County | Varies |
| Zip-Car program | Bucknell University and Bloomsburg University | Demand Responsive | Varies | Varies Can "rent" car for hours or days |
| Bucknell University | Bucknell University | University Private Service (Fixed Route) | On Campus and downtown Lewisburg | Monday to Saturday 10:00 AM to 7:55 PM  
Sunday 12:00 PM to 6:55 PM |
| Bloomsburg University | Bloomsburg University | University Private Service (Fixed Route) | Bloomsburg University - On Campus | Monday to Thursday 7:30 AM to 12:00 AM  
Friday 7:30 AM to 10:00 PM  
Saturday 11:00 AM to 7:00 PM  
Sunday 10:15 AM to 12:00 AM |
| Susquehanna University | Susquehanna University Student Activities | University Private Service (Shared-Ride) | On-Campus | Varies |
| | | Spring / Easter Break Shuttle | To/from several Pennsylvania cities and neighboring states |
| Lock Haven University | Lock Haven University | University Private Service (Fixed Route) | Lock Haven University Campus, Downtown Lock Haven, including Wal-Mart | Monday through Friday (weekdays) 7:00 AM to 5:30 PM |
| Uber | Uber via private operators | Demand Responsive | Service from State College to western parts of the SEDA-COG MPO region; no service in eastern parts of MPO region | Varies |

Sources:  
Coordinated Public Transit-Human Services Transportation Plan for the SEDA-COG and Williamsport Area Metropolitan Planning Organizations, SEDA-COG, May 2014.  
5. Railroad System

   a. Passenger Service

   Amtrak provides daily service between New York City and Pittsburgh on the Pennsylvanian Route which passes through Mifflin and Juniata Counties. This Amtrak service, via the Pennsylvanian Keystone West Service, can be obtained from the Lewistown station to nationwide destinations. The Keystone Corridor West service 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. Currently, Amtrak has one train east and one train west operating daily between Harrisburg and Pittsburgh.

   Several passenger excursion trains run periodically, and a schedule of excursions for the year 2015 has been is provided as an attachment to the Rail Freight Technical Memorandum in Appendix A.

   b. Rail Freight

   The SEDA-COG Joint Rail Authority (JRA) is an eight-county joint municipal authority formed in 1983 with its primary mission to preserve essential rail freight service and to further economic development and job creation in the region through improvement and expansion of rail infrastructure. Through the JRA’s public oversight and ownership, 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.

   The presence of a rail line opens land for industrial or distribution development, and may be a deciding factor for potential companies seeking to locate within the region. In addition, some existing manufacturers / distribution centers currently depend on the health of 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 includes the Class of each railroad; for informational purposes, freight railroads are generally defined and classified as follows:

   - Class I Railroads are defined by the federal Surface Transportation Board as having more than $452.6 million 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 $36.2 million.

   - Class III or Short line railroads operate over less than 350 miles of track and have annual revenue of less than $36.2 million per year.
In the spring of 2014, SEDA-COG conducted a survey of local stakeholders to better identify priority issues and opportunities within the region. The results were reported in the SEDA-COG Comprehensive Economic Development Strategy Five Year Update, dated June 2015. The results indicated that the transportation system was generally viewed as a strength of the region. Highway improvements were identified as the most pressing need, followed by public transportation, bridges, and air transportation. Only 6.98% of respondents indicated rail as the most urgent transportation need. However, 46.15% of respondents supported additional intermodal railroad facilities and many of the industries that respondents wish to retain or attract could be supported by the rail infrastructure. The low priority of rail improvements reflected in the survey results appears to demonstrate that the existing rail system has been meeting current needs. Based on the desired industry retention and growth, it appears that the rail system will remain critical for economic development within the region into the future.

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 Draft Pennsylvania State Rail Plan, dated August 2015 and the Pennsylvania Statewide TIP (STIP) lists an inventory of various Freight Rail Project needs within the statewide rail network.

Recent projects include the Union County Industrial Railroad Company’s restoration of 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.

Great Stream Commons comprises Gregg Township’s (Union County) entire Commercial and Manufacturing Zoning District. In January of 2012, the zoning district designation of an additional 50+/- acres was changed to commercial and manufacturing, effectively expanding the park. 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 in these zones.

Just north of Great Stream Commons in Lycoming County is a 40-acre property that the county has planned to develop into the Timber Run Industrial Park. Design of infrastructure improvements is proceeding, but there has been limited business interest in the site. Although not in the SEDA-COG MPO region, an extension of rail access to Timber Run would work off of the line that services Great Stream Commons, and the economic and infrastructure effects would bear considering in the MPO’s planning.

A detailed assessment of railroad service and freight rail assets was prepared as part of the LRTP effort and is included in Appendix A as Technical Memo, Rail Freight Assets, Features and Attractors within the SEDA-COG MPO, 2016.
### Table 6. Freight Railroads in the SEDA-COG MPO Region

<table>
<thead>
<tr>
<th>Operator</th>
<th>Class</th>
<th>Type</th>
<th>General Location</th>
<th>Length (miles)</th>
<th>Available Transloading Facilities</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norfolk Southern (NS)</td>
<td>I</td>
<td>Long distance line-haul shipper</td>
<td>Mifflin &amp; Juniata counties (mainline) and secondary lines (NS, LVRR &amp; NBER rights) in Northumberland, Columbia &amp; Clinton counties</td>
<td>20,000</td>
<td>Various throughout Pennsylvania and the country (none in SEDA-COG MPO)</td>
<td>Operates two intermodal terminals in Harrisburg, Dauphin County, PA; Only Priority Freight Corridor (Main Line or Central PA Corridor) in SEDA-COG MPO (Mifflin &amp; Juniata counties on NS mainline)</td>
</tr>
<tr>
<td>Juniata Valley Railroad (JVRR)</td>
<td>III</td>
<td>Short line</td>
<td>Access to NS in Lewistown, Mifflin County; primarily serves Juniata County</td>
<td>17</td>
<td>Mifflin County Industrial Development Corporation Plaza (Lewistown Yard), Lewistown, Mifflin County – Rail yard, dock and Team Tracks&lt;br&gt;• Kish Creek Team Track, Burnham, Mifflin County – Ground level Team Track&lt;br&gt;• Nittany Oil Transload Facility, Lewistown, Mifflin County – Tank storage, bulk transfer services&lt;br&gt;• Jack’s Creek Team Track, Maitland, Mifflin County – Ground level Team Track</td>
<td>Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System</td>
</tr>
<tr>
<td>Lycoming Valley Railroad (LVRR)</td>
<td>III</td>
<td>Short line</td>
<td>Lycoming &amp; Clinton counties; Interchanges with NS in Sunbury, Northumberland County</td>
<td>48.7</td>
<td>Newberry Rail Yard, Lycoming County – Bulkmatic Transfer, ground level Team Tracks (Outside MPO)&lt;br&gt;Halls Station, Muncy, Lycoming County – Ground level Team Tracks with Pit (Outside MPO)&lt;br&gt;Saegers Siding, Muncy, Lycoming County – Fenced compound with a ramp for loading and unloading vehicles (Outside MPO)&lt;br&gt;Faxon Street Transload Facility, Williamsport, Lycoming County – Box Car Dock (Outside MPO)</td>
<td>Operates on track owned by SEDA-COG Joint Rail Authority (JRA); largest traffic-generating short line on the North Shore Railroad Company System</td>
</tr>
<tr>
<td>Nittany &amp; Bald Eagle Railroad (NBER)</td>
<td>III</td>
<td>Short line</td>
<td>Interchanges with NS in Lock Haven, Clinton County &amp; Sunbury, Northumberland County</td>
<td>82</td>
<td>Happy Valley Team Track, Pleasant Gap, Centre County – Public Box Car Dock, Single Car Spot (Outside MPO)&lt;br&gt;Port Matilda Team Track, Port Matilda, Centre County – Ground Level Team Track, 250 foot siding (Outside MPO)&lt;br&gt;Tyrone Team Track, Tyrone, Blair County – Multiple ground level Team Tracks (nearly 1 mile long)</td>
<td>Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System</td>
</tr>
</tbody>
</table>
### Table 6. Freight Railroads in the SEDA-COG MPO Region (continued)

<table>
<thead>
<tr>
<th>Operator</th>
<th>Class</th>
<th>Type</th>
<th>General Location</th>
<th>Length (miles)</th>
<th>Available Transloading Facilities</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Shore Railroad (NSHR)</td>
<td>III</td>
<td>Short line</td>
<td>Interchange with NS in Sunbury, Northumberland County; serves Columbia, Montour &amp; Northumberland counties</td>
<td>43.5</td>
<td>• BIDA Yard, Berwick, Columbia County – Ground level Team Tracks.</td>
<td>Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Fahhringer Dock, Berwick, Columbia County – Ramp Access</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Yard 11, Northumberland County – Rail car storage, transload and material storage on site</td>
<td></td>
</tr>
<tr>
<td>Shamokin Valley Railroad (SVRR)</td>
<td>III</td>
<td>Short line</td>
<td>Interchange with NS in Sunbury, Northumberland County; serves Northumberland County</td>
<td>27.4</td>
<td>• Shamokin Valley Transload Facility, Northumberland County – Truck to rail transfer of bulk commodities, 1550 rail spur</td>
<td>Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System</td>
</tr>
<tr>
<td>Union County Industrial / White Deer &amp; Reading Railroad (UCIR / WD&amp;R)</td>
<td>III</td>
<td>Short line</td>
<td>Access to NS in Sunbury, Northumberland County; primarily serves Union County</td>
<td>20.4</td>
<td>• Great Stream Commons, Allenwood, Union County – Transload facility with highway and rail access, ability to support 2 million square foot building</td>
<td>UCIR operates for 3 railroad owners: SEDA JRA, West Shore Railroad Corp., and Lewisburg &amp; Buffalo Creek Railroad. The latter is the Sanders Family ownership.</td>
</tr>
<tr>
<td>Reading, Blue Mountain and Northern Railway (RBMN)</td>
<td>III</td>
<td>Short haul</td>
<td>Nine eastern PA counties including Northumberland &amp; Columbia; connects to SVRR at Locust Summit, Northumberland County</td>
<td>327</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources:
- Draft Pennsylvania State Rail Plan, PennDOT, August 2015.
6. 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) for a public airport are required to enact or incorporate airport zoning.

Table 7. Airports in SEDA-COG MPO Region

<table>
<thead>
<tr>
<th>Airport *</th>
<th>County</th>
<th>Airport Class</th>
<th>Base Aircraft</th>
<th>Total General Aviation Operations *</th>
<th>Runway Type</th>
<th>Runway Length (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>William T. Piper Memorial (KLHV)</td>
<td>Clinton</td>
<td>Basic</td>
<td>49</td>
<td>72 per day 26,280</td>
<td>Paved</td>
<td>3,806</td>
</tr>
<tr>
<td>Bloomsburg Municipal (N13)</td>
<td>Columbia</td>
<td>Basic</td>
<td>20</td>
<td>25 per day 9,125</td>
<td>Paved</td>
<td>3,200</td>
</tr>
<tr>
<td>Mifflintown (p34)</td>
<td>Juniata</td>
<td>Limited Use</td>
<td>20</td>
<td>73 per week 3,796</td>
<td>Paved</td>
<td>2,627</td>
</tr>
<tr>
<td>Mifflin County (KRVL)</td>
<td>Mifflin</td>
<td>Advanced</td>
<td>40</td>
<td>39 per day 14,235</td>
<td>Paved</td>
<td>5,001</td>
</tr>
<tr>
<td>Danville (8n8)</td>
<td>Northumberland</td>
<td>Basic</td>
<td>39</td>
<td>28 per day 10,220</td>
<td>Paved</td>
<td>3,000</td>
</tr>
<tr>
<td>Northumberland County (N79)</td>
<td>Northumberland</td>
<td>Intermediate</td>
<td>25</td>
<td>65 per day 23,725</td>
<td>Paved</td>
<td>3,297</td>
</tr>
<tr>
<td>Sunbury (71N)</td>
<td>Northumberland</td>
<td>Limited Use</td>
<td>7</td>
<td>40 per week 2,080</td>
<td>Water</td>
<td>3,250</td>
</tr>
<tr>
<td>Sunbury Seaplane (h11)</td>
<td>Northumberland</td>
<td>Limited Use</td>
<td>2</td>
<td>20 per year 20</td>
<td>Turf</td>
<td>5,000</td>
</tr>
<tr>
<td>Penn Valley (KSEG)</td>
<td>Snyder</td>
<td>Advanced</td>
<td>36</td>
<td>57 per day 20,805</td>
<td>Paved</td>
<td>4,760</td>
</tr>
</tbody>
</table>

Sources:

* Total General Aviation Operations as of December 2015.

Further information on the requirements, and the status of zoning by municipality can be found on the Bureau of Aviation website, but 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.
7. 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 (see following section) that can be used for bicycling and pedestrian use.

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.

a. 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 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.

b. Agencies

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.

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c. 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 integrate non-motorized users into the design and operation of the transportation system by including bicycle and pedestrian accommodation as an incidental part of larger ongoing projects. Examples include:

- Providing paved shoulders on new and reconstructed roads.
- Restriping roads, either as a stand-alone 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 a part of new highways, and requiring new transit vehicles to have bicycle racks and/or hooks already 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.
8. Recreational Systems

a. 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 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. More information about the routes can be found on the Bicycle PA website at http://www.bikepa.com/routes/. The website notes that bike lanes or other facilities are not included for most of the length of the routes at this time.

At a smaller scale, the Town of Bloomsburg has designated streets throughout the municipality to create an interconnected bikeway system, linking the Town to schools, the river and the Town Park. Lewistown, and many other municipalities have created shorter (less than two miles long) paved and gravel trails serving public parks and other recreational areas.

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 recently completed in Union County, connecting 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 / commutation purpose in addition to its recreational use. The trail is a bicycle and pedestrian arterial through the center of Union County. Buffalo Valley Recreation Authority owns the Buffalo Valley Rail Trail.

Table 8. Major Trails in the SEDA-COG MPO Region

<table>
<thead>
<tr>
<th>Trail</th>
<th>County</th>
<th>Trail Type</th>
<th>Extents</th>
<th>Length (Miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robbins Trail</td>
<td>Montour</td>
<td>Rail Trail</td>
<td>Just west of PA 54, from PA 642 south to Montour Street</td>
<td>3.4</td>
</tr>
<tr>
<td>Buffalo Valley Rail Trail</td>
<td>Union</td>
<td>Rail Trail</td>
<td>Lewisburg to Mifflinburg</td>
<td>9.0</td>
</tr>
<tr>
<td>Penn’s Creek Path, Mid-State Trail</td>
<td>Mifflin</td>
<td>Land Trail</td>
<td>South of Millheim and Woodward near the Poe Paddy State Park and White Mountain Wilderness Area</td>
<td>2.8</td>
</tr>
<tr>
<td>Mid-State Trail</td>
<td>Clinton, Mifflin, Union, Centre</td>
<td>Land Trail</td>
<td>Statewide, through Mifflin, Union and Clinton Counties</td>
<td>316.7</td>
</tr>
<tr>
<td>Donut Hole Trail</td>
<td>Clinton, Cameron</td>
<td>Land Trail</td>
<td>Farrandsville, Clinton County to Cameron County</td>
<td>81.7</td>
</tr>
<tr>
<td>Chuck Keiper Trail</td>
<td>Clinton, Centre</td>
<td>Land Trail</td>
<td>Loop in Centre and Clinton Counties</td>
<td>51.8</td>
</tr>
</tbody>
</table>

Sources:
Many of the other trails on Figure 6 are more recreational in nature, serving more remote areas for a variety of recreational pursuits. This includes several major hiking trails, including the Mid-State Trail, and the Keiper trail, which has previously received funding through the Transportation Enhancements program. Also of note is the Penn’s Creek Path trail. This is a section of the Mid-State trail that runs along a rail grade. The trail passes through a tunnel from the rail line.

Parts of the SEDA-COG counties are home to Amish, Old Order Mennonites and other groups that do not embrace the use of motorized vehicles. As a result, some of the secondary roads within the SEDA-COG MPO region are constructed with wide paved shoulders or other features to accommodate the use of non-motorized vehicles. At this time, no systematic inventory of these facilities is available.

b. River/Water Trails

Water Trails have been designated by the Pennsylvania Fish and Boat Commission (PFBC) as boat routes suitable for canoes, kayaks and small motorized watercraft. Like conventional trails, water trails are recreational corridors between specific locations. Water trails are comprised of access points, boat launches, day use sites, and (in some cases) overnight camping areas. Each water trail is unique, a reflection of Pennsylvania’s diverse geology, ecology and communities.

Four water trails are located within the SEDA-COG MPO region:

- West Branch Susquehanna River Water Trail (Clinton, Northumberland and Union counties) - 240 miles long (total route from Cherry Tree, Cambria County to Sunbury, Northumberland County); the trail sponsor is the Susquehanna Greenway Partnership.

- North Branch Susquehanna River Water Trail (Northumberland, Montour, and Columbia counties) - Section 4 of this trail is 36 miles long from Sunbury, Northumberland County to Berwick, Columbia County; the trail sponsor is the Susquehanna Greenway Partnership.

- Middle Branch Susquehanna River Water Trail (Snyder and Northumberland counties) - 51 miles long from Sunbury, Northumberland County to Harrisburg, Dauphin County; the trail sponsor is the Susquehanna River Trail Association.

- Juniata River Water Trail (Mifflin and Juniata counties) - 126 miles from southern Blair County through Mifflin & Juniata counties to Harrisburg, Dauphin County; sponsored by Allegheny Ridge Corporation.

In 2008, the U.S. Department of the Interior designated the North Branch Susquehanna River Water Trail, as a National Recreational Trail. The “middle” section of the Susquehanna River Water Trail was also designated, creating a continuous 103-mile segment from Sunbury to the Maryland border.

In 2012, the National Park Service designated a National Water Trails System (NWTS) as the beginning of a cohesive network of exemplary water trails. The current NWTS network includes 18 trails, but none have yet been designated in Pennsylvania. New trails may be added through an application process.  

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12 National Park Service, National Water Trails System website, as accessed 5/4/2016, [https://www.nps.gov/WaterTrails/Trail](https://www.nps.gov/WaterTrails/Trail)
c. Greenways

In the SEDA-COG MPO region, two of Pennsylvania’s five mega-greenways are located along rivers and are championed by non-profit organizations working to create strong private-public partnerships for supporting greenway development. These mega greenways are the Susquehanna Greenway, championed by the Susquehanna Greenway Partnership, and the Main Line Canal Greenway, championed by the Allegheny Ridge Corporation. Efforts to develop sustainable positive relationships between the Susquehanna and Juniata rivers and the communities along them have been led by the Susquehanna Greenway Partnership (SGP) and the Allegheny Ridge Corporation.

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.

SEDA-COG, in collaboration with SGP and community leaders, has developed the following plans for walkable and bikeable communities:

- Berwick Town Trails  
  [http://www.susquehannagreenway.org/sites/default/files/Berwick%20Town%20Trails%20SEDA%20COG%202010.pdf](http://www.susquehannagreenway.org/sites/default/files/Berwick%20Town%20Trails%20SEDA%20COG%202010.pdf)

- North Branch Canal Trail Feasibility Study  

- Lake Augusta Gateway Corridor Plan  

- Building Safe, Walkable and Healthy Communities in the Middle Susquehanna Region  

Other efforts underway at the SGP have the potential to reduce sprawl, and mitigate storm water impacts through the encouragement of complete streets design approaches and the creation of riparian buffer zones to reduce runoff rates in storm events. More information about current efforts can be found at [http://www.susquehannagreenway.org/](http://www.susquehannagreenway.org/).

Greenway planning has also been undertaken by the Allegheny Ridge Corporation, which is developing the Pittsburgh to Harrisburg Main Line Canal (MLC) Greenway. This 320-mile corridor follows the historic path of the Main Line Canal System. While it is not a single, long-distance trail, the MLC Greenway is envisioned as a physical connector backbone that improves public use, linkages to notable destinations,
and opportunities for economic development. More information is available at http://mainlinecanalgreenway.org/.\(^{13}\)

Additional 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. The Pennsylvania Department of Conservation and Natural Resources (DCNR) has helped to fund the development of County Greenway and Open Space Plans in the following six counties in the SEDA-COG MPO region: Clinton, Juniata, Mifflin, Lycoming, Columbia and Northumberland counties. Union County is currently developing its Greenway and Open Space Plan.

Finally, the Middle Susquehanna Heritage Area Feasibility Study includes a detailed account of the impact of transportation on the region's development, as well as listings of historical sites, museums, historical societies, cultural festivals, regional attractions and other cultural resources (http://www.susquehannagreenway.org/sites/default/files/Middle%20Susquehanna%20Heritage%20Area%20Feasibility%20Study%20SEDA%20COG%202009.pdf).

d. Strategy and Priority Efforts for Developing Bike & Pedestrian Facilities

Given the financial constraints of municipalities in the SEDA-COG MPO, there is a recognized need for coordinated planning and shared municipal services in developing a connected system of bike and pedestrian facilities—both for recreational and daily trip making needs.

In 2014, the SGP conducted surveyed the various trail and greenway organizations that currently exist and their basic structure and operations. The results of this research are available on the SGP website as part of the Susquehanna Greenway & Trail Authority Case Study, August 2014.\(^{14}\) The survey examines the efficiencies in expertise and operations such an authority can help to achieve, as well as the various cost-sharing formulas, sources of funding, and the benefits to communities.

The survey demonstrated that, although a number of independent bike and pedestrian facilities projects are proceeding through county and municipal planning efforts, a coordinated Bicycle and Pedestrian is needed to create the type of connected system exhibited in neighboring regions—with which the facilities and trails in the SEDA-COG MPO would be connected. The Lancaster MPO, York MPO, and Harrisburg Area Transportation Study (HATS) MPO are all in the process of developing Bike and Pedestrian Transportation Plans or Active Transportation Plans.

To implement a coordinated planning effort, this LRTP envisions a partnership between the SGP and SEDA-COG MPO. Initially, the partnership may develop a framework for addressing bike and pedestrian issues and receiving input at the MPO level. One potential step in the framework may be the development of a bicycle and pedestrian planning committee that could lead efforts to develop a region-wide plan. The Committee could be made up of those with an interest in walking and biking as an important form of transportation, including representatives from PennDOT, MPO counties, DCNR, regional universities, public schools, Old Order/Plain Sect communities, and other bicycle and pedestrian advocacy groups. The Committee can help to prioritize bike and pedestrian connections through public outreach that would explore questions such as: who is biking/walking and why; what discourages


people from biking/walking; what would encourage people to bike/walk; and where are bicycle/pedestrian facility improvements most needed.

The listed considerations are possible options that the MPO will need to evaluate and determine the interest in forming and defining the role of any bicycle / pedestrian committee. The committee could also provide resources to conduct community walkability/bikeability audits, research and feasibility studies to:

- Help develop the "functional" network (pedestrian and bike facilities that provide an option to motorized travel for daily needs).
- Examine and define how the bike and pedestrian trail network benefits the MPO, adds value, and fulfills the goals of the LRTP.

e. Agencies

(1) Susquehanna Greenway Partnership

The Susquehanna Greenway Partnership (SGP) is a leading champion for the Susquehanna River Watershed. SGP advocates for public and private efforts to connect people with natural and cultural resources, and promote a sustainable and healthy environment. More information on SGP can be found on their website (http://www.susquehannagreenway.org/).

(2) Susquehanna River Trail Association

The Susquehanna River Trail Association (SRTA) promotes sustainable use of the Susquehanna River. SRTA works in partnership with residents and other environmental / recreational organizations toward the continued stewardship of the river and surrounding watershed. This includes the goal of a continuous water trail the length of the Susquehanna River and its tributaries. More information can be found at: http://www.susquehannarivertrail.org/. The River Trail is managed as a partnership of the DCNR, the PFBC, and the nonprofit SRTA. Volunteer individuals or groups can serve as island stewards for maintenance, monitoring resource impacts and tracking public use.

(3) Allegheny Ridge Corporation

Allegheny Ridge Corporation (ARCorp) is involved in economic development, historic preservation, outdoor recreation and environmental conservation. ARCorp provides numerous opportunities in economically struggling communities along a 320-mile corridor in Central/Western Pennsylvania by delivering heritage tourism infrastructure through partnerships with public and private sectors. More information on ARCorp, their services, and projects can be found on their website at: http://www.alleghenyridge.org/.

(4) Buffalo Valley Recreation Authority

The Buffalo Valley Recreation Authority (BVRA) provides year-round recreation programs with adequate, functional and attractive facilities and play areas for people of all ages and abilities in the Lewisburg Area. BVRA owns and oversees the Buffalo Valley Rail Trail. More information is available at: https://www.bvrec.org/info/default.aspx.
C. Regional Demographic Characteristics

The SEDA-COG MPO is one of the largest MPOs in Pennsylvania in terms of land area; however, it is one of the smallest in terms of population density. 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; PA 61 Corridor in Northumberland County, and the US 15 corridor through Union County.

1. Demographic Characteristics & Trends

a. Urbanized Areas and Urban Clusters

The SEDA-COG MPO region contains one Urbanized Area (UZA) – Bloomsburg-Berwick, and all or part of eleven Urban Clusters (UCs) as shown in Table 9 and Figure 7. UZAs consist of densely developed territory that contains 50,000 or more people. The Census Bureau delineates UZAs to provide a better separation of urban and rural territory, population and housing in the vicinity of large places. Urban Clusters (UCs) consist of densely developed territory that has at least 2,500 people, but fewer than 50,000 people. The Census Bureau first introduced the UC concept for Census 2000 to provide a more consistent and accurate measure of urban population, housing, and territory.

Table 9. 2010 Population within Urbanized Areas (UZA) and Urban Clusters (UC)

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


*UZA or UC extends outside of the SEDA-COG MPO region
Figure 7 illustrates the web of urban areas and small urban clusters that characterize the region’s demographic geography:

- One Urbanized Area (UZA) - the Bloomsburg-Berwick UZA in Columbia, Montour, and Northumberland Counties, largely along the US 11 corridor.

- 11 Urban Clusters (UC) – Ashland; Jersey Shore; Lewistown; Lock Haven; Mifflinburg; Mifflintown, Milton-Lewisburg; Montgomery; Mount Union; Shamokin-Mount Carmel; and Sunbury.

- 177 Municipalities.

The Bloomsburg-Berwick UZA (Figure 7, deep orange highlight) is the contiguous UZA where the population exceeded the 50,000 threshold, allowing SEDA-COG to be designated as an MPO.
b. **County Population and Projections**

More than 374,000 people live in the SEDA-COG MPO region, according to 2014 population estimates. The official 2010 Census count showed that the MPO’s population increased at a rate of 3.3% since the 2000 Census (see Table 10). Similar to previous trends, Juniata and Union counties continued to see the fastest growth, with each county having 8% population increases. Three other counties also outstripped the statewide population increase rate of 3.4%. Minimal to zero population growth in certain MPO counties is likely due to the economic downturn and closing of several large manufacturers in the region. Population estimates completed after the 2000 Census, predicted a 2.1% increase in the region’s population from 2000 to 2010. Actual 2010 Census numbers show that the MPO region is growing faster than predicted and at a rate comparable to the state as a whole.

**Table 10. County, MPO, and State Population Projections**

<table>
<thead>
<tr>
<th>County</th>
<th>Census (Actual)</th>
<th>Projection</th>
<th>Projected Change</th>
<th>Census (Actual) 2010</th>
<th>Actual Change</th>
<th>Projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>37,914</td>
<td>35,540</td>
<td>-6.3%</td>
<td>39,238</td>
<td>3.5%</td>
<td>41,957</td>
</tr>
<tr>
<td>Columbia</td>
<td>64,151</td>
<td>64,454</td>
<td>0.5%</td>
<td>67,295</td>
<td>4.9%</td>
<td>67,759</td>
</tr>
<tr>
<td>Juniata</td>
<td>22,821</td>
<td>23,977</td>
<td>5.1%</td>
<td>24,636</td>
<td>8.0%</td>
<td>24,681</td>
</tr>
<tr>
<td>Mifflin</td>
<td>46,486</td>
<td>46,744</td>
<td>0.6%</td>
<td>46,682</td>
<td>0.4%</td>
<td>48,102</td>
</tr>
<tr>
<td>Montour</td>
<td>18,236</td>
<td>17,275</td>
<td>-5.3%</td>
<td>18,267</td>
<td>0.2%</td>
<td>19,524</td>
</tr>
<tr>
<td>Northumberland</td>
<td>94,556</td>
<td>93,197</td>
<td>-1.4%</td>
<td>94,528</td>
<td>0.0%</td>
<td>95,481</td>
</tr>
<tr>
<td>Snyder</td>
<td>37,546</td>
<td>38,294</td>
<td>2.0%</td>
<td>39,702</td>
<td>5.7%</td>
<td>41,438</td>
</tr>
<tr>
<td>Union</td>
<td>41,624</td>
<td>46,414</td>
<td>11.5%</td>
<td>44,947</td>
<td>8.0%</td>
<td>47,499</td>
</tr>
<tr>
<td>SEDA-COG MPO</td>
<td>363,334</td>
<td>365,895</td>
<td>0.7%</td>
<td>375,295</td>
<td>3.3%</td>
<td>386,441</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>12,281,054</td>
<td>12,540,718</td>
<td>2.1%</td>
<td>12,702,379</td>
<td>3.4%</td>
<td>13,230,170</td>
</tr>
</tbody>
</table>

Sources:

Actual populations shown in regular text.
Projected populations shown in italic text.

c. **Population Centers (Municipalities)**

Population Centers in the SEDA-COG MPO region were identified using U.S. Census 2010 data. See Table 11. 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 (sq. mi.). 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 11 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.

### Table 11. Population Centers in the SEDA-COG MPO Region

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Northumberland</td>
<td>City of Shamokin</td>
<td>8,009</td>
<td>7,374</td>
<td>-7.93%</td>
<td>-635</td>
<td>0.80</td>
<td>9,218</td>
</tr>
<tr>
<td>Northumberland</td>
<td>Mount Carmel Borough</td>
<td>6,390</td>
<td>5,893</td>
<td>-7.78%</td>
<td>-497</td>
<td>0.70</td>
<td>8,419</td>
</tr>
<tr>
<td>Union</td>
<td>Lewisburg Borough</td>
<td>5,620</td>
<td>5,792</td>
<td>3.06%</td>
<td>172</td>
<td>1.00</td>
<td>5,792</td>
</tr>
<tr>
<td>Northumberland</td>
<td>City of Sunbury</td>
<td>10,610</td>
<td>9,905</td>
<td>-6.64%</td>
<td>-705</td>
<td>2.10</td>
<td>4,717</td>
</tr>
<tr>
<td>Mifflin</td>
<td>Lewistown Borough</td>
<td>8,998</td>
<td>8,338</td>
<td>-7.33%</td>
<td>-660</td>
<td>2.00</td>
<td>4,169</td>
</tr>
<tr>
<td>Clinton</td>
<td>City of Lock Haven</td>
<td>9,149</td>
<td>9,772</td>
<td>6.81%</td>
<td>623</td>
<td>2.50</td>
<td>3,909</td>
</tr>
<tr>
<td>Columbia</td>
<td>Town of Bloomsburg</td>
<td>12,375</td>
<td>14,855</td>
<td>20.04%</td>
<td>2,480</td>
<td>4.35</td>
<td>3,415</td>
</tr>
<tr>
<td>Columbia</td>
<td>Berwick Borough</td>
<td>10,774</td>
<td>10,477</td>
<td>-2.76%</td>
<td>-297</td>
<td>3.10</td>
<td>3,380</td>
</tr>
<tr>
<td>Snyder</td>
<td>Selinsgrove Borough</td>
<td>5,383</td>
<td>5,654</td>
<td>5.03%</td>
<td>271</td>
<td>1.83</td>
<td>3,090</td>
</tr>
<tr>
<td>Montour</td>
<td>Danville Borough</td>
<td>4,897</td>
<td>4,699</td>
<td>-4.04%</td>
<td>-198</td>
<td>1.60</td>
<td>2,937</td>
</tr>
<tr>
<td>Northumberland</td>
<td>Northumberland Borough</td>
<td>3,714</td>
<td>3,804</td>
<td>2.42%</td>
<td>90</td>
<td>1.51</td>
<td>2,519</td>
</tr>
<tr>
<td>Northumberland</td>
<td>Milton Borough</td>
<td>6,650</td>
<td>7,042</td>
<td>5.89%</td>
<td>392</td>
<td>3.43</td>
<td>2,053</td>
</tr>
<tr>
<td>Union</td>
<td>Mifflinburg Borough</td>
<td>3,594</td>
<td>3,540</td>
<td>-1.50%</td>
<td>-54</td>
<td>1.80</td>
<td>1,967</td>
</tr>
<tr>
<td>Juniata*</td>
<td>Port Royal Borough</td>
<td>977</td>
<td>1,185</td>
<td>21.29%</td>
<td>208</td>
<td>0.70</td>
<td>1,693</td>
</tr>
</tbody>
</table>

Sources: U. 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.

d. Plain Sect Populations

The MPO region does contain a sizeable “Plain Sect” population, including both Amish and Old Order Mennonite groups that rely on horse-and-buggy vehicles for transportation. Table 12 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. 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 2012 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 2012,
there were approximately 245 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 2,520 persons.

Table 12. 2010-2012 Plain Sect Population

<table>
<thead>
<tr>
<th>Geography</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton County</td>
<td>1,315</td>
</tr>
<tr>
<td>Columbia County</td>
<td>121</td>
</tr>
<tr>
<td>Juniata County</td>
<td>973</td>
</tr>
<tr>
<td>Mifflin County</td>
<td>2,899</td>
</tr>
<tr>
<td>Montour County</td>
<td>446</td>
</tr>
<tr>
<td>Northumberland County</td>
<td>620</td>
</tr>
<tr>
<td>Snyder County</td>
<td>344</td>
</tr>
<tr>
<td>Union County</td>
<td>73 Amish</td>
</tr>
<tr>
<td></td>
<td>2,520 Mennonite</td>
</tr>
<tr>
<td><strong>SEDA-COG MPO Total</strong></td>
<td><strong>9,311</strong></td>
</tr>
</tbody>
</table>

Sources:
Union County Planning Office, 2016.

Approximately 58,000 Amish live in Pennsylvania, which is second only to Ohio among U.S. states. The SEDA-COG MPO counties are home to approximately 6,800 Amish, which is 12% of the Pennsylvania total. The Amish settlements in Mifflin County are the 12th largest in the United States and the second largest in Pennsylvania, after Lancaster County.15

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 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, which has already been noted anecdotally in the SEDA-COG MPO region, is for Amish to buy 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.16

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 the 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.17

e. Population over 65 Years

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% of Pennsylvania’s total 2010 population was 65 and older. Figure 8 charts the 2000 and 2010 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 (see Figure 9) the proportion of the total population age 65 and over is expected to increase from about 17% in 2010 (about 1 in 6 persons) to more than 23% in 2030 (about 1 in 4 persons).

Figure 8. Population 65 Years and Older (2000 to 2040 by Population)

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: ¹⁸

- 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.

Two initiatives of the Federal Transit Agency (FTA)—Rides to Wellness¹⁹ and Ladders of Opportunity²⁰—are addressing the desire to age in place and develop age-friendly communities where Seniors will have reliable transportation options for reaching healthcare facilities and wellness resources.


f. 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 10 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 8.5 percent for the SEDA-COG MPO region, as compared to the national average of 8.9 percent. The Pennsylvania average is 11.5 percent.

In many areas, the distribution of low-vehicle access households is a direct expression of 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 Old Order Amish and Mennonite populations, which are significant in the MPO area. The hatching in Figure 10 highlights tracts where the percentage of West Germanic (PA Dutch) speaking persons with “limited English proficiency” is higher than the regional average, indicating a concentration of Old Order Amish or Mennonite who speak PA Dutch and are more likely to rely on horse-and-buggy transportation. As such, a strong pattern of correlation is demonstrated between tracts with low vehicle access and those with substantial PA Dutch-speaking, LEP persons.

The presence of Old Order 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 PA Dutch-speaking, LEP populations.

---

Households without Vehicle Access

Long Range Transportation Plan

Figure 10

Percent Households Without Access to a Vehicle by Tract

- 0 - 4.2
- 4.3 - 8.5
- 8.6 - 12.8
- 12.9 - 17.1
- 17.2 - 100
- PA Dutch LEP > 1.0% Regional Average

Regional Threshold: 8.6%

Legend:
- SEDA-COG MPO
- Major Place
- Major River
- Interstate Hwy
- US Hwy
- Major PA Rt

Map Scale: 1 inch = 8.21 miles
1:520,000

April, 2016
2. Employment

As shown in Table 13, the number of jobs grew from 2013 to 2015 in every SEDA-COG MPO county except Montour County. Montour experienced a dramatic loss of more than 3,000 jobs. Overall, the MPO region saw a 2.8% increase in jobs from 2013 to 2015. The counties with the largest number of jobs are Columbia and Northumberland counties.

Table 13. Employment by County

<table>
<thead>
<tr>
<th>Geographic Area</th>
<th>Jobs 2013 Q1</th>
<th>Jobs 2015 Q3</th>
<th>2015 Q3 Percent of Region Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton County</td>
<td>11,377</td>
<td>11,513</td>
<td>8.8%</td>
</tr>
<tr>
<td>Columbia County</td>
<td>21,502</td>
<td>24,445</td>
<td>18.6%</td>
</tr>
<tr>
<td>Juniata County</td>
<td>6,057</td>
<td>6,222</td>
<td>4.7%</td>
</tr>
<tr>
<td>Mifflin County</td>
<td>14,849</td>
<td>14,892</td>
<td>11.3%</td>
</tr>
<tr>
<td>Montour County</td>
<td>18,791</td>
<td>15,572</td>
<td>11.8%</td>
</tr>
<tr>
<td>Northumberland County</td>
<td>26,699</td>
<td>27,997</td>
<td>21.3%</td>
</tr>
<tr>
<td>Snyder County</td>
<td>15,291</td>
<td>15,637</td>
<td>11.9%</td>
</tr>
<tr>
<td>Union County</td>
<td>13,334</td>
<td>15,245</td>
<td>11.6%</td>
</tr>
<tr>
<td><strong>SEDA-COG MPO REGION</strong></td>
<td>127,900</td>
<td>131,523</td>
<td>100.0%</td>
</tr>
<tr>
<td><strong>Trend</strong></td>
<td></td>
<td></td>
<td>+2.8%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, LEHD QWI for 1st Quarter 2013 and 2nd Quarter 2015, 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 11 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. 21

The most intensive clustering 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.

Table 14 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% 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 14. 2014 Employment by Economic Sector, Primary Jobs

<table>
<thead>
<tr>
<th>Industry Classification</th>
<th>2014 Primary Jobs</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>1,082</td>
<td>0.8%</td>
</tr>
<tr>
<td>Mining, Quarrying, and Oil and Gas Extraction</td>
<td>671</td>
<td>0.5%</td>
</tr>
<tr>
<td>Utilities</td>
<td>740</td>
<td>0.6%</td>
</tr>
<tr>
<td>Construction</td>
<td>5,118</td>
<td>4.0%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>23,430</td>
<td>18.3%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>3,873</td>
<td>3.0%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>14,485</td>
<td>11.3%</td>
</tr>
<tr>
<td>Transportation and Warehousing</td>
<td>5,611</td>
<td>4.4%</td>
</tr>
<tr>
<td>Information</td>
<td>1,212</td>
<td>0.9%</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>3,630</td>
<td>2.8%</td>
</tr>
<tr>
<td>Real Estate and Rental and Leasing</td>
<td>765</td>
<td>0.6%</td>
</tr>
<tr>
<td>Professional, Scientific, and Technical Services</td>
<td>2,946</td>
<td>2.3%</td>
</tr>
<tr>
<td>Management of Companies and Enterprises</td>
<td>4,007</td>
<td>3.1%</td>
</tr>
<tr>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>3,026</td>
<td>2.4%</td>
</tr>
<tr>
<td>Educational Services</td>
<td>11,838</td>
<td>9.2%</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>26,702</td>
<td>20.8%</td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>777</td>
<td>0.6%</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>9,766</td>
<td>7.6%</td>
</tr>
<tr>
<td>Other Services [except Public Administration]</td>
<td>3,054</td>
<td>2.4%</td>
</tr>
<tr>
<td>Public Administration</td>
<td>5,379</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>Total 2014 Workers</strong></td>
<td><strong>128,112</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>


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 15 gives 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 purchased employment data for the 11-county SEDA-COG region and all bordering counties. Verification of this data was ongoing at the time of this LRTP.
Employment Intensity by Census Block

Long Range Transportation Plan

Number of Employees
- less than 50
- 50 to 99
- 100 to 499
- 500 to 799
- 800 or more

Major River
- SEDA-COG MPO
- MPO City/Borough/Town

Data Sources: PennDOT, SEDA-COG

PA State Plane North, NAD83 feet

March, 2016

1 inch = 8.18 miles
1:518,354

Figure 11
### Table 15. Top Employers by County

<table>
<thead>
<tr>
<th>Rank</th>
<th>Employer</th>
<th>Rank</th>
<th>Employer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clinton County</td>
<td></td>
<td>Montour County</td>
</tr>
<tr>
<td>1</td>
<td>KEYSTONE CENTRAL SCHOOL DISTRICT</td>
<td>1</td>
<td>GEISINGER MEDICAL CENTER</td>
</tr>
<tr>
<td>2</td>
<td>FIRST QUALITY PRODUCTS INC</td>
<td>2</td>
<td>GEISINGER SYSTEM SERVICES</td>
</tr>
<tr>
<td>3</td>
<td>PA STATE SYSTEM OF HIGHER EDUCATION</td>
<td>3</td>
<td>GEISINGER CLINIC</td>
</tr>
<tr>
<td>4</td>
<td>FIRST QUALITY TISSUE, LLC</td>
<td>4</td>
<td>GEISINGER HEALTH PLAN</td>
</tr>
<tr>
<td>5</td>
<td>TRUCK-LITE CO INC</td>
<td>5</td>
<td>STATE GOVERNMENT</td>
</tr>
<tr>
<td>6</td>
<td>WAL-MART ASSOCIATES INC</td>
<td>6</td>
<td>DANVILLE AREA SCHOOL DISTRICT</td>
</tr>
<tr>
<td>7</td>
<td>LOCK HAVEN HOSPITAL</td>
<td>7</td>
<td>GREAT DANE LP</td>
</tr>
<tr>
<td>8</td>
<td>CLINTON COUNTY COMMISSIONERS</td>
<td>8</td>
<td>MARIA JOSEPH MANOR</td>
</tr>
<tr>
<td>9</td>
<td>STATE GOVERNMENT</td>
<td>9</td>
<td>HEALTHSOUTH/GHS LLC</td>
</tr>
<tr>
<td>10</td>
<td>TRICAN WELL SERVICE LP</td>
<td>10</td>
<td>PPL MONTOUR LLC</td>
</tr>
<tr>
<td></td>
<td>Columbia County</td>
<td></td>
<td>Northumberland County</td>
</tr>
<tr>
<td>1</td>
<td>PA STATE SYSTEM OF HIGHER EDUCATION</td>
<td>1</td>
<td>WEIS MARKETS INC</td>
</tr>
<tr>
<td>2</td>
<td>GEISINGER SYSTEM SERVICES</td>
<td>2</td>
<td>H H KNOEBEL SONS INC</td>
</tr>
<tr>
<td>3</td>
<td>WISE FOODS INC</td>
<td>3</td>
<td>STATE GOVERNMENT</td>
</tr>
<tr>
<td>4</td>
<td>AUTONEUM NORTH AMERICA INC</td>
<td>4</td>
<td>CONAGRA FOODS PACKAGED FOODS CO INC</td>
</tr>
<tr>
<td>5</td>
<td>BERWICK OFFRAY LLC</td>
<td>5</td>
<td>NORTHUMBERLAND COUNTY</td>
</tr>
<tr>
<td>6</td>
<td>BIG HEART PET BRANDS</td>
<td>6</td>
<td>SHIKELLAMY SCHOOL DISTRICT</td>
</tr>
<tr>
<td>7</td>
<td>BERWICK HOSPITAL CO INC</td>
<td>7</td>
<td>WATSONTOWN TRUCKING CO INC</td>
</tr>
<tr>
<td>8</td>
<td>KAWNEER COMPANY INC</td>
<td>8</td>
<td>CENTRAL SUSQUEHANNA INTERMEDIATE UNIT</td>
</tr>
<tr>
<td>9</td>
<td>DT KEYSTONE DISTRIBUTION RLLLP</td>
<td>9</td>
<td>FURMAN FOODS INC</td>
</tr>
<tr>
<td>10</td>
<td>METROPOLITAN TRUCKING</td>
<td>10</td>
<td>SHAMOKIN AREA SCHOOL DISTRICT</td>
</tr>
<tr>
<td></td>
<td>Juniata County</td>
<td></td>
<td>Snyder County</td>
</tr>
<tr>
<td>1</td>
<td>EMPIRE KOSHER POULTRY INC</td>
<td>1</td>
<td>WOOD MODE INCORPORATED</td>
</tr>
<tr>
<td>2</td>
<td>AC PRODUCTS INC</td>
<td>2</td>
<td>STATE GOVERNMENT</td>
</tr>
<tr>
<td>3</td>
<td>JUNIATA COUNTY SCHOOL DISTRICT</td>
<td>3</td>
<td>SUSQUEHANNA UNIVERSITY</td>
</tr>
<tr>
<td>4</td>
<td>INNOVATIVE SHARED SERVICES LLC</td>
<td>4</td>
<td>SELINSgroVE AREA SCHOOL DISTRICT</td>
</tr>
<tr>
<td>5</td>
<td>ZIMMERMAN TRUCK LINES INC</td>
<td>5</td>
<td>CONESTOGA WOOD SPECIALTIES</td>
</tr>
<tr>
<td>6</td>
<td>WEIS MARKETS INC</td>
<td>6</td>
<td>MIDD WEST SCHOOL DISTRICT</td>
</tr>
<tr>
<td>7</td>
<td>STATE GOVERNMENT</td>
<td>7</td>
<td>NATIONAL BEE</td>
</tr>
<tr>
<td>8</td>
<td>BROOKLINE AT MIFFLINTOWN INC</td>
<td>8</td>
<td>PROFESSIONAL BUILDING SYSTEMS INC</td>
</tr>
<tr>
<td>9</td>
<td>JUNIATA VALLEY BANK</td>
<td>9</td>
<td>WAL-MART ASSOCIATES INC</td>
</tr>
<tr>
<td>10</td>
<td>FIRST NATIONAL BANK OF MIFFLINTOWN</td>
<td>10</td>
<td>UNITED CEREBRAL PALS OF CENTRAL PA</td>
</tr>
<tr>
<td></td>
<td>Mifflin County</td>
<td></td>
<td>Union County</td>
</tr>
<tr>
<td>1</td>
<td>GEISINGER-LEWISTOWN HOSPITAL</td>
<td>1</td>
<td>FEDERAL GOVERNMENT</td>
</tr>
<tr>
<td>2</td>
<td>STANDARD STEEL LLC</td>
<td>2</td>
<td>EVANGELICAL COMMUNITY HOSPITAL</td>
</tr>
<tr>
<td>3</td>
<td>MIFFLIN COUNTY SCHOOL DISTRICT</td>
<td>3</td>
<td>BUCKNELL UNIVERSITY</td>
</tr>
<tr>
<td>4</td>
<td>TRINITY PLASTICS INC</td>
<td>4</td>
<td>DNA CENTRAL INC</td>
</tr>
<tr>
<td>5</td>
<td>FIRST QUALITY BABY PRODUCTS LLC</td>
<td>5</td>
<td>ALBRIGHT CARE SERVICES WAL-MART ASSOCIATES INC</td>
</tr>
<tr>
<td>6</td>
<td>PHILIPS ULTRASOUND INC</td>
<td>6</td>
<td>WAL-MART ASSOCIATES INC</td>
</tr>
<tr>
<td>7</td>
<td>VALLEY VIEW HAVEN</td>
<td>7</td>
<td>RITZ-CRAFT CORPORATION OF PA</td>
</tr>
<tr>
<td>8</td>
<td>WAL-MART ASSOCIATES INC</td>
<td>8</td>
<td>MIFFLINBURG AREA SCHOOL DISTRICT</td>
</tr>
<tr>
<td>9</td>
<td>TUSCARORA INTERMEDIATE UNIT II</td>
<td>9</td>
<td>PLAYWORLD SYSTEMS INC</td>
</tr>
<tr>
<td>10</td>
<td>UNITED CEREBRAL PALS OF CENTRAL PA</td>
<td>10</td>
<td>COUNTRY CUPBOARD INC</td>
</tr>
</tbody>
</table>

Source: PA Department of Labor & Industry, 2nd Quarter 2015 Initial Data; Federal and State Government Entities Aggregated, [http://www.workstats.dli.pa.gov/Products/Top50/Pages/default.aspx](http://www.workstats.dli.pa.gov/Products/Top50/Pages/default.aspx).
D. Tourism & Recreation

The SEDA-COG MPO region offers many recreational opportunities that contribute to the significant tourism in the area (see Figure 12).

Clinton County is part of the 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 contains mile after mile of rolling hills and boasts six state parks. State parks include 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 12, 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.

Table 16 summarizes the total tourism economy impacts within the SEDA-COG MPO region. The table shows that tourism generated over $920 million in revenue in 2013 and supplied almost 11,500 jobs throughout the SEDA-COG MPO region.

Table 16. Total Tourism Economic Impacts (Year 2013)

<table>
<thead>
<tr>
<th>County</th>
<th>Total Tourism Demand</th>
<th>Employment</th>
<th>Labor Income</th>
<th>Taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Millions of dollars – Except Employment, in Units)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>State &amp; Local</td>
</tr>
<tr>
<td>Clinton</td>
<td>158.1</td>
<td>1,630</td>
<td>54.8</td>
<td>13.8</td>
</tr>
<tr>
<td>Columbia</td>
<td>161.3</td>
<td>2,072</td>
<td>63.4</td>
<td>14.4</td>
</tr>
<tr>
<td>Juniata</td>
<td>38.6</td>
<td>450</td>
<td>14.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Mifflin</td>
<td>68.1</td>
<td>1,055</td>
<td>33.4</td>
<td>6.3</td>
</tr>
<tr>
<td>Montour</td>
<td>107.3</td>
<td>1,284</td>
<td>38.4</td>
<td>9.9</td>
</tr>
<tr>
<td>Northumberland</td>
<td>130.5</td>
<td>1,896</td>
<td>68.0</td>
<td>12.4</td>
</tr>
<tr>
<td>Snyder</td>
<td>100.1</td>
<td>1,205</td>
<td>35.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Union</td>
<td>156.5</td>
<td>1,880</td>
<td>59.6</td>
<td>14.3</td>
</tr>
<tr>
<td>Total</td>
<td>920.5</td>
<td>11,472</td>
<td>367.5</td>
<td>82.6</td>
</tr>
</tbody>
</table>

E. Natural, Community, and Cultural Environments Resources

1. Linking Planning and NEPA

PennDOT’s Linking Planning and NEPA (LPN) initiative is intended to integrate the requirements of the National Environmental Policy Act (NEPA) with the transportation planning process by:

- Establishing a clear link from existing/planned land use in municipalities, counties, and regions (comprehensive plans, greenway plans, etc.) to the transportation planning and programming process in order to create better projects for communities; and
- Establishing a clear understanding of the types of information to be collected, activities to be conducted, the time of both, and documenting each to appropriate levels, so that documentation meets standards to be used in state and federal environmental documentation.\(^{22}\)

The LRTP also utilizes PennDOT’s Linking Planning and NEPA (LPN) Screening Forms, the GIS datasets linked into the LPN System, and SEDA-COG MPO’s Geographic Information System (GIS) data, acquired from each of the eight MPO counties, to identify potential impacts to the physical environment, both natural and constructed.

These efforts and additional public outreach contribute to an understanding of community context and needs in order to best preserve the natural and cultural resources of the SEDA-COG MPO region.

2. Existing Environment

This section summarizes the overall existing environment in the SEDA-COG MPO region. The "environment" can be said 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.

Through the LPN development process, PennDOT and cooperating agencies have made a large amount of additional data available for environmental resources, including streams (stocked, wild trout, High

\(^{22}\) PennDOT Center for Program Development and Management, Developing Regional Long-Range Plans, September 2010.
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 LPN Level 2 screening form, with requests made to the appropriate agencies for data that are not integrated directly into the system. 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 Level 2 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 will be supplemented with data collected for this and future LRTPs. This information will strengthen the context determination process, adding data on aspects such as locally designated historic districts, the inclusion of results of continuing local planning efforts not captured in statewide database updates, and the results of new and continuing regional efforts such as the River Towns Program. It should be noted that PennDOT, FHWA and the Pennsylvania Historical and Museum Commission (PHMC) conducted a cooperative effort to evaluate bridges over twenty feet in length 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 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 over 500 miles of connected trails and parks along the Susquehanna River, with accesses, green infrastructure and supporting facilities through a twenty-two county area. Through their various planning efforts, the Greenway 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 through the encouragement of complete streets design approaches and the creation of riparian buffer zones to reduce runoff rates in storm events. More information about current efforts can be found at the SGP website, 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. A listing of plans completed for the region’s counties, with web links where available, is included in Appendix B. Continuing to support the development of comprehensive plans, greenway plans and planning efforts such as the Lake Augusta Corridor Gateway Study is an implementation step for this plan.

The Economic Impact of Travel and Tourism in Pennsylvania for calendar year 2013 (available at http://www.visitpa.com/articles/research-statistics) identified that tourism direct sales totaled over 920 million dollars for the eight counties in the MPO. This underlines the importance of identifying and preserving resources and recreational opportunities within the region.

The project development process conducted for Transportation Improvement Program (TIP) updates within the region has indicated environmental impacts related to specific projects. Where required, the mitigation process has been tailored to impacts in question. This has ranged from the creation of wetland banks, alterations in design to accommodate pedestrian or river-borne traffic, to observance of restrictions on activities to avoid conflicts with threatened and endangered species, to the provision of additional shoulder width to accommodate pedestrian and non-motorized traffic, or the use of tunnel or bridge structures to maintain connectivity for pedestrian and non-motorized vehicle traffic, or to preserve historic assets.

LPN and Agency Coordination

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 April 27, 2016. The presentation, supporting materials, and a meeting summary are provided in Appendix C.

As part of the project development process for the projects included in this plan, programmed projects were run through the Level 2 environmental screening for the LPN process described above, and through preliminary screening by the Pennsylvania Natural Diversity Inventory (PNDI) environmental review and project planning tool. The process for identifying these projects will be described in later sections, but the results of the screening and PNDI review were aggregated for the purpose of presentation at the ACM.

The ACM presentation included an overview of potential impacts based on a sampling of 58 projects (35 TYP projects and 23 LRTP projects). See Figure 13. It was shown that the resources most likely to be impacted included prime and statewide important farmland soils, historic properties, NWI wetlands and 100-year floodplains. The resource least likely to be impacted included wilderness trout streams, Land and Water Conservation Fund lands (Section 6(f)), state parks, Hazard Mitigation Assistance Program properties, and navigable waterways.
Figure 13. LRTP Potential Impact Evaluation

[Bar chart showing various environmental and land use categories and their potential impact scores]

- Count of scores of 8 or higher
- Count of scores 2 to 7
CORE TRANSPORTATION INVENTORIES & TRENDS

A. Infrastructure Condition

The infrastructure condition in the SEDA-COG MPO region has generally been improving since the last plan update and performance targets are being met, as will be discussed in later plan chapters. The following section provides a snapshot of the condition as it exists in 2014.

1. Highway & Street Pavement

   a. International Roughness Index (IRI)

   The International Roughness Index, or IRI, is the current FHWA standard for measuring highway pavement ride quality. The index measures roughness in terms of the number of inches per mile that a laser, mounted in a specialized van, jumps as it is driven across the interstate and expressway system—the lower the IRI number, the smoother the ride. Since the IRI provides an easy-to-collect measure of pavement surface condition that has nationwide consistency and comparability, it was chosen for use in FHWA’s Highway Performance Monitoring System.\(^23\)

   Figure 14 illustrates the IRI ratings on roadways in the SEDA-COG MPO. The range of IRI values are summarized broadly as Excellent, Good, Fair and Poor. Figure 15 summarizes IRI values across the Business Plan Network classifications. As can be seen from Figure 15, as well as the poor IRI chart in Figure 16, trends are maintaining in the region, except for the lower business plan networks. It should also be noted that a number of miles of roadway moved from the Non-NHS >2000 to the NHS-Non Interstate categories between 2010 and 2014. If you consider those combined categories, there were a number of miles (about 20) that moved from the excellent to good category during this time period, which is reflective of the deteriorating roadway conditions in part due to the recent funding emphasis on bridges.

   b. Overall Pavement Index (OPI)

   The Overall Pavement Index (OPI) is a Pennsylvania-specific parameter that incorporates the IRI and other pavement distress indicators, including cracking, edge deterioration, rutting, and other signs of deterioration that are collected as part of a visual survey process.

   Figure 17 summarizes OPI values across the Business Plan Network classifications. As can be seen from Figure 17, as well as the poor OPI chart in Figure 18, trends are maintaining in the region except for the lower business plan networks. It should also be noted that a number of miles of roadway moved from the Non-NHS >2000 to the NHS-Non Interstate categories between 2010 and 2014. If you consider those combined categories, there were a number of miles (about 90) that moved from the excellent to good category during this time period, which is reflective of the deteriorating roadway conditions in part due to the recent funding emphasis placed on bridges.

---

Figure 14

Roadway Pavement Conditions

Long Range Transportation Plan

International Roughness Index (IRI) Condition Categories

- Excellent
- Good
- Fair
- Poor
- Condition Unknown

County & Township Roads (no data)

Major River

SEDA-COG MPO

MPO City/Borough/Town

Data Sources: PennDOT, SEDA-COG

PA State Plane North, NAD83 feet

April, 2016
Figure 15. Segment Miles by Business Plan Network with IRI Ratings

![Chart showing segment miles by IRI ratings for different network types and time periods from 2010 to 2014.]

<table>
<thead>
<tr>
<th></th>
<th>Interstate</th>
<th>NHNS, Non-interstate</th>
<th>Non-NHNS, &gt;2000 ADT</th>
<th>Non-NHNS, &lt;2000 ADT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Excellent IRI</strong></td>
<td>2010</td>
<td>2014</td>
<td>2010</td>
<td>2014</td>
</tr>
<tr>
<td></td>
<td>131.5</td>
<td>118.0</td>
<td>158.8</td>
<td>214.7</td>
</tr>
<tr>
<td><strong>Good IRI</strong></td>
<td>85.5</td>
<td>41.2</td>
<td>132.6</td>
<td>170.8</td>
</tr>
<tr>
<td><strong>Fair IRI</strong></td>
<td>4.1</td>
<td>3.7</td>
<td>33.7</td>
<td>37.1</td>
</tr>
<tr>
<td><strong>Poor IRI</strong></td>
<td>0.6</td>
<td>0.0</td>
<td>7.6</td>
<td>9.8</td>
</tr>
</tbody>
</table>


Figure 16. Poor IRI by Percent of Total Lane Miles, 2010-2014

![Chart showing percentage of poor IRI miles by network type and time period from 2010 to 2014.]

Source: 2010-2014 Performance Measures Annual Reports – Pavement, PennDOT.
Figure 17. Surface Out-of-Cycle Segment Miles by Business Plan Network with OPI Ratings

![Surface Out-of-Cycle Segment Miles by Business Plan Network with OPI Ratings](image)

<table>
<thead>
<tr>
<th></th>
<th>Interstate</th>
<th>NHS, Non-Interstate</th>
<th>Non-NHS, &gt;2000 ADT</th>
<th>Non-NHS, &lt;2000 ADT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent OPI</td>
<td>70.0</td>
<td>46.6</td>
<td>85.5</td>
<td>79.0</td>
</tr>
<tr>
<td>Good OPI</td>
<td>101.3</td>
<td>115.1</td>
<td>192.3</td>
<td>278.8</td>
</tr>
<tr>
<td>Fair OPI</td>
<td>0.4</td>
<td>1.0</td>
<td>25.7</td>
<td>28.5</td>
</tr>
<tr>
<td>Poor OPI</td>
<td>0.0</td>
<td>0.0</td>
<td>3.0</td>
<td>8.0</td>
</tr>
</tbody>
</table>


Figure 18. Poor OPI by Percentage of Total Lane Miles, 2010-2014

![Poor OPI by Percentage of Total Lane Miles, 2010-2014](image)

Source: 2010-2014 Performance Measures Annual Reports – Pavement, PennDOT.
2. Bridges

Bridge condition is evaluated during National Bridge Inspection Standards (NBIS) inspections that examine the primary structural components (deck, superstructure, substructure) and auxiliary components (waterway, roadway approaches) and looks for signs of deterioration. Inspections are conducted at various frequencies based on NBIS and PennDOT regulations. Weight restricted and structurally deficient (SD) bridges are inspected more frequently. PennDOT applies the “structurally deficient” classification where deterioration is affecting the bridge’s three primary structural components. When quantifying and evaluating the extent of structural deficiency across the full inventory of bridges, it is common to reference the number of SD bridges as well as the total bridge deck area (bridge length times width) of all SD bridges.

a. Bridges of Special Concern

Figure 19, Figure 20, Figure 21, Figure 22 and Figure 23 illustrate a number of bridges of special concern as noted in the SEDA-COG MPO region. These maps identify and illustrate the following:

- **Large bridges**, including:
  - Bridges longer than 1,000 feet
  - Bridges between 500 and 10,000 feet

  *Large bridges are identified because of their high value, both in terms of the connectivity they provide and the costs associated with repair/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 investment plan (TIP).*

- **Weight-restricted (posted) state & local bridges**

  *These bridges have limitations on the amount of weight they can carry, whether by design or progressive deterioration/damage to the structure. Many of these bridges are on their way to becoming structurally deficient and may be inspected more often to affirm their integrity.*

- **Structurally-deficient (SD) state & local bridges**

  *These bridges 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 is home to a number of 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 numerous bridges (many packaged into bundles). The bridges were either closed previously or carry very low traffic volume and have the owner’s endorsement for removal. See “Bridge Removals” in the Issues and Implications chapter for additional discussion.*
Figure 21

Bridges of Special Concern
Juniata & Mifflin Counties

- State Bridge over 500 Ft in Length
- State Bridge over 1,000 Ft in Length
- Proposed Bridge Bundle Removals
- Covered Bridge Open to Vehicular Traffic
- Weight Restricted Local Bridge
- Weight Restricted State Bridge
- Structurally Deficient Local Bridge
- Structurally Deficient State Bridge

- Major River
- Smaller Stream
- Interstate Hwy
- US Hwy
- Major PA Rt
- SEDA-COG MPO
- MPO City/Borough/Town
- Local Roads

Bridge Data: PennDOT State Bridges July 2015 and Local Bridges April 2015

1 inch = 3.79 miles
April, 2016
Figure 22

Bridges of Special Concern
Montour & Northumberland Counties

- State Bridge over 500 Ft in Length
- State Bridge over 1,000 Ft in Length
- Proposed Bridge Bundle Removals
- Covered Bridge Open to Vehicular Traffic
- Weight Restricted Local Bridge
- Weight Restricted State Bridge
- Structurally Deficient Local Bridge
- Structurally Deficient State Bridge

- Major River
- Smaller Stream
- Interstate Hwy
- US Hwy
- SEDA-COG MPO
- Major PA Rt
- MPO City/Borough/Town
- Local Roads

Bridge Data: PennDOT State Bridges July 2015 and Local Bridges April 2015

P A State Plane North, NAD83 feet

April, 2016

1 inch = 3.71 miles
1:235,000
b. State Bridges

The general integrity of state-owned bridges was evaluated in terms of the FHWA’s sufficiency rating, as provided by PennDOT. The sufficiency rating, which was developed as a prioritization tool for allocating improvement funds, assesses bridges on a scale from 0 (poor) to 100 (very good) based on structural adequacy, whether the bridge is functionally obsolete and the level-of service provided to the public. It should be noted that PennDOT’s system for identifying structurally deficient bridges differs somewhat from FHWA’s sufficiency rating scheme.

PennDOT prepares a Performance Measures Annual Report for Bridges where structurally deficient percentages by bridge count and deck area are measured against target values. These performance measures are consistent with the FHWA rulemaking that established new requirements for performance management. FHWA’s new requirements were intended to ensure an efficient investment of federal transportation funds for state bridges (equal to or greater than 8 feet in length) and county/locally-owned bridges (equal to or greater than 20 feet in length).

Table 17 shows the number of bridges on state routes that are greater than eight feet in length within each of the SEDA-COG MPO counties, based on the Asset Management Bridge Works Excel Spreadsheet by County. Included in this table are the total number of closed and posted bridges as well as the number of structurally deficient bridges. The locations of structurally deficient bridges are mapped along with the other Bridges of Special Concern in Figure 19, Figure 20, Figure 21, Figure 22 and Figure 23.

Table 17. Status of Bridges on the State Route System, 2016

<table>
<thead>
<tr>
<th>County</th>
<th>Total Count</th>
<th>Total Deck Area (Msf)*</th>
<th>Closed Bridges</th>
<th>Posted Bridges</th>
<th>SD Count</th>
<th>% SD by Count</th>
<th>SD Deck Area (Msf)*</th>
<th>% SD by Deck Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>248</td>
<td>1.3671</td>
<td>0</td>
<td>6</td>
<td>28</td>
<td>11.3%</td>
<td>0.0631</td>
<td>4.6%</td>
</tr>
<tr>
<td>Columbia</td>
<td>303</td>
<td>1.1672</td>
<td>0</td>
<td>1</td>
<td>12</td>
<td>4.0%</td>
<td>0.0101</td>
<td>0.9%</td>
</tr>
<tr>
<td>Juniata</td>
<td>254</td>
<td>0.5880</td>
<td>0</td>
<td>8</td>
<td>53</td>
<td>20.9%</td>
<td>0.0669</td>
<td>11.4%</td>
</tr>
<tr>
<td>Mifflin</td>
<td>184</td>
<td>0.8632</td>
<td>0</td>
<td>3</td>
<td>19</td>
<td>10.3%</td>
<td>0.0338</td>
<td>3.9%</td>
</tr>
<tr>
<td>Montour</td>
<td>133</td>
<td>0.3270</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1.5%</td>
<td>0.0026</td>
<td>0.8%</td>
</tr>
<tr>
<td>Northumberland</td>
<td>340</td>
<td>1.4737</td>
<td>0</td>
<td>1</td>
<td>17</td>
<td>5.0%</td>
<td>0.0112</td>
<td>0.8%</td>
</tr>
<tr>
<td>Snyder</td>
<td>240</td>
<td>0.4595</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>1.7%</td>
<td>0.0101</td>
<td>2.2%</td>
</tr>
<tr>
<td>Union</td>
<td>197</td>
<td>0.4225</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>3.0%</td>
<td>0.0148</td>
<td>3.5%</td>
</tr>
<tr>
<td>SEDA-COG MPO</td>
<td>1899</td>
<td>6.6682</td>
<td>0</td>
<td>22</td>
<td>141</td>
<td>7.4%</td>
<td>0.8147</td>
<td>3.2%</td>
</tr>
</tbody>
</table>


* Msf = Million Square Feet

a. Local Bridges

Table 18 shows the number of county and municipal bridges that are greater than 20 feet in length within each of the SEDA-COG MPO counties, based on the Asset Management Bridge Works Excel Spreadsheet by County. Included in this table are the total number of closed and posted bridges as well as the number of structurally deficient bridges. The locations of the structurally deficient local bridges are mapped along with the other Bridges of Special Concern on Figure 19, Figure 20, Figure 21, Figure 22 and Figure 23.

Table 18 shows the number of county and municipal bridges that are greater than 20 feet in length within each of the SEDA-COG MPO counties, based on the Asset Management Bridge Works Excel Spreadsheet by County. Included in this table are the total number of closed and posted bridges as well as the number of structurally deficient bridges. The locations of the structurally deficient local bridges are mapped along with the other Bridges of Special Concern on Figure 19, Figure 20, Figure 21, Figure 22 and Figure 23.
Table 18. Status of Bridges on Local Route System (Length 20' or Greater), 2016

<table>
<thead>
<tr>
<th>County</th>
<th>Total Count</th>
<th>Total Deck Area (Msf)*</th>
<th>Closed Bridges (County)</th>
<th>Posted Bridges (County)</th>
<th>SD Count (County)</th>
<th>% SD by Count</th>
<th>SD-Deck Area (Msf)*</th>
<th>% SD by Deck Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>20</td>
<td>0.0337</td>
<td>1 (0)</td>
<td>10 (1)</td>
<td>12 (2)</td>
<td>60.0%</td>
<td>0.0272</td>
<td>80.7%</td>
</tr>
<tr>
<td>Columbia</td>
<td>89</td>
<td>0.1104</td>
<td>1 (1)</td>
<td>37 (27)</td>
<td>37 (24)</td>
<td>41.6%</td>
<td>0.0399</td>
<td>36.1%</td>
</tr>
<tr>
<td>Juniata</td>
<td>36</td>
<td>0.0293</td>
<td>1 (0)</td>
<td>9 (0)</td>
<td>15 (0)</td>
<td>41.7%</td>
<td>0.0117</td>
<td>39.9%</td>
</tr>
<tr>
<td>Mifflin</td>
<td>50</td>
<td>0.0735</td>
<td>1 (1)</td>
<td>6 (0)</td>
<td>12 (2)</td>
<td>24.0%</td>
<td>0.0154</td>
<td>21.0%</td>
</tr>
<tr>
<td>Montour</td>
<td>27</td>
<td>0.0300</td>
<td>3 (2)</td>
<td>6 (6)</td>
<td>9 (5)</td>
<td>33.3%</td>
<td>0.0104</td>
<td>34.7%</td>
</tr>
<tr>
<td>Northumberland</td>
<td>92</td>
<td>0.1216</td>
<td>2 (2)</td>
<td>25 (22)</td>
<td>16 (13)</td>
<td>17.4%</td>
<td>0.0190</td>
<td>15.6%</td>
</tr>
<tr>
<td>Snyder</td>
<td>33</td>
<td>0.0405</td>
<td>0 (0)</td>
<td>8 (0)</td>
<td>8 (0)</td>
<td>24.2%</td>
<td>0.0066</td>
<td>16.3%</td>
</tr>
<tr>
<td>Union</td>
<td>42</td>
<td>0.0536</td>
<td>2 (2)</td>
<td>17 (15)</td>
<td>11 (11)</td>
<td>26.2%</td>
<td>0.0125</td>
<td>23.3%</td>
</tr>
<tr>
<td>SEDA-COG MPO</td>
<td>389</td>
<td>0.4926</td>
<td>11 (8)</td>
<td>118 (71)</td>
<td>120 (57)</td>
<td>30.8%</td>
<td>0.1427</td>
<td>29.0%</td>
</tr>
</tbody>
</table>

* Msf = Million Square Feet

Since 2010, PennDOT has invested approximately $670 million to preserve more than 2,200 bridges across the Commonwealth. With the passage of Act 89 in November 2013, the amount of funding dedicated to transportation projects will be increasing in the coming years and many of those dollars will be dedicated to reducing the amount of structurally deficient bridges in the SEDA-COG MPO region.

b. Status of Inventories (>20’, <20’)

A significant effort has been placed on finding, inventorying and assessing the local bridges in the area and across the Commonwealth. Table 19 summarizes data on locally-owned bridges with a length between 8 feet and 20 feet using proportions from PennDOT’s Bridge Management System as a predictive tool for estimating the number of local bridges of length 8 feet to 20 feet that may be expected. The actual number of local bridges of length 8 feet to 20 feet is given in the right-most column of the table. The original estimate of bridges between 8 feet and 20 feet was about one third of the actual numbers found and inventoried to date.

Table 19. Estimated vs. Found Local Bridges 8 to 20 Feet in Length

<table>
<thead>
<tr>
<th></th>
<th>State Owned Bridges</th>
<th>Locally Owned Bridges</th>
<th>Actual Number of Bridges 8' to 20' **</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Length over 20'</td>
<td>Length 8' to 20'</td>
<td>Estimated Number of Bridges Length 8' to 20' **</td>
</tr>
<tr>
<td>Number of Structures</td>
<td>1174</td>
<td>719</td>
<td>388</td>
</tr>
<tr>
<td></td>
<td>62%</td>
<td>38%</td>
<td>62%</td>
</tr>
<tr>
<td>Deck Area</td>
<td>6,318,959</td>
<td>329,433</td>
<td>489,339</td>
</tr>
<tr>
<td></td>
<td>95%</td>
<td>5%</td>
<td>95%</td>
</tr>
</tbody>
</table>

* Estimates based on proportions in state owned network.
** Actual number based on inventory results.

3. Infrastructure Demand & Performance

a. 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 (24-hour period), which accounts for a full cycle of daily travel activity. Finally, to account for travel distance, the volume is normalized according to the roadway mileage and expressed in terms of Daily Vehicle Miles Traveled (DVMT). Figure 24 illustrates the trend of flat or decreasing DVMT during the 5-year period from 2010 to 2014. A total decrease of about 4 percent was observed during the 5-year period.

Historically, increases in DVMT have fueled increases in transportation revenue. However, nationwide DVMT has been flat or decreasing since its peak in the mid-2000s. While the decrease was initially viewed as an anomaly, the trend has been sustained for more than a decade, and transportation departments are now factoring the trend into future investment plans. With flat DVMT and a fixed gas tax as the primary transportation revenue source, the dollars flowing into transportation investment will also be flat or reducing—especially when coupled with increased fuel economy, alternative vehicle fuels, and the next generation having lower vehicle ownership rates. Plus, over time, the dollar value erodes due to inflation in costs.

![Figure 24. Daily Vehicle Miles of Travel by County, 2010-2014](source)

Figure 24 and Figure 26 illustrate total traffic volume and heavy truck traffic volume, respectively, in terms of average daily volume. 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, symbolized in dark red and representing volumes greater than 15,000 ADT, are I-80, I-180, US 15, US 11, and PA 147. Within the more urbanized areas, traffic volume intensifies on the major

---

24 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.
thoroughfares. However, as a dominantly rural area, the largest mileage of roadways in the SEDA-COG MPO region falls into the 2,000 to 10,000 ADT range. 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.

The volumes of heavy trucks shown in Figure 26 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 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 life 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.

a. Operational Capacity & Level-of Service

Present and future traffic congestion was evaluated using data from the PA Statewide Travel Demand Model, as revised in 2014. The model estimates the amount of vehicular traffic wanting to travel between origins and destinations and then assigns the traffic to the roadway system on logical paths. The resulting model provides traffic volume (passenger vehicles and trucks), travel times and a comparison of traffic volume to the roadway capacity.

The volume-to-capacity (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 a high volume of heavy trucks. At v/c greater than 1.0, congested conditions are evident during more of the day, and peak hours are particularly problematic. This does not necessarily mean that traffic comes to a standstill, but it does indicate the flow is less stable. Distances between cars close up, speeds decrease, and an otherwise minor disturbance (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. The reliability of the roadway declines, as it becomes harder to predict travel time.

In the 2012 Base Year model, v/c ratios greater than 1.0 were noted on 4 roadway segments, accounting for about 2 lane miles of the SEDA-COG MPO network. All of the congested segments were on Interstate 80. In the 2040 Future Year model, 52 roadway segments are projected to have v/c ratios greater than 1.0, which would account for about 52 lane miles. The segments were mostly on Interstate 80, but also included US 522 east of Selinsgrove and US 11 east of the intersection with PA 54. For this reason, the segments of I-80 through Montour and Columbia County should be monitored, as the combination of heavy trucks and roadway grades may generate congested conditions.

Figure 27 illustrates roadway segments on the 2040 forecasted model network according to v/c ratio ranges. Two red circles are used to point out the segments along US 11/US 522 in Snyder County and I-80 in Columbia County where v/c exceeds 1.0.

The PA Statewide Model files provided for the 2016 LRTP update were draft material and issues reported in the networks, coding, and traffic assignment results were all being addressed at the time this LRTP was prepared. Most significant to the SEDA-COG MPO was the absence of the CSVT roadway in the 2040 future year model.
Figure 27

2040 Travel Demand and Projected Congestion

Long Range Transportation Plan

2040 Volume-to-Capacity Ratio

- < 0.80
- 0.81 to 1.00
- > 1.00

** Note: 2040 model network scenario included with the model distribution did not assume construction of the CSVT Project.
Table 20 summarizes the 2012 and 2040 v/c ratios on roadway links (groups of segments) with projected congestion—i.e., where the 2040 v/c ratio was 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 20. Roadways with Projected Congestion in 2040

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

Source: PA Statewide Travel Demand Model, 2015.

Significant traffic congestion in the MPO, both present and in the future, is largely limited to the I-80 corridor and certain connection points along US 522 and US 11. Considering the trend toward decreasing DVMT and construction of CSVT to bypass current areas of congestion, widespread traffic congestion is a diminishing concern. Still, localized areas of congestion, particularly urbanized corridors, are likely to persist.

c. Safety/Crash History

   (1) National Safety Policy

The following is an excerpt from the FHWA’s Safety program area website, regarding the national policy and direction for transportation safety programs:

   FHWA is committed to the vision of eliminating fatalities and serious injuries on our Nation’s roadways. This approach echoes the Department of Transportation's Strategic Plan, which articulates the goal of "working toward no fatalities across all modes of travel"; the FHWA’s strategic goal of ensuring the “nation’s highway system provides safe, reliable, effective, and sustainable mobility for all users”; and the emphasis on safety that FHWA renews every year in our strategic implementation efforts.

   The Toward Zero Deaths (TZD) vision is a way of clearly and succinctly describing how an organization, or an individual, is going to approach safety – even one death on our transportation system is unacceptable. TZD uses a data-driven, interdisciplinary approach that FHWA has been promoting for many years. The TZD approach targets areas for improvement.

and employs proven countermeasures, integrating application of education, enforcement, engineering, and emergency medical and trauma services.

FHWA administers the Highway Safety Improvement Program (HSIP) with the goal to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP requires that each State develop a Strategic Highway Safety Plan (SHSP)\(^{27}\). The SHSP is a data-driven, multi-year, statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. An SHSP identifies a State's key safety needs and guides investment decisions towards strategies and countermeasures with the most potential to save lives and prevent injuries. The collaborative process of developing and implementing an SHSP brings together, and draws on, the strengths and resources of all safety partners.

In addition, FHWA, along with the Federal Motor Carrier Safety Administration and the National Highway Traffic Safety Administration, provided technical support to a group of organizations that represent professionals with an active role in highway safety, led by the American Association of State Highway and Transportation Officials. This group developed the National Strategy on Highway Safety Toward Zero Deaths (National Strategy) – an overarching and common vision that drives and focuses collective efforts to eliminate injuries and fatalities on America's roads.

(2) Crash Data and Analysis

The performance of the highway system may also be evaluated in terms of its safety or lack thereof, according to the frequency, severity and distribution of roadway crashes. Such an evaluation not only suggests project locations, but also assists in prioritizing projects in comparison to others. The following evaluation of highway safety considers the history of reportable crashes for the previous 5-year period (January 1, 2010 to December 31, 2014), which was provided by PennDOT Central Office for all state-maintained roadways within the SEDA-COG MPO region.

(3) Roadway Segments

Crashes in the PennDOT crash database were identified and summarized by roadway segment. The Crash Rate for each segment was also calculated, and is given in terms of crashes-per-million-vehicle-miles-of-travel, essentially normalizing the number of crashes according to traffic volume and length of the segment.

For crash mapping and trend evaluations, the segments were divided into quartiles for both number of crashes and crash rate, and the quartiles were cross-classified according to the matrix grid shown in Figure 28. Quartiles for number of crashes were on the X-axis, and quartiles for crash rate were on the Y-axis. Analyzing crashes with this combined methodology neutralizes many of the shortcomings encountered when relying on the number of crashes or crash rate alone.

\(^{27}\) The Pennsylvania Strategic Highway Safety Plan may be found at:
The roadway segments were cross-classified into the matrix according to their quartile scores, and the mapping in Figure 29 was created to illustrate the distribution of segments in the higher quartile combinations. The Q1-Q1 combination occurred on approximately 186 (2.5%) of the 7,407 roadway segments in the SEDA-COG MPO region. Segments tended to cluster in the urbanized areas along the primary arterial and higher-level collector streets. The intersections of Q1-Q1 segments likely indicate an intersection of concern, which frequently overlap with the Intersection Safety Implementation Program (ISIP) locations. See Table 24 and surrounding discussion.

The crash cross classification scheme was created for use in the Project Scoring and Selection Process (see Appendix D), since it provided a comprehensive yet concise single measure of the crash history. Projects addressing a safety issue received points according to point values assigned to each cell.
Segments Crash History by Cross-Classification of Crashes and Crash Rate

Long Range Transportation Plan

Crash Cross-Classification

- Q1-Q1 Combination
- Q1-Q2 Combinations
- Q2-Q2 & Q1-Q3 Combinations

Major River

SEDACOG MPO
MPO City/Borough/Town

Figure 29
(4) Fatalities

Fatal crashes and trends form one of the two federally-required performance measures for transportation planning. Figure 30 identifies the roadway segments where one or more fatalities occurred during the 5-year period of 2010-2014. As described in Table 21, 282 total fatalities occurred during this time period, with 24 of these being pedestrian or bicyclist fatalities.

Table 21. Fatalities by County, 2010-2014

<table>
<thead>
<tr>
<th>County</th>
<th>Total Fatalities</th>
<th>Pedestrian &amp; Bicyclist Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>42</td>
<td>4</td>
</tr>
<tr>
<td>Columbia</td>
<td>55</td>
<td>2</td>
</tr>
<tr>
<td>Juniata</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>Mifflin</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>Montour</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Northumberland</td>
<td>53</td>
<td>5</td>
</tr>
<tr>
<td>Snyder</td>
<td>33</td>
<td>3</td>
</tr>
<tr>
<td>Union</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>282</td>
<td>24</td>
</tr>
<tr>
<td>Per Year</td>
<td>56.4</td>
<td>4.8</td>
</tr>
</tbody>
</table>


(5) Serious Injuries

Serious injuries and trends form the second of the two federally-required performance measures for transportation planning. As described in Table 22, 618 total serious injuries occurred during the 2010-2014 time period, with 57 of these being pedestrian or bicyclist serious injuries.

Table 22. Serious Injuries by County, 2010-2014

<table>
<thead>
<tr>
<th>County</th>
<th>Total Serious Injuries</th>
<th>Pedestrian &amp; Bicyclist Serious Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>87</td>
<td>3</td>
</tr>
<tr>
<td>Columbia</td>
<td>109</td>
<td>6</td>
</tr>
<tr>
<td>Juniata</td>
<td>51</td>
<td>8</td>
</tr>
<tr>
<td>Mifflin</td>
<td>81</td>
<td>12</td>
</tr>
<tr>
<td>Montour</td>
<td>31</td>
<td>2</td>
</tr>
<tr>
<td>Northumberland</td>
<td>125</td>
<td>19</td>
</tr>
<tr>
<td>Snyder</td>
<td>68</td>
<td>3</td>
</tr>
<tr>
<td>Union</td>
<td>66</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>618</td>
<td>57</td>
</tr>
<tr>
<td>Per Year</td>
<td>123.6</td>
<td>11.4</td>
</tr>
</tbody>
</table>

Figure 30

Fatal Crashes, 2010-2014

Long Range Transportation Plan

Fatal Crash Locations
- 1 fatality
- 2 or more fatalities

Major River
- SEDA-COG MPO
- SEDA-COG MPO City/Borough/Town

Figure 30
(6) Pedestrian & Bicycle Crashes

Pedestrian and bicyclist fatalities and serious injuries are considered in the federally-required performance measure for transportation planning. Table 21 and Table 22 (above) provide a breakout of pedestrian and bicyclist fatalities and serious injuries, respectively. Figure 35 identifies the roadway segments where one or more pedestrian fatalities occurred during the 5-year period of 2010-2014. Also indicated are the roadway segments where crashes involving pedestrians resulted in one or more serious injuries to pedestrians. Two counties—Mifflin and Northumberland—have noticeably higher fatalities and serious injuries.

(7) Highway Safety Guidance

The Highway Safety Guidance Report is a PennDOT Central Office effort that presents trends and statistics associated with crashes recorded within the geographic area of the MPO. Separate reports are prepared for each Planning Partner. The report links to resources available for assessing, analyzing and alleviating problems that may contribute to the rate of highway accidents and fatalities. The 2015 Report (4th Edition), issued July 2015, was the latest version available. Part of the PennDOT Guidance Report for SEDA-COG MPO presents a trend analysis of 5-year average trends in crash history, placed alongside future goals for the next several 5-year periods.

Figure 31, Figure 32, Figure 33, and Figure 34 illustrate the decreasing trend in Total Fatalities and Total Serious Injuries, both in terms of number and rate per million vehicle miles travelled. Note that the values presented in each bar of Figure 31 and Figure 33 represent the average per year for the period specified. Comparing the goals for 2010-2014 presented in the guidance to the 2010-2014 crash history described in Table 21 and Table 22, the actual “per year’ number of Fatalities in the SEDA-COG MPO region were lower than the 5-year Average Goals, out to 2016. The actual number of “per year’ Serious Injuries was lower than the 5-year Average Goals, out to 2018.

The trend in both Fatality and Serious Injury Rates (Figure 32 and Figure 34) has been flat during 2010-2014, indicating safety-focused efforts should be sustained and expanded, where possible. The Roadway Safety Review program is one way that the MPO and PennDOT are cooperatively evaluating and developing safety-specific projects. The Safety Review step in PennDOT’s project development process is another place where progress can be made when incorporating safety enhancements in new projects.

Figure 31. Five-Year Average (per year) Fatalities
Figure 32. Five Year Average Fatality Rate per VMT

![Figure 32. Five Year Average Fatality Rate per VMT](image)

Figure 33. Five-Year Average (per year) Serious Injuries

![Figure 33. Five-Year Average (per year) Serious Injuries](image)

Figure 34. Five-Year Average Serious Injury Rate per VMT

![Figure 34. Five-Year Average Serious Injury Rate per VMT](image)

Figure 35

Pedestrian Injury and Fatal Crashes, 2010-2014

Long Range Transportation Plan

Number of Pedestrian Major Injuries Summarized by PennDOT Roadway Segment

- 1
- 2-3

Fatal Pedestrian Crash Location

MPO City/Borough/Town

SEDA-COG MPO

Major River

SEDACOG MPO

Pedestrian Crashes

1 inch = 8.18 miles
1:518,354

March, 2016
PennDOT has developed a High Crash Locations List for each Planning Partner. Table 23 lists the 2015 Highway Safety Guidance Report High Crash Locations (based on 2010-2014 data) for the SEDA-COG MPO. The list was assembled starting with locations from the Statewide High Crash Location List. If the MPO region had less than 25 locations on the Statewide List, additional locations with fatal and injury crashes were derived from the Crash Data Analysis Retrieval Tool (CDART) cluster reports, until 25 locations were provided. The High Crash Locations List draws on data from all injury crashes, including fatalities, as the primary selection criteria.

Table 23. 2015 High Crash Locations

<table>
<thead>
<tr>
<th>County</th>
<th>Route</th>
<th>Begin Segment</th>
<th>Begin Offset</th>
<th>End Segment</th>
<th>End Offset</th>
<th>Total Injury Crashes</th>
<th>Fatal Count</th>
<th>ADT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Columbia</td>
<td>11</td>
<td>110</td>
<td>2069</td>
<td>160</td>
<td>272</td>
<td>66</td>
<td>0</td>
<td>15,566</td>
</tr>
<tr>
<td>2 Snyder</td>
<td>11</td>
<td>320</td>
<td>653</td>
<td>450</td>
<td>169</td>
<td>261</td>
<td>1</td>
<td>19,368</td>
</tr>
<tr>
<td>3 Snyder</td>
<td>11</td>
<td>321</td>
<td>381</td>
<td>421</td>
<td>930</td>
<td>258</td>
<td>0</td>
<td>19,632</td>
</tr>
<tr>
<td>4 Clinton</td>
<td>150</td>
<td>130</td>
<td>1550</td>
<td>260</td>
<td>1322</td>
<td>238</td>
<td>2</td>
<td>8,692</td>
</tr>
<tr>
<td>5 Union</td>
<td>15</td>
<td>150</td>
<td>811</td>
<td>250</td>
<td>0</td>
<td>158</td>
<td>1</td>
<td>7,764</td>
</tr>
<tr>
<td>6 Columbia</td>
<td>487</td>
<td>230</td>
<td>1545</td>
<td>310</td>
<td>1260</td>
<td>157</td>
<td>0</td>
<td>8,412</td>
</tr>
<tr>
<td>7 Union</td>
<td>15</td>
<td>151</td>
<td>623</td>
<td>251</td>
<td>477</td>
<td>151</td>
<td>1</td>
<td>7,787</td>
</tr>
<tr>
<td>8 Columbia</td>
<td>11</td>
<td>370</td>
<td>953</td>
<td>430</td>
<td>2852</td>
<td>134</td>
<td>0</td>
<td>15,306</td>
</tr>
<tr>
<td>9 Montour</td>
<td>11</td>
<td>40</td>
<td>9</td>
<td>90</td>
<td>1686</td>
<td>120</td>
<td>0</td>
<td>11,808</td>
</tr>
<tr>
<td>10 Mifflin</td>
<td>1005</td>
<td>34</td>
<td>132</td>
<td>70</td>
<td>2001</td>
<td>113</td>
<td>1</td>
<td>8,920</td>
</tr>
<tr>
<td>11 Northumberland</td>
<td>147</td>
<td>570</td>
<td>1550</td>
<td>620</td>
<td>122</td>
<td>112</td>
<td>2</td>
<td>8,211</td>
</tr>
<tr>
<td>12 Union</td>
<td>45</td>
<td>430</td>
<td>1642</td>
<td>480</td>
<td>1161</td>
<td>91</td>
<td>0</td>
<td>10,653</td>
</tr>
<tr>
<td>13 Snyder</td>
<td>522</td>
<td>570</td>
<td>0</td>
<td>614</td>
<td>0</td>
<td>73</td>
<td>1</td>
<td>9,999</td>
</tr>
<tr>
<td>14 Columbia</td>
<td>11</td>
<td>300</td>
<td>383</td>
<td>340</td>
<td>382</td>
<td>66</td>
<td>1</td>
<td>6,552</td>
</tr>
<tr>
<td>15 Northumberland</td>
<td>61</td>
<td>130</td>
<td>370</td>
<td>180</td>
<td>1359</td>
<td>66</td>
<td>0</td>
<td>7,230</td>
</tr>
<tr>
<td>16 Columbia</td>
<td>42</td>
<td>470</td>
<td>2802</td>
<td>540</td>
<td>1086</td>
<td>63</td>
<td>0</td>
<td>14,582</td>
</tr>
<tr>
<td>17 Northumberland</td>
<td>61</td>
<td>510</td>
<td>1470</td>
<td>570</td>
<td>557</td>
<td>58</td>
<td>0</td>
<td>11,789</td>
</tr>
<tr>
<td>18 Clinton</td>
<td>80</td>
<td>1890</td>
<td>2270</td>
<td>1910</td>
<td>192</td>
<td>55</td>
<td>0</td>
<td>10,121</td>
</tr>
<tr>
<td>19 Columbia</td>
<td>11</td>
<td>421</td>
<td>123</td>
<td>431</td>
<td>1927</td>
<td>54</td>
<td>0</td>
<td>7,150</td>
</tr>
<tr>
<td>20 Northumberland</td>
<td>11</td>
<td>10</td>
<td>17</td>
<td>50</td>
<td>539</td>
<td>54</td>
<td>0</td>
<td>14,541</td>
</tr>
<tr>
<td>21 Northumberland</td>
<td>4004</td>
<td>10</td>
<td>0</td>
<td>40</td>
<td>1121</td>
<td>47</td>
<td>1</td>
<td>8,220</td>
</tr>
<tr>
<td>22 Columbia</td>
<td>11</td>
<td>121</td>
<td>0</td>
<td>141</td>
<td>302</td>
<td>45</td>
<td>0</td>
<td>7,783</td>
</tr>
<tr>
<td>23 Columbia</td>
<td>42</td>
<td>491</td>
<td>0</td>
<td>531</td>
<td>519</td>
<td>42</td>
<td>0</td>
<td>7,291</td>
</tr>
<tr>
<td>24 Mifflin</td>
<td>4013</td>
<td>190</td>
<td>1056</td>
<td>210</td>
<td>2753</td>
<td>38</td>
<td>0</td>
<td>1,436</td>
</tr>
<tr>
<td>25 Montour</td>
<td>54</td>
<td>180</td>
<td>1554</td>
<td>210</td>
<td>1891</td>
<td>38</td>
<td>0</td>
<td>3,550</td>
</tr>
</tbody>
</table>

Intersection Safety Implementation Plan (ISIP)

The Pennsylvania Intersection Safety Implementation Plan (ISIP) was initially developed by the FHWA in 2010 as an outline for addressing intersection safety. The plan includes specific locations within Pennsylvania, along with recommended countermeasure categories for each location. ISIP improvements can be funded through the HSIP program (subject to HSIP requirements) or through a dedicated ISIP funding pool.

The most recent listing of ISIP locations (2012) for the SEDA-COG MPO included 132 intersections distributed among the MPO counties as described in Table 24.

<table>
<thead>
<tr>
<th>County</th>
<th>Number of ISIP Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>5</td>
</tr>
<tr>
<td>Columbia</td>
<td>21</td>
</tr>
<tr>
<td>Juniata</td>
<td>7</td>
</tr>
<tr>
<td>Mifflin</td>
<td>3</td>
</tr>
<tr>
<td>Montour</td>
<td>10</td>
</tr>
<tr>
<td>Northumberland</td>
<td>35</td>
</tr>
<tr>
<td>Snyder</td>
<td>29</td>
</tr>
<tr>
<td>Union</td>
<td>22</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>132</strong></td>
</tr>
</tbody>
</table>


Roadway Departure Safety Implementation Plan (RDIP)

The Pennsylvania Roadway Departure Safety Implementation Plan (RDIP) was developed by the FHWA in 2012 to address run-off-road crashes. RDIP improvements can be funded through the HSIP program (subject to HSIP requirements) or through a dedicated RDIP funding pool.

Roadway Safety Reviews

With support from PennDOT and FHWA staff, SEDA-COG served as a convener in 2015 for examining multiple roads with crash histories that could be improved using highway safety or other funds. A comprehensive road safety review process, using input from a multi-disciplinary team, had not been conducted since 2006. A primary impetus for compiling a new list of crash problem areas and generating potential projects was the 5-year update of the LRTP, along with preparation of the 2017-2020 TIP.

The FHWA encourages planning organizations to routinely perform roadway safety reviews as a process for examining current road usage, identifying deficiencies, and developing needed safety improvements. The objectives of the reviews include: engaging the PennDOT District safety engineers into the MPO transportation planning process; gaining a better understanding of safety issues and concerns at high crash corridors/intersections within the region; and prioritizing and selecting safety improvement projects for inclusion in the MPO’s LRTP/TIP.

SEDA-COG staff started the process by reviewing its safety complaint areas tracking sheet, MPO High Crash Locations (HCL) list, Intersection Safety Implementation Plan (ISIP) list, Roadway Departure
Implementation Plan (RDIP) list and LTAP safety reports. Next, MPO staff consulted with PennDOT District Traffic Safety Managers to request their recommendations. From this feedback, a preliminary list and mapping of 30 potential sites or corridors was generated for further evaluation and prospective field views. Following discussion of the 30 potential sites with MPO members and PennDOT officials, it was determined to reduce the number of sites based on information such as crash trends/rates, eligibility for highway safety funding, past studies, and recent or planned projects. The list of 30 locations was reduced to the following 9 locations:

PennDOT District 2-0 Locations:
1. State Route (SR) 150 – Segment 0180 in Flemington Borough (Clinton County)
2. State Route (SR) 150 – Segment 0230 to 0250 in Lock Haven City (Clinton County)
3. State Route (SR) 1005 – Segment 0010 to 0040 in Lewistown Borough/Derry Township (Mifflin County)
4. State Route (SR) 22 – Segment 0010 to 0050 in Wayne Township (Mifflin County)

PennDOT District 3-0 Locations:
1. State Route (SR) 42 – Segment 0480 in Hemlock Township (Columbia County)
2. State Route (SR) 487 – Segment 0280 to 0300 in Bloomsburg Town/Scott Township (Columbia County)
3. State Route (SR) 54 – Segment 0190 in Valley Township (Montour County)
4. State Route (SR) 54 – Segment 0180 Turbotville Borough (Northumberland County)
5. State Route (SR) 11 – Segment 0420 to 0460 in Monroe Township (Snyder County)

The roadway safety reviews were completed in October and November 2015, and the results generated four new highway safety projects for consideration in the TIP and LRTP updates.

4. Freight Movement
   a. Highway Freight

(1) Freight Analysis Framework

The FHWA Freight Analysis Framework (FAF)\(^\text{28}\) integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. It is produced through a partnership between Bureau of Transportation Statistics (BTS) and FHWA. This LRTP report references FAF version 3 (FAF3). FAF3 integrates commodity flow data for both domestic and import flows and provides 2007 Baseline and 2040 Horizon assignments of freight and other vehicular traffic to the FAF3 roadway system.

Figure 36 identifies the NHFN (gray highlight) and FAF3 network in the SEDA-COG MPO region and illustrates growth in truck traffic forecasted between 2007 and 2040. Most segments of I-80 are expected to see 50 to 75% growth in heavy trucks, which would add about 8,000 new trucks per day to the current 12,000 trucks per day on I-80.

We note that the FAF3 network does not include CSVT, so much of the truck growth forecasted on US 15 (~55%) and PA 147 (~45%) would likely travel on the CSVT roadway. This would add approximately 3,500 trucks per day to the current 6,500 per day on the US 15 and PA 147 corridors.

b. Railroad Freight

Freight generated within the SEDA-COG MPO region is principally related to manufacturing and the extraction of natural resources. In the year 2014, an estimated 2,689,100 tons of commodities or approximately 26,891 carloads of freight were handled on the SEDA-COG Joint Rail Authority rail lines. **Table 25** shows the carloads by rail line. Principal exports include rail ties, anthracite coal, aggregate, landscaping stone and carbon products. Local industries also receive incoming commodities such as sand, lumber, chemicals, plastics, propane, steel and scrap metal, aggregate, limestone and road salt and agricultural products. Freight associated with the natural gas industry is also present.

**Table 25. Carloads on SEDA-COG JRA Lines, 2010-2015**

<table>
<thead>
<tr>
<th>Year</th>
<th>JVRR</th>
<th>LVRR</th>
<th>NBER</th>
<th>NSHR</th>
<th>SVRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>3,104</td>
<td>17,569</td>
<td>7,751</td>
<td>1,301</td>
<td>370</td>
</tr>
<tr>
<td>2012</td>
<td>2,978</td>
<td>17,307</td>
<td>5,432</td>
<td>1,647</td>
<td>216</td>
</tr>
<tr>
<td>2013</td>
<td>2,879</td>
<td>17,938</td>
<td>6,758</td>
<td>1,485</td>
<td>150</td>
</tr>
<tr>
<td>2014</td>
<td>2,782</td>
<td>15,176</td>
<td>6,684</td>
<td>1,419</td>
<td>120</td>
</tr>
<tr>
<td>2015</td>
<td>2,226</td>
<td>10,470</td>
<td>6,962</td>
<td>1,480</td>
<td>132</td>
</tr>
<tr>
<td>Total Carloads</td>
<td>13,969</td>
<td>78,460</td>
<td>33,587</td>
<td>7,332</td>
<td>988</td>
</tr>
</tbody>
</table>


Major industries currently utilizing rail service within the overall SEDA-COG region include the Marcellus Natural Gas Industry (starting second quarter of 2015, Marcellus traffic shrunk to 10% of 2013 levels), Suburban Propane and UGI, Glenn O. Hawbaker, Bulkmatic, Fisher Mining, Frito-Lay, Wise Foods, Koppers and Big Heart Pet Brands. In addition, industries with private connections to the railway system include Standard Steel, Glenn O. Hawbaker, Transco and Koppers.

The transportation infrastructure is critical in supporting the movement of freight within the SEDA-COG MPO region. This infrastructure provides connections to all major population centers throughout the northeast United States. The primary infrastructure includes the previously described highway and airports, and nine railroads.

The accessibility of rail in this region is a valued amenity for many enterprises, since shipping freight by rail can significantly reduce the transportation costs of bulk products. Although much freight in this region is shipped by truck, rail provides an alternative connection to regional, national and world markets. As the MPO region evolves, and strategies to attract additional employment opportunities are evaluated, it is important to assess the current railway network to provide a better understanding of future needs.

Rail in the SEDA-COG MPO region is generally utilized to serve major industries and business and is considered critical for economic development. The active lines provide a vital connection to supply operations and transport materials and goods to regional markets and beyond. Through connections...
with primary freight corridors within the region and surrounding counties, these lines can provide efficient multi-modal options for industries located within the region. Year 2007 Waybill Sample* freight data reported in the *Pennsylvania Intercity Passenger and Freight Rail Plan*, dated February 2010, is shown in Table 26.

### Table 26. Freight Estimates within the SEDA-COG MPO Region

<table>
<thead>
<tr>
<th>County</th>
<th>Originating Rail Traffic (Tons)</th>
<th>Inbound Rail Traffic (Tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>23,000 - 69,999</td>
<td>140,000 – 329,999</td>
</tr>
<tr>
<td>Columbia</td>
<td>1 – 22,999</td>
<td>40,000 – 139,999</td>
</tr>
<tr>
<td>Juniata</td>
<td>0</td>
<td>0 – 39,999</td>
</tr>
<tr>
<td>Mifflin</td>
<td>70,000 – 129,999</td>
<td>40,000 – 139,999</td>
</tr>
<tr>
<td>Montour</td>
<td>0</td>
<td>2,950,000 – 10,000,000</td>
</tr>
<tr>
<td>Northumberland</td>
<td>230,000 – 499,999</td>
<td>330,000 – 409,999</td>
</tr>
<tr>
<td>Snyder</td>
<td>1 – 22,990</td>
<td>410,000 – 899,999</td>
</tr>
<tr>
<td>Union</td>
<td>23,000 – 69,999</td>
<td>40,000 – 139,999</td>
</tr>
</tbody>
</table>

**Source:**

**Notes:**
Due to a revision in federal requirements, the Draft Pennsylvania State Rail Plan was not required to include Waybill Sample Data. Updated Year 2013 Waybill Sample data was requested, but was not available at the time this Plan was prepared due to proprietary concerns.
National Highway Freight Network and Truck Growth on the FHWA Freight Analysis Framework

Long Range Transportation Plan

Forecasted Heavy Truck Traffic Growth, 2007-2040 (FAF3)

- > 0 to 25%
- > 25% to 50%
- > 50%

Major River
SEDA-COG MPO
MPO City/Borough/Town

National Highway Freight Network (overlay)

March, 2016

1 inch = 8.18 miles
1:518,354

Figure 36
c. Air Freight

(1) Airport Operator Survey

In conjunction with its MPO Aviation Subcommittee activities, SEDA-COG conducted a survey of SEDA-COG MPO Airport Operators in 2014. The survey was designed to identify regional aviation capabilities, issues, and needs. The survey asked questions regarding airport use, services and what issues are most important to address in this LRTP.

Figure 38 and Figure 39 provide the responses to questions about available hangar space.

Figure 38: Availability of Hangar Space

- 42.86% Hangars are full with waiting list
- 57.14% Hangars have some vacancies

Figure 39: Demand for Hangar Space

- 28.57% Increased some
- 14.29% Stayed the same
- 57.14% Gone down a lot
When asked about overall traffic demand, none of the responding airports reported a change in traffic due to Marcellus Shale extraction efforts. Most airports saw no change in demand (Figure 40).

Figure 40. Change in Demand

Almost 86% of the responding airports offer repair and maintenance services. A similar proportion of airports have received an FAA notice of Presumed Hazard or Determination of Hazard on one or more of their approaches. Finally, the airports were asked to rank what issues are most important to address in this LRTP. Six issues were ranked with values ranging from "1" as most important to address to a "6" as least important to address. Figure 41 shows the results (note the lower the value, the more important the issue was considered to address).

Figure 41. Ranked Airport Issues to Address
(2) University General Aviation Survey

A survey of local Universities was also conducted in 2014 to obtain a better understanding of their use of SEDA-COG MPO region general aviation airports. The following figures present the results of this survey.

When asked about the types of travel that students, parents, faculty and other university visitors (guest speakers/lecturers, visiting researchers, etc.) conduct through SEDA-COG MPO general aviation airports, the responses shown in Figure 42 and Figure 43 were captured. In addition, 75% of responding Universities stated that their staff had been contacted in the past with requests for information on travel to / from local airports.

**Figure 42. Percent of Universities Aware of Specific Types of Travel Usage**

- Faculty (research, other travel) 50%
- Faculty general travel 25%
- Athletic team use (games or recruiting) 0%
- Alumni visits 50%
- Prospective student/parent visits 50%
- Parental visits 50%
- Student travel to University 25%

**Figure 43. Percent of Universities Aware of Numbers of Trips in Past Calendar Year**

- No trips in past year 50%
- Less than 10 trips in past year 25%
- 26 to 50 trips in past year 25%
d. Transit

Consistent with trends in the United States, commuting trips on the highway network in the region are made largely in personal, motorized vehicles with public and private transit vehicles providing a small “mode-share” of the trips. Based on the Pennsylvania Public Transportation Annual Performance Report for fiscal year 2013-14, these transit providers together served 463,890 total passengers, which equates to almost 9,000 passengers per week.

Figure 44 illustrates the number of transit trips provided by each shared ride and fixed route transit provider along with 4-year trailing trends, according to data from fiscal years 2010-11, 2011-12, 2012-13 and 2013-14.

![Figure 44. Transit Ridership, Fiscal Years 2009/10 to 2013/14](image)

Source: PennDOT Bureau of Public Transportation, PA Public Transportation, Annual Performance Reports, as summarized in the SEDA-COG MPO Regional Performance Measures Report, April 2016.

* Mt. Carmel Borough (LATS) is the only Fixed Route provider in the MPO Region

5. Travel Patterns & Trends

A recent analysis of SEDA-COG MPO commute to work trends was completed in 2014 for the Coordinated Public Transit-Human Services Transportation Plan.

Figure 45 summarizes the means of transportation to work by county and for the SEDA-COG MPO and Pennsylvania as a whole. Approximately 80% of the region’s residents drove to work alone, with another 10.4% carpooling, 4.5% walking, 0.5% using public transit, and 1.4% using other modes. The remaining 3.2% work at home. These proportions are comparable to the Pennsylvania averages, with carpooling being slightly higher and public transit being noticeably lower than the statewide averages. Juniata
County (18.1%) and Mifflin County (13.4%) have higher rates of carpool usage, likely related to the proximity of larger employment centers in Harrisburg and State College.

Figure 45. Means of Transportation to Work by County

Source: U.S. Census Bureau, American Community Survey, 2006-2010.

Figure 46 describes travel time to work by county. There is substantial variation in travel time to work among the MPO counties, with the average being in the 20 to 25 minute range. The longest times are from Juniata County (nearly 30 minutes) and shortest are from Montour County (less than 20 minutes).

Figure 46. Travel Time to Work by County

Source: U.S. Census Bureau, American Community Survey, 2006-2010.
Because the MPO region is characterized by dispersed patterns of population and employment, significant variations in commutation trends are noted among the MPO counties. Table 27 describes the top three commuter destinations by county. One common thread is observed; for all eight counties, the top commute destination was the residents’ home county. The home county typically accounted for 50% to 75% of commuter destinations. Columbia County has the largest number of in-county commuters, likely related to the Geisinger Medical Center. Mifflin County has the largest proportion of in-county commuters, indicating a higher level of residence-to-employment balance within the county.

### Table 27. Top Three Commute Destinations by County

<table>
<thead>
<tr>
<th>Resident County</th>
<th>Commute Destination County</th>
<th>2006-2010 ACS</th>
<th>Number of Commuters</th>
<th>Percent of Resident County’s Total Commuters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton County</td>
<td>Clinton County</td>
<td></td>
<td>10,348</td>
<td>62.2%</td>
</tr>
<tr>
<td></td>
<td>Lycoming County</td>
<td></td>
<td>3,077</td>
<td>18.5%</td>
</tr>
<tr>
<td></td>
<td>Centre County</td>
<td></td>
<td>1,723</td>
<td>10.4%</td>
</tr>
<tr>
<td>Columbia County</td>
<td>Columbia County</td>
<td></td>
<td>21,877</td>
<td>72.4%</td>
</tr>
<tr>
<td></td>
<td>Luzerne County</td>
<td></td>
<td>2,620</td>
<td>8.7%</td>
</tr>
<tr>
<td></td>
<td>Montour County</td>
<td></td>
<td>2,484</td>
<td>8.2%</td>
</tr>
<tr>
<td>Juniata County</td>
<td>Juniata County</td>
<td></td>
<td>5,831</td>
<td>52.3%</td>
</tr>
<tr>
<td></td>
<td>Dauphin County</td>
<td></td>
<td>1,564</td>
<td>14.0%</td>
</tr>
<tr>
<td></td>
<td>Cumberland County</td>
<td></td>
<td>870</td>
<td>7.8%</td>
</tr>
<tr>
<td>Mifflin County</td>
<td>Mifflin County</td>
<td></td>
<td>14,290</td>
<td>75.7%</td>
</tr>
<tr>
<td></td>
<td>Centre County</td>
<td></td>
<td>1,469</td>
<td>7.8%</td>
</tr>
<tr>
<td></td>
<td>Huntingdon County</td>
<td></td>
<td>998</td>
<td>5.3%</td>
</tr>
<tr>
<td>Montour County</td>
<td>Montour County</td>
<td></td>
<td>4,579</td>
<td>56.6%</td>
</tr>
<tr>
<td></td>
<td>Northumberland County</td>
<td></td>
<td>1,098</td>
<td>13.6%</td>
</tr>
<tr>
<td></td>
<td>Columbia County</td>
<td></td>
<td>1,098</td>
<td>13.6%</td>
</tr>
<tr>
<td>Northumberland County</td>
<td>Northumberland County</td>
<td></td>
<td>21,700</td>
<td>52.6%</td>
</tr>
<tr>
<td></td>
<td>Union County</td>
<td></td>
<td>4,154</td>
<td>10.1%</td>
</tr>
<tr>
<td></td>
<td>Montour County</td>
<td></td>
<td>3,815</td>
<td>9.2%</td>
</tr>
<tr>
<td>Snyder County</td>
<td>Snyder County</td>
<td></td>
<td>11,685</td>
<td>63.8%</td>
</tr>
<tr>
<td></td>
<td>Union County</td>
<td></td>
<td>1,967</td>
<td>10.7%</td>
</tr>
<tr>
<td></td>
<td>Northumberland County</td>
<td></td>
<td>1,678</td>
<td>9.2%</td>
</tr>
<tr>
<td>Union County</td>
<td>Union County</td>
<td></td>
<td>11,559</td>
<td>65.9%</td>
</tr>
<tr>
<td></td>
<td>Northumberland County</td>
<td></td>
<td>2,283</td>
<td>1.3%</td>
</tr>
<tr>
<td></td>
<td>Snyder County</td>
<td></td>
<td>1,341</td>
<td>7.6%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 2006-2010 American Community Survey, as summarized in the Coordinated Public Transit-Human Services Transportation Plan, SEDA-COG and Williamsport Area Metropolitan Planning Organizations, May 2014.

Figure 47 illustrates geographically the commuter flow data from the 2006-2010 American Community Survey using directional arrows from county to county. Flows are identified using the following ranges: 500-1,000; 1,000-2,000; and greater than 2,000. The flows reveal how counties are economically linked through the workforce, as well as how highway corridors allow commutation to neighboring economic centers. Northumberland and Montour Counties are major attractors for workers living in other counties, drawing at least 500 commuters from four surrounding counties. Sizeable commuter flows are
noted from Northumberland County into Union County, and from Clinton County into Lycoming County. Significant flows are also noted from Northumberland County into Montour County, from Columbia into Luzerne County, and from Union into Northumberland County. Significant flows out of the MPO track along the major highway corridors to Lycoming County (US 15/220), Centre County (US 322), Dauphin County (US 11/15/322), Schuylkill County (PA 54/61), and Huntingdon County (US 22).

**Figure 47. Commutation Flows**

Source: U.S. Census Bureau, 2006-2010 American Community Survey.
ISSUES & IMPLICATIONS

In February of 2015, the SEDA-COG MPO completed a Strategic Plan for the region. The process used in developing the plan afforded MPO members the opportunity to assess the current planning program’s direction as well as identify specific issues demanding MPO attention. The plan included issues of concern and strategies for addressing each of six specific program areas that the MPO members prioritized as the most important to address:

1. Central Susquehanna Valley Thruway (CSVT)
2. Economic Development
3. Transportation Funding and Policy
4. Bridges
5. Corridor Modernization
6. Freight Movement

The plan included one “Other” category that captured issues outside of the identified program areas. Development of the Strategic Plan included a survey of MPO membership and a four-hour retreat with membership to discuss the issues and priorities. The following sections summarize the results of the Strategic Plan and incorporate additional information, where appropriate and available, that was collected following development of the Strategic Plan.

A. Central Susquehanna Valley Transportation (CSVT) Project

The CSVT Project (Figure 48) is one of the largest on the current State Transportation Improvement Program. As a major capacity-adding project, the project addresses a major freight and passenger bottleneck. The CSVT was identified as the highest priority project for the region in the 2011 LRTP and the top priority program area in the 2015 Strategic Plan.

The CSVT project is being designed in two sections, as shown in Figure 48. The Northern Section starts at County Line Road near the Winfield Interchange and extends to Montandon in the north. The Southern Section starts at the Selinsgrove interchange with US 11 and extends to County Line Road. A Route 61 Connector to Shamokin Dam Borough is included with the Southern Section. The Route 61 Connector is a vital element of the CSVT that is needed to remove traffic from US 11 and 15. The overall improvement is approximately 13 miles of new four-lane highway in Snyder, Union and Northumberland counties. The improvement is expected to improve safety, reduce congestion, and accommodate growth primarily by separating freight traffic (trucks) and through traffic from local traffic. As a project with a cost in excess of $670 million, the MPO recognizes that ongoing project communication between the MPO and its member counties and municipalities will be important as the project moves from preliminary engineering to final engineering, construction and operation. Final design of both the Northern Section and Southern Section is occurring presently, with construction of the Northern Section commencing for the bridge over the West Branch Susquehanna River in 2016. Construction of the Northern Section is anticipated to be completed by 2021 and the Southern Section by 2024.
Implications of the CSVT include:

1. A 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 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 Hummel’s 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 in CSVT’s Southern Section. The interchange will become a confluence point for local access to Shamokin Dam and Hummel’s 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 further to the southeast). Each of these connections make 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 prospective redevelopment of the former PPL coal power plant property. 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 for 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.

- **Ridge Road (SR 1024) Interchange**

  This new local access interchange has drawn considerable local concern among residents of Point Township in Northumberland County. 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 development has occurred around the interchanges. However, pressure for highway-oriented services may increase as north-south through traffic is consolidated on the CSVT roadway.

  Development pressure for truck-related services may 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 CSVT. For example, the redistribution of traffic that will result from the opening of the CSVT roadway could alter the existing main street environment along PA 45 through Lewisburg Borough.
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 Hummel’s Wharf and Shamokin Dam**
  With trucks and considerable through volume removed from this corridor, the roadway is less of a community barrier and new opportunities emerge for development patterns, use of roadway space, and creation of cross-connections. Redevelopment of the nearby former Sunbury coal-fired power plant site adds to the potential for significant transformation of the community.

- **PA 147 (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 fine-grained 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 PA 147, to convert and reallocate the roadway’s space for community use—e.g., improved pedestrian crossings, expanded sidewalk space, bike lanes, more on-street parking, 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 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 Hummel’s Wharf/Shamokin Dam.

There is broad consensus that the land use and economic effects of CSVT deserve additional study, beyond what is provided in the CSVT Environmental Impact Statement (EIS). However, the method and driver of the study has not yet been established. The MPO’s goal to “foster compatibility between land use and transportation facilities to yield orderly growth and development” puts it in the discussion, if not leading it. Casting this as a regional issue, as opposed to a local issue at the new interchanges, is important for setting up the evaluation framework that captures the foreseeable short-term impacts and more complex long-term effects related to traffic flow, asset management, and land development. The implementation step that follows the study will be equally important, to ensure that localities are not overwhelmed by the tasks needed. The MPO may supply knowledge about technical (LTAP, GIS) and financial resources (grant-writing assistance, funding streams) that will be needed to complete ordinance changes, support the evolving land use and infrastructure operation.
B. Economic Development

Per the MPO’s Strategic Plan, transportation infrastructure and services should improve the vitality of the region’s downtowns and urban cores, connect workers to available jobs, and lower shipping costs for freight haulers. The MPO’s Strategic Plan specifically calls for consideration as to overlapping priorities (i.e., Appalachian Regional Commission or ARC) that could assist project funding. The Strategic Plan also identifies advocating and planning for improvements on strategic highway corridors (including those on the Multi-Modal Economic Competitiveness Network and the National Freight Network) in order to improve economic opportunities in the region.

In June of 2015, SEDA-COG updated its five-year Comprehensive Economic Development Strategy (CEDS). This CEDS was completed for the entire 11 county SEDA-COG Economic Development Center (EDC) region, which includes Centre, Lycoming and Perry counties, not just the eight county MPO region. This plan was approved by both the SEDA-COG CEDS committee and the SEDA-COG Board of Directors. The CEDS Committee represents the main economic interests of the region and includes private sector representatives as a majority of its membership. The 22-member SEDA-COG Board is comprised of one county commissioner and one private sector representative from each of the 11-counties in the overall SEDA-COG region.

Within the SEDA-COG region, two Economic Development Centers (EDC’s) have been designated by SEDA-COG--the Bellefonte-State College EDC (Centre County) and the Central Susquehanna EDC, including portions of Columbia, Lycoming, Montour, Northumberland, Snyder, and Union counties. The Bellefonte-State College EDC is outside of the MPO region. However, the Central Susquehanna EDC includes the MPO region (with the exception of Lycoming County). Historically, the unemployment rate for the Central Susquehanna EDC counties has been generally higher than the overall SEDA-COG region and the national averages. Of the six Central Susquehanna EDC counties, only Montour and Columbia are below the regional, state, and national unemployment rates. Montour County is the smallest of the six counties and its economy is bolstered by the presence of the Geisinger Medical Center. An analysis of these Economic Development Centers shows that the region continues to be more reliant on manufacturing than the state and the nation.

In the Central Susquehanna EDC, where the manufacture of durable goods is the primary source of employment, the development strategy must emphasize the diversification of manufacturing activity and the growth of advanced technology activity. Efforts are also proceeding to enhance the growth of the service and retail sectors. It will be necessary to promote continued improvement of public services and infrastructure.

With the new FAST Act, emphasis has been placed on the freight networks and supporting freight corridors across the country. There is also developing data and analysis tools that can be leveraged in a more dynamic way moving forward. Combining the Transsearch data, the analysis from the Comprehensive Economic Development Strategy (CEDs) updated in June 2015 and the new CIMS tool available from PennDOT should be investigated moving forward. There are certain limitations at this...
time in doing a direct comparison of these data sets but a valuable synergy of these data can be created to highlight freight patterns through the region as well as support funding packages focused on freight and regional needs.

Portions of the Central Susquehanna EDC have been identified as both potential growth centers and major areas in need of an economic catalyst. Further analysis of these EDCs is expected to show that they will continue to serve as centers of employment and growth for the Economic Development District (EDD), and that they will increasingly support a more diversified mix of manufacturing, service and retail activity. Efforts must be made to maintain the menu of enterprise development technical assistance services and to increase entrepreneurship opportunities and assistance.

A major driver economic development in recent years has been the development of Unconventional Oil and Gas in the region. This development has slowed significantly in recent years with the drop in demand and increase in production. However, the industry will likely be back with the further development of national pipeline systems and midstream and downstream improvements to infrastructure. One example is the new facilities to export the natural gas in the region to other parts of the world. This infrastructure as well as future investment will make the development of wells and drilling more profitable in the future. Future drilling activities should also have less impact on the roadway infrastructure as PennDOT as well as other agencies have a better handle on the condition and impacts that this drilling causes.

Like many areas of Pennsylvania, the basic infrastructure of the region needs to be upgraded and/or expanded. Water and sewer service facilities are in urgent need of rehabilitation throughout much of the region. In addition, non-traditional forms of infrastructure, such as telecommunications need to be made available in the region. Natural gas infrastructure in the region also needs to be improved and expanded. Without reliable needed infrastructure, not only is it inherently impossible to recruit new business and industry to the region, but existing industry is inhibited from expansion.

While the region has a favorable geographic location and good inter-regional (rail, air, and surface) transportation system, the low population density in the EDD has inhibited the maintenance and extension of infrastructure needed for development including local roads, highways and bridges.

The region is located within a 360-mile radius of all major population centers in the Northeastern United States, a radius that encompasses about 50% of the nation's population. Much of this consumer market is within four to eight hours driving distance from the heart of the region. A number of important regional transportation projects are included on the Region’s Project Priority List, including the Central Susquehanna Valley Transportation Project that is designed to improve safety, reduce the amount of congestion and provide for future growth on US 11 & 15.

**Figure 49** shows the locations of the MPO region’s numerous industrial parks, designated growth areas, and Keystone Opportunity Zones (KOZs). The figure also shows the region’s airports and rail lines. As stated, the SEDA-COG region is served by fifteen general and commercial aviation airports. In addition, the SEDA-COG Joint Rail Authority (JRA) owns five short line railroads comprising nearly 200 miles in the SEDA-COG region. Freight service to the JRA’s 80 customers is provided under a contract with a private sector operator.

A number of important regional transportation projects are included on the region’s Project Priority List, including the Central Susquehanna Valley Transportation Project that is designed to improve safety,
reduce the amount of congestion and provide for future growth on Routes 11 & 15. Another important regional project is the Interstate 80/Interstate 99 Interchange project in Centre County, which is estimated at $162 million and proposes to construct two interchanges to improve safety and traffic flow. Completion of the Interstate 99 Regional Transportation project is also listed as a prioritized project in the SEDA-COG region.

Airports are an important part of the region’s transportation infrastructure. Continued maintenance and expansion of the airports are important to the region.

The SEDA-COG Joint Rail Authority (JRA) owns five short line railroads comprising nearly 200 miles in the SEDA-COG region. Freight service to the JRA’s 80 customers is provided under a contract by an operator in the private sector. The JRA serves the counties of Centre, Clinton, Columbia, Lycoming, Mifflin, Montour, Northumberland and Union, and Blair County in the Southern Alleghenies Region.

C. Transportation Investment and Funding

Per the SEDA-COG MPO Strategic Plan, “The infusion of federal “spike” dollars (ARRA in 2009) coupled with the passage of recent state transportation funding acts, including Act 13 of 2012 and Act 89 of 2013 have improved the region’s fortunes concerning available funding for transportation infrastructure. However, there remains a limited amount of funding for a multitude of transportation demands.”

1. Investment Trends

During the last decade, system maintenance and asset management have become the dominant focus for transportation planning and investment in Pennsylvania. This emphasis is illustrated by the decline in spending on capacity-adding projects since 2001. From 2001-2004, the statewide four year Transportation Improvement Program (TIP) spent 25% of the available funding on capacity adding projects such as new roadways or additional through lanes. The 2005-2008 TIP saw a decline of capacity adding projects to 20%. More recently, in the 2009-2012 and 2013-2016 TIP’s, this percentage declined significantly to the 5 to 6% range (Figure 50). Several factors are influencing this trend:

- Increased awareness of infrastructure condition
- Rising costs of construction without a commensurate escalation of transportation revenue
- Less need for large-scale capacity-adding projects, resulting from minimal growth in travel/traffic volume
- Sense that the major parts of the transportation system are largely “complete”

Recent PennDOT financial guidance recommends that, as a rule of thumb, 90% of the TIP be allocated to maintenance. This level of spending may need to be even higher. An evaluation of asset management costs included in the 2011 LRTP found that the steady state maintenance need for the region was $194.6 million per year (2011 dollars). Based on the TIP allocations and liquid fuels funding totaling $74.5
million, a shortfall of about $120 million per year was estimated. Inflating the steady state maintenance cost to 2016 dollars, this maintenance need increases to $225.6 million. With the TIP allocation still near the 2011 levels, the shortfall has not been reduced and asset management will remain the paramount priority in planning and programming for the foreseeable future.

Spending trends in Pennsylvania and the SEDA-COG MPO region are expected to change in the short term, mostly as a result of $2.5 billion in new funding to be generated through Pennsylvania Act 89 of 2013. However, funding has been largely directed to a priority program of projects—the “Decade of Investment” (DOI)—which includes multimodal, maintenance, and capacity-adding projects. Many of the larger DOI projects, including the Central Susquehanna Valley Transportation Project (CSV) are funded via “spike” funds made available as one-time infusions for large capital projects.

Consistent with the guidance coming in the Scorecard of Influence and other financial guidance, it is clear that the trend in spending is toward asset management activities. As a capacity-adding/network completion project, the CSV project is more of an outlier than a trend; the dollars provided for such a project will not be sustained in the MPO’s regular allocation going forward. In fact, PennDOT is taking a highly cautious approach in longer term financial guidance, indicating that funding levels look set to decrease. For instance, liabilities associated with the State Police Pension Program (among other state-level expenses) may quickly erode the value of the Act 89 revenue.

2. New Policies for Transportation Funding

The recent federal reauthorizations (SAFETEA-LU, MAP-21, FAST Act) and Pennsylvania transportation funding acts (Acts 13, 44, 89) sustained and increased funding for transportation, but in many ways, they changed the policies that guide how funding is allocated and made accessible. Two fundamental changes are noted. First, funding allocations are made more and more on a performance basis, depending on actual conditions of bridges or pavements, for instance. Second, more and more transportation funding is available through competitive grant programs, rather than through the traditional “block” allocations.

The combined impact of these two policy changes in the mechanisms for transportation funding is evidenced in the 2015 SEDA-COG Strategic Planning effort. The issues demanding attention encompassed the following (quoted from the 2015 Strategic Plan):

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29 Inflation assumed to be 3% per year (compounded), according to PennDOT Financial Guidance.
• The Transportation Alternatives Program (TAP) process needs to be modified to ensure project continuity throughout the region.

• More education is needed on the state’s new Multimodal Transportation Fund to ensure that the region is proposing the best candidate projects that can successfully compete for these funds.

• Innovative funding solutions may be necessary to ensure projects are able to be completed. Partnerships for infrastructure investment are becoming increasingly necessary as public solutions become more constrained.

• Project funding priorities can sometimes be challenging for municipal officials in rural areas.

• Emerging State priorities may reduce the amount of funding available for transportation such as Act 13 funds - which could be redirected by the new administration.

It is revealing to note that all of these issues reference the process of accessing new or existing competitive grant programs (TAP, Multimodal), new funding strategies and partnerships (Public-Private Partnerships - P3), discerning when and how to apply for what programs, and managing funds directed to the counties (Act 13). The implications for the SEDA-COG MPO and its constituencies include the following:

1. Increased need for education about the funding programs available and their eligibility – As a first step, education and awareness of the array of funding programs is needed. Programs tend to be scattered among federal and state webpages, without a central resource that supplies help in discovering “what’s out there.” During the LRTP process, many on the Steering Committee expressed interest in learning more about the transportation funding landscape. The MPO, while not handling all educational activities directly, may continue to infuse its planning processes with educational pieces and facilitate additional investment in knowledge development.

2. Increased importance of winning in competitive programs – With more and more transportation dollars available only through competitive programs, it is necessary to increase/establish the capability of agencies, municipalities, counties and the MPO in writing effective applications. This capability is not well-developed in many of the SEDA-COG MPO constituencies, partly because of the small staff sizes and frequent turnover. For this reason, the MPO area may not see its fair share of these funding programs, since the larger agencies and municipalities in other parts of the state have more experience and can devote more resources to it.

3. Increased need for support in assembling functional partnerships and leveraging P3 – The creation of effective transportation partnerships typically emerges among a group of agencies, municipalities, etc., who have a more advanced understanding of the funding landscape and the rules governing how they can leverage various funding streams. It also involves freeing staff to invest time in “research and development” types of activities. For many constituencies in the SEDA-COG MPO, maintaining their day to day operations can be enough of a challenge.

4. Assisting local governments in understanding the Local Use Fund provision of Act 89 – The political environment of many SEDA-COG MPO counties and municipalities tends to be...
conservative, making increases in fees and taxes a politically unpopular course of action. Still, with so many local transportation needs—local bridges being only one of them—the concept of tapping local revenue for local needs may still have some appeal. In addition, should implementation of the Local Use Fund become more common, lessons learned elsewhere and success stories in applying the revenue generated may be shared through the SEDA-COG MPO.

3. State and Federal Revenue

a. FAST Act

The new Fixing America’s Surface Transportation (FAST) Act (P.L. 114-94) was signed into law on December 4, 2015. The FAST Act provides five-years of certain funding for infrastructure investment and planning. The Act authorizes $305 billion across all modes over fiscal years 2016-2020 and includes $70 billion in transfers to keep the Highway Trust Fund solvent. The FAST Act builds on the program structure and reforms of the prior funding bill (MAP-21) and includes a continued focus on accelerating project delivery. Two new programs (discussed in the Freight Movement and Priorities section below) have been added for freight funding. Specifically, the FAST Act provides the funding shown in Table 28.

Table 28. FAST Act Funding

<table>
<thead>
<tr>
<th>Program</th>
<th>Average Annual Funding (Millions)</th>
<th>Increase from FY 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Highway Performance Program</td>
<td>$23,280</td>
<td>6.3%</td>
</tr>
<tr>
<td>Surface Transportation Block Grant Program</td>
<td>$11,654</td>
<td>15.6%</td>
</tr>
<tr>
<td>Transportation Alternatives (set-aside)</td>
<td>$760</td>
<td>3.3%</td>
</tr>
<tr>
<td>Recreational Trails Program (set-aside)</td>
<td>$84</td>
<td>0.0%</td>
</tr>
<tr>
<td>Surface Transportation Block Grant Program (net of TA &amp; Rec Trails)</td>
<td>$10,809</td>
<td>7.3%</td>
</tr>
<tr>
<td>Congestion Mitigation &amp; Air Quality Improvement</td>
<td>$2,405</td>
<td>6.1%</td>
</tr>
<tr>
<td>Highway Safety Improvement Program</td>
<td>$2,317</td>
<td>5.7%</td>
</tr>
<tr>
<td>Railway-Highway Crossings Program</td>
<td>$235</td>
<td>6.8%</td>
</tr>
<tr>
<td>Metropolitan Planning</td>
<td>$343</td>
<td>9.5%</td>
</tr>
<tr>
<td>National Highway Freight Program (NEW)</td>
<td>$1,249</td>
<td>100.0%</td>
</tr>
</tbody>
</table>


b. Act 89

Act 89 replaces the funding formerly provided to distressed counties allocated under Act 26. It amounts to one percent of the Oil Company Franchise Tax for Highway Maintenance and Construction. All counties in the Commonwealth of Pennsylvania who own public bridges are eligible to receive the funding. The Commonwealth allocates available funds to counties based on the ratio of the square footage of deck area of a county’s county-owned bridges to the total square footage of county-owned bridges throughout the Commonwealth. The amount of square footage used shall be that reported as part of the National Bridge Inspections Standards Program.

Act 89, which became law on November 25, 2013, established a special fund within the state treasury called “Local Use Fund.” Beginning January 1, 2015, a county may pass an ordinance to implement a fee
PennDOT at the time a vehicle is registered or renewed. These funds will 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. The $5 county fee is in addition to the registration fee.

The following provide overview summaries of the Act 89 legislation:

- “Act 89 of 2013”, prepared by PennDOT, January 2014
  [https://www.dot.state.pa.us/public/Bureaus/PublicTransportation/GeneralInformation/Act%2089%20of%202013.pdf](https://www.dot.state.pa.us/public/Bureaus/PublicTransportation/GeneralInformation/Act%2089%20of%202013.pdf)

- “Pennsylvania’s New Transportation Funding Law: Detailed Summary of Act 89 of 2013”, prepared by Associated Pennsylvania Contractors (APC) and the Pennsylvania Highway Information Association (PHIA)

  
  c. **Act 13**

Act 13 of 2012 establishes a Marcellus Legacy Fund that allocates a portion of the Marcellus Shale Impact Fee to the Highway Bridge Improvement Restricted Account in the Motor License Fund. These funds are distributed to counties (proportionately based on population) and are to be used to fund the replacement or repair of locally owned (county; municipal), at-risk, deteriorated bridges. The Act 13 Highway Bridge Improvement payments are made to counties on August 15 of each year. A clearinghouse of information regarding Act 13—including timelines, annual reports, and links to summaries prepared by other agencies—has been set up by the Pennsylvania Public Utility Commission at [http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/act_13_impact_fee.aspx](http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/act_13_impact_fee.aspx).

  
  d. **Act 44 County Maintenance**

Act 44 provides for an annual allocation to all counties that own public bridges. These allocations are made on December 1 of each year as provided in 75 Pa. C.S. § 8915.6(b)(2). The Commonwealth allocates the funds available through Act 44 to counties based on the ratio of the square footage of deck area of a county’s county-owned bridges to the total square footage of deck area of county-owned bridges throughout the Commonwealth. The amount of square footage used shall be that reported as part of the National Bridge Inspection Standards Program.

  
  4. **Project Funding Sources**

  a. **Multimodal Fund**

Act 89 established a dedicated Multimodal Transportation Fund that stabilizes funding for ports and rail freight, increases aviation investments, establishes dedicated funding for bicycle and pedestrian improvements and allows targeted funding for priority investments in any mode. The program is intended to provide financial assistance to municipalities, councils of governments, businesses, economic development organizations, public transportation agencies, rail/freight and ports in order to improve transportation assets in order to enhance communities, pedestrian safety and transit revitalization. The required local match is no less than 30% of the amount awarded.
b. *Green Light Go*

Pennsylvania’s Municipal Signal Partnership Program, also known as the “Green Light–Go Program,” provides state funds for the operation and maintenance of traffic signals along critical and designated corridors on state highways.

- *Designated Corridors* are State Highways with traffic volumes less than 10,000 vehicles per day.
- *Critical Corridors* are State Highways with traffic volumes greater than 10,000 vehicles per day and/or locations where traffic signals exist at the end of limited-access highway ramps.

PennDOT has developed an interactive webmap for identifying traffic signals on Designated and Critical Corridors.\(^{30}\)

Act 89 of 2013 created Title 75, Section 9511(e.1) [Allocation to Municipalities for Traffic Signals] which is a new funding program for Designated corridors. PennDOT developed a similar traffic signal modernization and improvement program for critical corridors designed to improve safety and mobility by reducing congestion and improving efficiency on key state highways. Municipal applications for the Green Light-Go Program require a 50% match using municipal or private cash. Announcements are communicated through municipal organizations and PennDOT Municipal Services representatives.

c. **ARLE**

The Automated Red-Light Enforcement (ARLE) Grant Program is administered by PennDOT’s Bureau of Maintenance and Operations. Currently the Philadelphia Parking Authority, the City of Philadelphia’s system administrator, provides PennDOT with quarterly deposits of revenue generated by automated red light enforcement (ARLE) violations into a restricted Motor License Fund account. The Philadelphia Parking Authority deducts all operation and maintenance costs prior to depositing the remaining revenues into a restricted Motor License Fund account. The balance of revenues generated in the restricted Motor License Fund account is eligible for use as part of the ARLE Funding Program.

PennDOT will post yearly revenues available for the ARLE Funding Program into the Pennsylvania Bulletin each spring prior to the submission of applications. No matching funds are required for eligibility in the ARLE Grant Program but cost sharing is encouraged. The intent of this program is to fund worthwhile, relatively low-cost projects that improve the safety and mobility of the traveling public. The kinds of eligible projects vary widely from improvements to traffic signals, to roadway improvements at signalized intersections, to school zones, guiderail and roadside safety. Improvements recommended by LTAP programs such as the Local Safe Roads Communities and Walkable Communities are also eligible.

d. **TIGER**

The Consolidated and Further Continuing Appropriations Act, 2015 appropriated $500 million, available through September 30, 2017, for National Infrastructure Investments otherwise known as TIGER grants. As with previous rounds of TIGER, funds for the FY 2015 TIGER program are to be awarded on a competitive basis for projects that will have a significant impact on the Nation, a metropolitan area, or a region. There is no match requirement for rural areas.

\(^{30}\) [Link to webmap](http://pennshare.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=a31ed30f42f849d591631140df98c2bb)
TIGER Discretionary Grants have supported innovative projects, including multimodal and multijurisdictional projects that are difficult to fund through traditional federal programs. Successful TIGER projects leverage resources, encourage partnership, catalyze investment and growth, fill a critical void in the transportation system or provide a substantial benefit to the nation, region or metropolitan area in which the project is located. The TIGER grant program is expected to continue to make transformative surface transportation investments that dramatically improve the status quo by providing significant and measurable improvements over existing conditions.

e. **ARC**

Appalachian Regional Commission (ARC)\(^{31}\) funds may be used for the construction, reconstruction or improvement of highways on the designated 3,090 mile Appalachian Development Highway System (ADHS). MAP-21 Section 1108 amended 23 U.S.C. 133 and made STP funds eligible for the “construction, reconstruction, rehabilitation, resurfacing, restoration, preservation, or operational improvements for highways, including construction of designated routes” of the ADHS and local access roads under title 40, section 14501.

The ADHS was created by the Appalachian Regional Development Act of 1965. Its purpose was to provide a system of development highways and access roads that would contribute to economic development in the Appalachian regions of 13 States -- Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia and West Virginia. ADHS funds carry no year-of-obligation limitation, making the funds available until used.

**Figure 51** illustrates the ADHS context of the region and within Pennsylvania. Recent changes in the designated miles has allowed corridor P and P-1 to become more developed and continue the movement and completion of the system of roadways under the ARC funding umbrella. Funding for future development of Corridor M is currently tied to US 22/522 through Mifflin, Huntingdon, and Blair Counties. In the past, efforts were made to remove this portion of US 22/522 from the ADHS, thereby impacting future funding. Mifflin County has expressed interest in completing a master plan for the entire corridor through Blair, Huntingdon, and Mifflin Counties. Such a study was completed by PennDOT District 9 for the Blair/Huntingdon section.

For the last 30 years, the SEDA-COG MPO has experienced success advancing one or two projects per year through the ARC Local Access Road (LAR) program. **Table 29** describes the currently open infrastructure projects receiving ARC funding. The MPO’s experience in identifying needs and writing project justifications as part of the grant program could form foundational material for educating other agencies and municipalities on the grant writing process.

\(^{31}\) [http://www.arc.gov/about/index.asp](http://www.arc.gov/about/index.asp)
Figure 51. The Appalachian Development Highway System in Pennsylvania


f. DCNR

DCNR’s Bureau of Recreation and Conservation helps communities build connections between citizens and the outdoors by providing technical and financial assistance for community recreation and conservation projects and community revitalization efforts. A complete list of DCNR funding resources can be found in their Funding Guide for Recreation and Conservation Projects (March 2014), which can be found on their website (http://www.dcnr.state.pa.us/brc/elibrary/resourcesta/funding/index.htm).
### Table 29. Open ARC Local Access Road Projects, 2Q 2015

<table>
<thead>
<tr>
<th>Project Name</th>
<th>ARC Amount</th>
<th>Grantee</th>
<th>Approval Date</th>
<th>Start Date</th>
<th>Completion Date</th>
<th>Project Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penn House Commons Access Road Project</td>
<td>$590,000</td>
<td>East Buffalo Township, Union County</td>
<td>5/12/2009</td>
<td>9/25/2014</td>
<td>7/31/2015</td>
<td>Project let on 9/25/14 with the PA 45 and 15th Street Intersection and Road Improvements project below. Construction completed.</td>
</tr>
<tr>
<td>Rt. 45 and 15th Street Intersection and Road Improvements</td>
<td>$580,000</td>
<td>East Buffalo Township, Union County</td>
<td>4/5/2010</td>
<td>9/25/2014</td>
<td>7/31/2015</td>
<td>This project was combined and jointly let with the Penn House Commons Access Road project. See above for project status.</td>
</tr>
<tr>
<td>SEEDCO Access Road Project</td>
<td>$230,000</td>
<td>Mount Carmel Township, Northumberland County</td>
<td>3/3/2011</td>
<td></td>
<td></td>
<td>SEDA-COG JRA, SEDA-COG, and SEEDCO have reached an agreement on the alignment of the new access roadway. The scoping field view was held on 5/7/14, and the reimbursement agreement between PennDOT District 3 and Mount Carmel Township for the local match portion of the funding was being finalized. Project schedule submitted on 10/20/14. Funding for the engineering costs ($120K) is being explored, including the PennDOT Multimodal Fund. No change as of 10/16/15 as far as District 3-0 is aware.</td>
</tr>
<tr>
<td>Bloomsburg Light Street Road and Swisher Circle Intersection Upgrade</td>
<td>$350,000</td>
<td>Town of Bloomsburg, Columbia County</td>
<td>9/11/2013</td>
<td></td>
<td></td>
<td>Safety review has been approved. Environmental Clearance was issued 5/13/15. Final ROW Plan submitted. Designer working on finalizing Line, Grade and Typical Section and utility coordination. Project estimated for an October 2016 let.</td>
</tr>
<tr>
<td>Expansion Drive Reconstruction Project</td>
<td>$250,000</td>
<td>Granville Township, Mifflin County</td>
<td>7/30/2012</td>
<td>2/2/2015</td>
<td>6/9/2015</td>
<td>The Expansion Road project has been completed with a Physical Work Acceptance Date of 6/13/15.</td>
</tr>
<tr>
<td>Roundhouse Road Project</td>
<td>$410,000</td>
<td>Granville Township, Mifflin County</td>
<td>6/30/2014</td>
<td>3/24/2016 (let date)</td>
<td></td>
<td>Conducted scoping field view on 9/25/14. The survey is complete. The Design Criteria Report was approved. Working on the Typical Section Approval.</td>
</tr>
</tbody>
</table>

5. Project Funding Strategies

   a. Public-Private Partnerships (P3)

Act 88 of 2012 authorizes public private partnerships (P3)\(^{32}\) in Pennsylvania. This allows PennDOT and other transportation authorities and commissions to enter into agreements with the private sector to participate in the delivery, maintenance, and financing of transportation-related projects. P3's are a contractual agreement between a public entity and private entity. The agreement transfers responsibility of engineering, construction, operation, and/or maintenance to the private sector for a defined period of time; or allows the private sector to perform by contract a service previously provided by the public sector. The private firm receives payments either from existing revenue sources or through the collection of new tolls or user fees. There are two basic P3 project types:

1. Building New Facilities – Adding capacity to the system by building something new.
2. Modifying Existing Facilities – Improving capacity or performance of the current system.

   b. Multi-Agency Cooperation – Coordinating Funding Streams

During the August 2015 LRTP Steering Committee Meeting, a discussion ensued on how to maximize funding by planning for projects to be done in cycles and tapping into other pots of money for funding. This would require looking at different programs with different agencies to see where there may be additional funding outside of PennDOT that can be leveraged. A suggestion was made that coordination with other state agencies should be added to the Strategic Issues list.

The discussion included some insight as to what institutional barriers exist regarding matching up pots of public money that may be under PennDOT, DCNR, Department of Community and Economic Development (DCED), and Community Development Block Grant (CDBG) jurisdiction, to put into a project. It was noted that it depends on the type of project, but that federal or state regulations would need to be followed. It was suggested that the potential funding sources be identified as part of the LRTP process, but that this money not be included in any anticipated allocations or revenue sources. While federal and state highway monies have financial guidance available, the same is not available for agencies such as DCNR, and commitment to a funding program would need to be established.

\(^{32}\) [http://www.penndot.gov/ProjectAndPrograms/p3forpa/Pages/default.aspx#VwbnRL7D-Uk](http://www.penndot.gov/ProjectAndPrograms/p3forpa/Pages/default.aspx#VwbnRL7D-Uk)
D. Bridges/Asset Management

PennDOT measures bridge condition by whether it is structurally deficient, which is an indication of a bridge’s overall status in terms of structural soundness and ability to service the traveling public. “SD” indicates that the bridge has deterioration to one or more of its primary structural components. PennDOT quantifies structurally deficient bridges in two ways: first by the number of bridges rated by SD, and second, by the total square feet of deck area within bridges that are rated SD.

Per SEDA-COG MPO’s Long Range Transportation Plan, Regional Performance Measures Report, April 2015, from 2012 to 2013, SD rates in the MPO region fell to below 10% SD (based on square feet of deck area) for all categories, except local bridges greater than 20 feet in length. For these local bridges, almost 30% are SD. Overall, this indicates that SEDA-COG MPO’s state bridges are in fairly good shape; however, there is still much to do with local bridges. The local bridge issue though is a non-uniform issue across the MPO; some counties like Juniata County have no local county-owned bridges, while others like Columbia County have many county-owned bridges. Counties themselves receive very small local bridge allocations each year and so cannot address the problem on their own.

The SEDA-COG MPO is also home to many covered and historic bridges (some state and some local) that receive special protection from demolition or significant changes. PennDOT currently has a planned program of preservation activities for their state bridges aimed at extending service life. Currently, local bridges have no such program for preservation, so the local jurisdictions often request higher-cost, wholesale bridge replacements.

As outlined previously, various funding sources are available for bridge improvements, preservation projects, etc., including Act 13 funding, which is specific to counties and municipalities. However, there are still substantial challenges to meeting all of the needs, especially on the local level.

The 2015 SEDA-COG MPO Strategic Plan stated that the region’s LRTP should seek to quantify the asset management demands of the system as part of a process to balance the economic development and adequate maintenance for the system. Specific strategies included the following:

- Collaboration with PennDOT to identify possible bridge bundling projects;
- Further exploration of how PennDOT’s P3 Rapid Bridge Replacement Program (see following paragraphs) has affected the region and remaining needs;
- Use of the 8’ to 20’ local bridge inventory for municipal outreach in developing capital improvement programs for SD local bridges that includes a training/assistance program; and
- Investigation/identification of potential funding streams for local bridges.
1. Local bridges

The SEDA-COG MPO is home to over 2,731 total known bridges (state and local bridges over 8 feet in length) and 838 of those bridges are considered “local bridges,” owned by municipalities or counties; the remaining 1,893 are state bridges. During the past several updates to the Transportation Improvement Program (TIP), the members of the MPO have noted difficulty in programming local bridge projects on the TIP. They have also noted that several of the projects programmed have encountered a range of difficulties in moving to construction. As a result, trends in local bridge conditions show an increase in structurally deficient bridges and deck area (Figure 52), which is in stark contrast to the trends on the state system. It has been noted that, while significant resources are devoted to local bridge work, this work frequently involves bridge replacement, rather than less expensive preservation or rehabilitation.

**Figure 52. Change in Structurally Deficient (SD) Bridge Deck Area, 2010-2014**

![Bar chart showing change in structurally deficient bridge deck area from 2010 to 2014](image)


With the consensus of the MPO Committee, a Local Bridge Subcommittee was convened in 2015 to investigate the broad range of challenges and issues presented by local bridge projects. Over a series of five meetings, the committee first identified the issues and causes, and developed several potential solutions to be applied in the 2017-2020 and succeeding TIP updates. The committee prioritized the following activities for staff to provide more information to local owners of bridges:  

- Continue to schedule LTAP sessions on classes related to local bridges on a regular basis.
- Schedule technical assistance sessions as requested, and work to make sure that local officials are aware of the option to schedule a technical assistance session on issues related to local bridges, the installation of GRS construction materials, and related topics.
- Develop a resource guide for local officials identifying funding programs that can be used in local bridge work. Post the guide on the SEDA-COG website, and publicize it at county conventions and other venues.

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33 SEDA-COG MPO, Outcomes and Recommendations from the SEDA-COG MPO Metropolitan Planning Organization Local Bridge Subcommittee, DRAFT dated January 26, 2016.
• Develop a resource guide for local officials identifying funding programs that can be used in local bridge work. Post the guide on the SEDA-COG website, and publicize it at county conventions and other venues.

• Continue efforts to complete and share the inventory of local bridges between eight and twenty feet in the SEDA-COG area.

• Support county-led efforts to inspect, maintain and repair locally owned bridges between eight and twenty feet long.

• Support county-led efforts to find and apply low-cost replacement methods, including open-bottom aluminum culverts, pipe replacements and other locally developed solutions.

The subcommittee also considered a bridge prioritization methodology, developed by the MPO staff, for scoring bridges based on ten factors, including condition, context, county priority, local impact, and resiliency. The bridges considered in the evaluation are indicated in Figure 19, Figure 20, Figure 21, Figure 22 and Figure 23, along with other Bridges of Special Concern. The subcommittee applied the methodology and presented a suite of local bridge projects that represent the priorities of the MPO member counties heading into the 2017-2020 TIP update.

2. High Value Bridges (bridges over 1,000 feet)

As an element of the Bridges of Special Concern mapping (Figure 19, Figure 20, Figure 21, Figure 22 and Figure 23), bridges greater than 1,000 feet in length are identified as High Value Bridges. Within the SEDA-COG MPO, there are 22 bridges over 1,000 feet and another 20 bridges over 500 feet. PennDOT has and continues to pay attention to these bridges, doing forward looking planning and following a disciplined preservation schedule to make them last to their service life. The bridges are called out in this plan as a “long range radar” for tracking the timing of major maintenance activities and (eventually) replacement projects. The MPO recognizes that the number of High Value Bridges raises the possibility that major preservation or replacement projects could overlap and encumber large portions of the MPO’s TIP.

3. Rapid Bridge Replacement (RBR) Project

This Public-Private Partnership (P3) is designed to bolster PennDOT’s ongoing effort to address the state’s nearly 4,200 Structurally Deficient (SD) bridges. With the P3 approach, PennDOT will replace 558 SD bridges around the state more quickly; achieve significant savings for taxpayers; and minimize the impact on the traveling public. The initiative was approved by the Public-Private Transportation Partnership Board in September 2013. In October 2014, Plenary Walsh Keystone Partners was selected as PennDOT’s private partner. Construction began in the summer of 2015 and all 558 bridges must be replaced within 36 months. PennDOT will maintain ownership of the bridges throughout the contract. 34

In the SEDA-COG MPO, the 30 state system bridges shown in Figure 53 are to be replaced through the RBR project. A full listing of the bridges by county, along with maps of their locations and a timeframe for completion, are provided at http://parapidbridges.com/bridgesbycounty.html.

4. Bridge Removals

In May 2015, SEDA-COG MPO and North Central Rural Planning Organization identified a package of 14 locally owned bridges to be recommended for removal. Most of the structures had been closed for longer than four years, and it seemed unlikely that the bridges would ever be returned to service. In February 2016, PennDOT Central Office replied to the request, indicating that spike funds would be made available and the removals project would be placed on the Draft 2017-2020 TIP.

The bridge removals in the SEDA-COG MPO region are symbolized along with other Bridges of Special Concern on Figure 19, Figure 20, Figure 21, Figure 22 and Figure 23.
E. Corridor Modernization

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 Strategic Plan states that PennDOT defines corridor modernization as “An objectives-driven, performance based program to better evaluate, prioritize, plan, deploy and measure the effectiveness of Transportation Management and Operations (M&O) strategies.” For the SEDA-COG MPO, corridor modernization is primarily focused on traffic signals and Intelligent Transportation Systems (ITS) improvements. Specific strategies for the region include investigation of a TIP line item for traffic signals, funded by state and federal sources. The Strategic Plan also calls for an inventory of both traffic signal operation needs and ITS-related needs. These inventories would facilitate coordination with PennDOT to better understand statewide needs and initiatives, especially those related to ITS.

A future and potentially significant need for the SEDA-COG MPO region will be the impact of CSVT on regional corridor operations, especially related to traffic signals. The completion of CSVT is going to substantially 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 needs.

PennDOT is responsible for operations planning at the statewide level. The statewide plan is spelled out in the Transportation Systems Operations Plan (TSOP), which defines PennDOT’s operational directions for the next several years. There are nine operations regions across the Commonwealth. Each region developed, adopted and executed its own operations plan with support from Central Office. There is a current initiative within PennDOT Central Office to develop a more widespread operations scenario and performance based and managed ITS system. This effort is linked to the statewide Traffic Management Center as well as a new investment infrastructure around the four business plan networks. This program is also looking to advance other traveler information such as Inrix and Waze apps and other new technology to advance incident management and traveler information in the regions.

Transitions

From segmented, jurisdictional-based systems to more connected, corridor-based systems

From old technology (or no technology) to new technology

From a projects-driven program to a performance based program...
F. Freight Movement & Priorities

“PA On Track” is the brand name for Pennsylvania’s most recent update of its multimodal LRTP and the Commonwealth’s first comprehensive freight movement plan. The multimodal LRTP seeks to preserve and improve accessibility and connectivity for all transportation modes. The comprehensive freight movement plan further defines how to efficiently move freight, while fostering the state’s economy and generating future growth. PennDOT led the development of PA On Track in partnership with the many entities that influence transportation planning in Pennsylvania, as well as members of the general public.

According to PA On Track, in 2011, Pennsylvania’s multimodal transportation system moved 1.2 billion tons of goods valued at over $1.6 trillion. A number of existing and projected economic trends have the potential to impact freight movement in Pennsylvania. One example is the shift of manufacturing back to the Americas. After the 1980s, a time when manufacturing dominated the U.S. economy, manufacturing growth began to move from the U.S. to emerging developing countries such as China. Due to multiple factors, including a rise in labor costs in these developing countries, manufacturing is shifting back to the Americas. As stated previously, the economy of the SEDA-COG MPO region is very heavily dependent on manufacturing and therefore has a great need for efficient freight infrastructure.

The main goal of PA On Track in relation to freight is to expand and improve system mobility and integrate modal connections. A few of the plan’s objectives related to this goal include:

- Provide modal infrastructure and technology advancements to improve system efficiency and trip predictability and to eliminate bottlenecks (the proposed CSVT project will address this objective in a portion of the MPO region)
- Increase access to jobs/labor/transportation choices in urban, suburban, and rural communities
- Support local communities through appropriate and equitable transportation modal options and investments
- Improve first and last mile intermodal access and connections
- Support pedestrian and bicycle facility development
- Improve bridge under-clearances and intersection geometry

The FAST Act includes two new programs specific to freight: the National Highway Freight Program and the Nationally Significant Freight and Highway Projects Program.

The National Highway Freight Program provides $1.2 billion per year apportioned to states by formula. The state must have a statewide freight plan to be eligible for funding. The program adds a new freight formula and expands the freight network.

The Nationally Significant Freight and Highway Projects Program includes $900 million per year (on average) for competitive grants or loans. Eligible projects must be greater than $100 million in size (although this requirement is reduced for states with small programs). Eligible activities include:
- Highway freight projects on National Highway Freight Network
- NHS highway/bridge projects, projects in National Scenic Areas
- Freight rail/intermodal/port projects (≤$500 M over 5-year period)
- Rail-highway grade crossing or grade separation projects

The MPO’s Strategic Plan states that many of the needs of the general traveling public are similar to those of freight carriers and customers. For example, bottlenecks that reduce passenger vehicle travel times also affect those of motor carriers. Some needs are unique to freight only such as freight rail transload facilities or truck turning radii improvements. Specific strategies indicated for freight planning in the region include obtaining input from specific freight operators and third party logistics providers in the LRTP and use of the Statewide Freight Plan to focus in on specific freight types and needs. The Strategic Plan also states that the MPO should use the PA Transportation Advisory Committee (TAC) 2007 study on truck access and parking to identify needs and should identify the Priority Freight Network in the SEDA-COG MPO region in coordination with PennDOT and FHWA.

G. Other Strategic Regional Issues

1. Horse-Drawn Vehicle Travel & Safety

Growing concern has been expressed for the safety of Plain Sect populations—Amish and Old Order Mennonite groups—who travel by horse-and-buggy on the region’s highways and streets. The Old Order Mennonite groups also make extensive use of bicycles for transportation. Growth trends for the Plain Sect populations show quick growth—with populations potentially doubling by 2040, the horizon year of this LRTP. The trends point to increasing conflicts between motorized and horse-and-buggy vehicles (as well as bicycles), which deserve some attention in the project development process—particularly where Amish are known to reside and on routes that have frequent horse-and-buggy traffic and crash history.

PennDOT’s CDART crash reporting tool allows the tracking of crashes that involve a horse-and-buggy vehicle type, and reportable crashes from 2010-2014 involving a horse-and-buggy are mapped in Figure 54 by crash type. A total of 47 crashes were identified, with “rear end” crashes being the most common type. Table 30 identifies the roadway corridors where crash concentrations are noted. Mifflin and Clinton counties show the most intense concentrations of crashes.

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 to identify the roadways and pathways used most by the Plain Sect, key locations of conflict (intersections, bridges), use of edgeline rumble strips and the adequacy of shoulder widths will help target and prioritize projects. To help educate those who operate horse and buggy vehicles or hire drivers of motorized vehicles, PennDOT has developed a Horse and Buggy Driver’s Manual (Publication 632) in consultation with the Lancaster County Amish community.
Table 30. Corridors with Concentrations of Horse-and-Buggy Crashes

<table>
<thead>
<tr>
<th>County</th>
<th>Municipalities</th>
<th>Roadway</th>
<th>Crash Types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>Porter Township</td>
<td>SR 0064</td>
<td>2 Rear End</td>
</tr>
<tr>
<td>Clinton</td>
<td>Greene Township</td>
<td>SR 0880</td>
<td>2 Angle, 1 Head-On</td>
</tr>
<tr>
<td>Clinton</td>
<td>Bald Eagle Township</td>
<td>SR 0150</td>
<td>1 Rear End, 1 Head-On</td>
</tr>
<tr>
<td>Mifflin</td>
<td>Menno, Union, Brown Townships</td>
<td>SR 0655, 0305</td>
<td>6 Rear End, 1 Angle</td>
</tr>
<tr>
<td>Mifflin</td>
<td>Menno Township</td>
<td>SR 4004 (Front Mountain Road)</td>
<td>1 Rear End, 1 Angle</td>
</tr>
<tr>
<td>Union</td>
<td>Limestone Township</td>
<td>SR 0045, 2004 (Furnace Road)</td>
<td>2 Angle, 2 Same Direction Side</td>
</tr>
<tr>
<td>Snyder</td>
<td>Perry, Washington Townships</td>
<td>SR 0104</td>
<td>1 Rear End, 1 Angle</td>
</tr>
<tr>
<td>Northumberland &amp; Montour</td>
<td>Delaware, Lewis, Anthony Townships</td>
<td>SR 0054</td>
<td>2 Rear End, 2 Angle</td>
</tr>
<tr>
<td>Northumberland</td>
<td>Delaware Township</td>
<td>SR 0405</td>
<td>2 Rear End</td>
</tr>
</tbody>
</table>

Source: PennDOT CDART, 2010-2014.

1. State Asset Vulnerability Assessment

PennDOT Central Office has initiated a study of extreme weather and the vulnerability of transportation assets. From an 11/12/2015 PennDOT Press Release:

The first phase of the extreme weather vulnerability study, to be completed by September 2016, involves documenting historic weather impacts on the road and bridge network and identifying potential impacts in the future. The study will engage emergency management officials, PennDOT’s planning partners as well as other stakeholders and lead to later phases. The goal is to develop strategies to increase the resiliency of PennDOT’s assets and adopt strategies into planning, design and operations to allow PennDOT to successfully cope with severe weather events.\(^{35}\)

As of April 2016, PennDOT had contacted its District Maintenance Offices to set up interviews with their staff, and a web tool had been set up for collecting locations of concern.

The study is expected to follow principles outlined in FHWA’s Climate Change & Extreme Weather Vulnerability Assessment Framework\(^{36}\) to maintain compliance with the new FAST Act planning factor for “Resilience and Reliability.”

Buggy Crashes by Collision Type, 2010-2014

Long Range Transportation Plan

Buggy Crash Events
- Angle Collision
- Head On Collision
- Rear End Collision
- Same Direction Same Side Collision

Figure 54
H. Issues of Public Concern

Several additional regional issues and concerns, beyond those identified in the Strategic Plan, were discovered during the course of this LRTP update. The primary sources for these issues and concerns were the following:

- The Transportation Issues Forums, where participants reviewed an evaluation of public comments received by the State Transportation Commission (STC) and PennDOT, adding their own comments and ideas for resolving transportation issues. (See the Outreach & Public Involvement chapter for more information.)

- The LRTP Steering Committee, which injected salient issues that emerged during the six (6) Steering Committee Meetings conducted during the LRTP update process.

1. Walkable/Bikeable Communities

Many communities have not envisioned the desire for pedestrian and bicycle facilities and lack a long-term plan for developing such a network. As such, they have little leverage with developers and too often will waive subdivision requirements for building sidewalks and paths.

At the same time, public desire for more walkable and bikeable communities was a frequent quality of life issue reflected in more than one third of all the SEDA-COG MPO region comments received by the STC and PennDOT. With parts of US 11/15, US 15, and PA 147 becoming more community focused when CSVT reduces volumes and diverts the larger vehicles, a variety of new opportunities will be available to shape these traditionally vehicle dominated corridors into walkable and bikeable systems.

- At the planning level, community-based plans for developing walking and biking facilities are needed to give the municipalities support when faced with pressure to waive the requirements. To this end, the Susquehanna Greenway Partnership is in the early stages of a bike/pedestrian plan for communities in the Greenway Corridor.

- At the policy level, re-establishing the emphasis on creating functional networks of sidewalks and paths is a common theme among many national advocacy and policy campaigns, including FHWA’s Active Transportation Initiative and the Complete Streets concept. The creation of county or regional “model” ordinances could help where municipal ordinances do not have strong requirements.

- At the implementation level, PennDOT’s Local Technical Assistance Program (LTAP) Walkable Communities Program provides assessments of pedestrian facility safety and develops potential solutions. For the SEDA-COG MPO region, LTAP walkability assessments have been completed for Bloomsburg, Lock Haven and Selinsgrove.

2. Transportation Access & Options

Comments regarding access to transportation options, including transit and commuting options, were reflected in just under 10% of the comments received by STC and PennDOT for the SEDA-COG MPO region. In many cases, a lack of transportation options was indicated.
The need for additional options has been recognized by transit agencies. Strategies, including the following, were compiled by the North Central PA Public Transportation Taskforce in their 2011 Regional Public Transportation Needs Assessment:

- Expansion of shared-ride services to evenings and weekends
- Improvement of service convenience and amenities
- Taxi subsidy program
- Accessible taxi vehicles
- Expansion of carpool and vanpool services
- Car sharing programs
- “Beyond the Region” (inter-city) commuter bus service
- General public rural demand responsive service

Shared-ride transit services are currently available to all residents of the SEDA-COG MPO counties at the unsubsidized rate of about $1.50 per mile. This cost makes such service minimally competitive when compared with the $0.58 per mile cost to own and operate a personal vehicle.37

The 2011 Needs Assessment also gave some consideration to community fixed-route transit service. The Community Characteristics chapter identified the US 11 and US 15 corridors as having higher potential demand for transit services. However, the report acknowledges the difficulty and cost of operating fixed route bus services in this area, where each community is rather small and the distances between communities is significant. Operating cost is cited most frequently as the primary barrier to developing fixed route service or expanding subsidies. More significantly, there is not a policy consensus among the various decision-makers and transit service providers about the viability and relative benefit versus cost of providing fixed route service. For the foreseeable future, consensus for the path forward centers on service innovations, more accessible information on existing service, and evolving operational strategies based on the shared-ride model.

a. **Private Services**

Transportation service enterprises, like Uber, Lyft, and others, offer a smartphone platform for connecting people to drivers who will provide on-demand point to point transportation. Service is based on availability of drivers, and cost is derived according to trip time or mileage, similar to a taxi fare. As of April 2016, neither Uber nor Lyft was providing service in the SEDA-COG MPO region.

b. **Passenger Rail**

Amtrak currently operates the Pennsylvanian Route one trip per day of passenger rail service between Harrisburg and Pittsburgh on the Keystone West Corridor (Figure 55). This passenger rail service runs on Norfolk Southern Main Line Freight rail lines through Juniata and Mifflin Counties, with a stop in Lewistown.

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Figure 55. Keystone Corridor West Passenger Rail

On-time performance is generally unreliable. Further consideration by PennDOT and other partners has been given to upgrade this service, however numerous funding and technical challenges must be considered. To build this current service into a commuter option to Pittsburgh or Harrisburg, expansion to two or three trips per day would be needed. From the PA Intercity Passenger and Freight Rail Plan, 2010.38

The Keystone Corridor West is located between Pittsburgh and Harrisburg. It provides critical mobility to the communities and natural attractions of central Pennsylvania, such as Greensburg, Altoona, and Johnstown, as well as connections to Penn State University, the state parks, and other attractions in the Allegheny Mountains.

Norfolk Southern owns the Keystone West line and uses it as a critically important freight route between the Midwest and the East Coast. Although Norfolk Southern’s predecessor, Conrail, pared down portions of the line from four-track to double- and triple-track segments, the right-of-way is available to accommodate significant capacity increases and frequent passenger service.

38 http://www.dot.state.pa.us/public/bureaus/railfreight/PARailPlanAppend2/PARailPlanlowres.pdf
The Pittsburgh to Cleveland corridor could be considered as a future extension of the Keystone Corridor West. Currently, only one Amtrak train per day operates on this segment and its on-time performance is unreliable. A number of alternative routes could accommodate service increases in this corridor.

In 2014, the Pennsylvania Department of Transportation (PennDOT), in cooperation with the Federal Railroad Administration (FRA), Amtrak, and Norfolk Southern, conducted the Keystone West High Speed Rail Study to evaluate the feasibility of options to reduce rail travel times and increase trip frequency on Amtrak's Keystone West portion (between Harrisburg and Pittsburgh)—which is part of the Pennsylvanian Line service between New York City and Pittsburgh. The study evaluated existing rail operations and infrastructure within the Keystone West corridor and identified potential improvements and conceptual alternatives to provide higher speed passenger rail service. The analysis of alternatives involved a two-tiered approach that included identification & analysis of “full alternatives” and evaluation of individual improvement components (options).

All alternatives were rooted in incrementally increasing speeds of passenger trains and providing the capacity for additional passenger train frequencies, while minimizing impacts to current NS freight operations and future opportunities. Potential improvements were developed in a manner that would allow them to be completed incrementally, based on need, expected benefits and funding availability. Incremental improvements along the corridor would offer a fiscally constrained approach to the long-term implementation of a full and complete alternative; and allow ridership to increase systematically in support of future improvements. To aid in future discussions concerning what improvements could be advanced—considering fiscal constraints, in particular—a menu of possible improvement options was developed and is contained in the Keystone West High Speed Rail Study, which can be found on the Plan the Keystone website. The DRAFT 2015 Pennsylvania State Rail Plan makes mention of this corridor as a Vision Project.

The United States Department of Transportation (USDOT) FAST Act has identified a set-aside funding source specifically for developing commuter rail service. This set aside includes track improvements and sidings to improve passenger travel efficiency and up to three years of operating assistance. Prospective commuter corridors would be evaluated as new starts and would require a forecast of ridership necessary to operationally sustain the route. Challenges associated with this competitive funding source and the Keystone West Corridor include, but are not limited to:

- Ridership justifying commuter-level service, related to the degree of connection between the economies of Harrisburg/Central Pennsylvania and Pittsburgh.
- The one-way travel time of 5½ hours significantly exceeds the travel time by car, putting it at a competitive disadvantage for attracting ridership.
- Ability to improve travel time, train speed, and the number of trains, which is limited by the shared passenger-freight arrangement.

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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.

A. Project Identification & Definition

For this update of the LRTP, the needs assessment and project identification processes were initiated through a set of Transportation Issues Forums aimed at engaging local transportation stakeholders, interested parties, and members of the public in the discussion of transportation issues and solutions.

The Forums—one each in PennDOT Districts 2-0 and 3-0—engaged attendees through presentations provided by the PennDOT District staff and long range plan mapping, featuring a “Cluster Analysis” of comment data collected by the STC and PennDOT. (See Appendix E for details about the Cluster Analysis and its use in the planning process.)

In preparation for the Forum meetings, the comments and clusters were mapped both at the county-level and in detail, with each cluster given its own inset map over an aerial background. The individual comments were listed and reviewed for trends, then examined against overlays of safety issues, pavement and bridge needs, etc. Project ideas and solutions were identified, along with currently programmed projects and existing planning efforts that had already identified the issue. Samples of this mapping are provided in Appendix E within the Cluster Analysis documentation.

The county-level mapping and detailed cluster maps formed the primary interaction point for the Transportation Issues Forums. Participants were asked to review the mapping, and agree with (“like”) an existing idea by placing a star sticker next to the project idea. Some participants preferred to write additional ideas on the mapping that were, in turn, “liked” by others. As a result of the Forums, many of the concerns expressed in the STC and PennDOT comments were affirmed. In addition, new areas of concern were identified, and twenty (20) new project ideas were identified.

B. Candidate Transportation Project Lists

1. Initial Listings

The Candidate Project List (Candidate List) was an early stage listing of projects destined to be considered in the LRTP project scoring and selection process. The initial list was formed from projects on the 2011 LRTP Fiscally Constrained and Illustrative Projects Lists. The SEDA-COG MPO staff reviewed these lists, and projects that had been constructed or were in construction, as well as those in project development and programmed on the TIP, were removed from the Candidate List. These projects were not reconsidered in the scoring and selection process. Projects that were programmed on the Twelve Year Program (TYP) or were included in the 2011 Fiscally Constrained List remained in the Candidate List for re-evaluation in the project scoring and selection process.
New projects were added to the Candidate List from the following sources:

- **Transportation Issues Forum** – Twenty (20) projects were added to the Candidate List based on feedback from the Transportation Issues Forum and Comment Cluster Analysis. Projects were added for 7 of the 8 MPO counties.

- **MPO Roadway Safety Reviews** – Four (4) highway and intersection safety projects in Clinton and Mifflin Counties were identified through the MPO’s roadway safety review process, which involved PennDOT District 2-0 staff in evaluating high crash locations.

- **Susquehanna Greenways Partnership** – Six (6) recreational trails projects were submitted, based on priority and the recommendations from feasibility studies and master plans.

- **2014 PA Statewide LRTP, PA OnTrack** – Seven (7) projects that had been submitted for the PA On Track Plan were submitted by the SEDA-COG MPO staff. The projects included several rail projects and highway corridor/signal projects.

2. **County Priorities**

The full Candidate Project List contained 81 projects. To reflect county priorities, the county-level Steering Committee representatives were asked to review the Candidate Projects in their counties and indicate their top 10 project priorities. These priority projects were fed into the Project Scoring and Selection Process. The remaining Candidate Projects (those outside the Top 10) were not scored but were placed on the plan’s Illustrative Project List.

3. **Project Scoring & Selection Process**

The Project Scoring and Selection Process was created to ensure that the projects in the LRTP served to implement the plan goals. The Process Flow Chart is illustrated in Figure 56. Process mechanics and methods—including scoring criteria descriptions, scales, and weightings—are provided in Appendix D.

The SEDA-COG MPO staff developed the process framework for the 2011 LRTP, and some revisions were made for the 2016 LRTP Update. The Steering Committee vetted and affirmed the changes, then delegated its implementation to a Project Scoring Sub-Committee.

The 10-member Scoring Sub-Committee met twice. The first meeting was held in December 2015 as an orientation to the scoring process, project webmap tool, and the Decision Lens web application. Project scoring in Decision Lens was completed independently by the sub-committee members during a three-week period. The Sub-Committee met once more in January 2016 to review and finalize the scoring results.
Figure 56. Project Scoring and Selection Flowchart

Staff Reviews and prepares projects

Candidate Projects Submitted

Candidate Project List

Projects categorised by type & purpose

Data compiled for Scoring Steps 1 & 2

Step 1: Diagnostic Scoring (Data-driven)

System Preservation

Facilities Extension

Planning

Step 2: Plan Cohesion Scoring (Experience-driven)

All Projects Scored according to Plan Goals

Preliminary Ranked Project List

Estimate Funding Available

Compare ranked projects to projected funding and develop scenarios

Committee selects preferred scenario

Final Plan Includes:

Fiscally-Constrained Project List for LRTP

Illustrative Project List of additional ranked projects
4. Fiscal Guidance

a. 2017 Procedural & Financial Guidance

Procedural and Financial Guidance issued by PennDOT for the 2017 Transportation Program development process was referenced when forming the fiscal assumptions for the LRTP. Particularly, this guidance provides the estimated amount of federal and state funding (revenue) available in the MPO’s allocation over the 4-year TIP period.

b. Historic Revenue Analysis

To estimate revenue beyond the TIP period, an evaluation of Pennsylvania’s historical transportation revenues was completed. Data on Pennsylvania’s federal and state transportation revenues were provided by PennDOT Central Office.

Figure 57 illustrates the federal revenue from 1992 to 2016, along with the financial guidance for 2017 to 2020. Between 1992 and 2020, revenues grew at the rate of +2.5% per year (compound growth). Based on this statewide trend, and growth of +2.6 per year in SEDA-COG MPO’s FAST Act allocation (2017 to 2020), federal revenues were escalated by +2.4% per year (compounded) from 2020 to 2040.

Figure 57. Pennsylvania Federal Transportation Revenue, 1992-2010

Source: PennDOT Program Center, 2016.

Figure 58 illustrates the state revenue from 1999 to 2016, along with the financial guidance for 2017 to 2020. Between 1999 and 2020, revenues grew at the rate of +3.8% per year (compound growth). However, considering the trend for decreasing revenue in the 2017-2020 period, state revenues were assumed to be flat (no growth or decline) from 2020 to 2040.

Figure 58. Pennsylvania State Transportation Revenue, 1999-2016

Source: PennDOT Program Center, 2016.
The resulting revenue available during the 2017 to 2040 period was calculated as shown in Table 31, according to the particular federal and State funding stream. The LRTP anticipates $1.49 billion Year of Expenditure (YOE) dollars in total federal and state funding. To summarize the resources and assumptions made in this forecast:

- **Years 2017 to 2020** – Revenue available during the TIP period was obtained from Pennsylvania’s 2017 Transportation Program Financial Guidance.

- **Years 2021 through 2028** – Revenue available during the 2\textsuperscript{nd} and 3\textsuperscript{rd} 4-year periods of the TYP are based on the Year 2020 amounts, with escalation of 2.4\% per year applied to federal funding streams, and 0.0\% per year applied to State funding streams.

- **Years 2029 through 2040** – Revenue available during the Plan period are based on the Year 2028 amounts, with escalation of 2.4\% per year applied to federal funding streams, and 0.0\% per year applied to state funding streams.

Along with this LRTP update, the SEDA-COG MPO is also updating the TIP and TYP. The 2017 TIP update will identify projects for the 2017-2020 timeframe and will ensure that the four years are within the fiscal constraints of the latest financial guidance. Public meetings and coordination are being completed concurrently for the LRTP and TIP updates.
### Table 31. Transportation Revenue Available

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation Improvement Program (TIP)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Allocation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHPP Allocation</td>
<td>15,932,000</td>
<td>16,459,000</td>
<td>17,042,000</td>
<td>17,642,000</td>
<td>74,904,923</td>
<td>82,358,834</td>
<td>299,594,000</td>
<td>523,932,757</td>
</tr>
<tr>
<td>STBG Allocation</td>
<td>6,887,000</td>
<td>6,999,000</td>
<td>7,086,000</td>
<td>7,215,000</td>
<td>30,633,659</td>
<td>33,682,065</td>
<td>122,524,000</td>
<td>215,026,724</td>
</tr>
<tr>
<td>State Highway</td>
<td>20,924,000</td>
<td>22,192,000</td>
<td>19,902,000</td>
<td>18,014,000</td>
<td>72,056,000</td>
<td>72,056,000</td>
<td>216,168,000</td>
<td>441,312,000</td>
</tr>
<tr>
<td>State Bridge</td>
<td>7,026,000</td>
<td>7,421,000</td>
<td>6,363,000</td>
<td>5,796,000</td>
<td>23,184,000</td>
<td>23,184,000</td>
<td>69,552,000</td>
<td>142,526,000</td>
</tr>
<tr>
<td>Off-System Bridge</td>
<td>2,705,000</td>
<td>2,705,000</td>
<td>2,705,000</td>
<td>2,705,000</td>
<td>11,484,969</td>
<td>12,627,857</td>
<td>45,936,000</td>
<td>80,868,826</td>
</tr>
<tr>
<td>Safety (HSIP)</td>
<td>2,127,000</td>
<td>2,188,000</td>
<td>2,247,000</td>
<td>2,314,000</td>
<td>9,824,849</td>
<td>10,802,536</td>
<td>39,296,000</td>
<td>68,799,385</td>
</tr>
<tr>
<td>Base Allocation Total</td>
<td>55,601,000</td>
<td>57,964,000</td>
<td>55,345,000</td>
<td>53,686,000</td>
<td>222,088,400</td>
<td>234,711,292</td>
<td>793,070,000</td>
<td>1,472,465,692</td>
</tr>
<tr>
<td>Federal Transit</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>State Transit</td>
<td>878,000</td>
<td>878,000</td>
<td>878,000</td>
<td>878,000</td>
<td>3,512,000</td>
<td>3,512,000</td>
<td>10,536,000</td>
<td>21,072,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>56,479,000</td>
<td>58,842,000</td>
<td>56,223,000</td>
<td>54,564,000</td>
<td>225,600,400</td>
<td>238,223,292</td>
<td>803,606,000</td>
<td>1,493,537,692</td>
</tr>
</tbody>
</table>

**Notes:**
2. 2020 to 2040 revenue estimated based on 2.4% per year escalation in federal funding; no increase in State funding.
c. Scorecard of Influence

The PennDOT Secretary of Transportation’s plan for investment in the 2017 TIP prioritizes asset management types of projects—i.e., those that address SD bridges and poor pavement conditions on the National Highway System. The investment plan for each Planning Partner has been structured into PennDOT’s “Scorecard of Influence.” The Scorecard provides a spreadsheet based assessment of the condition of highways and bridges and sets spending targets for the available flexible funds (NHPP, STP, State Highway, and State Bridge).

Based on the SEDA-COG MPO’s current performance related to bridges and highways, the following guidelines are being utilized with the 2017 TIP and TYP update:

- Structurally Deficient Bridges – 40% of the flexible funds must be used for bridges, based on the percentage of NHS (non-interstate) bridges with SD deck area in the region.

- Highway – 12% of the flexible funds must be used for reconstruction/full rehabilitation of roadways. This is based on percentage of roadways with poor Overall Pavement Index (OPI), past design life, and out of cycle pavements.

- Capacity Projects – No limitation is prescribed in using flexible funds for capacity expansion projects within the SEDA-COG MPO. This is based on the NHS (non-interstate) percentage of SD deck area, and roadways with poor IRI and OPI all being within acceptable thresholds.

As an operating assumption, it is anticipated that the condition of the system will be maintained such that a similar spending allocation can be assumed for the 2029-2040 Plan Period of the LRTP.

d. Asset Management Implementation

While the 2017 TIP/TYP identifies spending according to a specific project mix that meets the asset management guidelines, a different approach was taken for the 2029-2040 Plan Period, since specifying projects is problematic at such a long range. Based on guidance from the PennDOT Program Center and with agreement of the LRTP Steering Committee, 90% of SEDA-COG MPO’s 2029-2040 revenue allocation was set aside in line item reserve as a representative amount for asset management types of projects. This amounted to $713,763,000 during the Plan Period. For the remaining 10% of the MPO’s allocation ($78,635,000), projects from the prioritized list of Scored Projects were selected for funding to create the Fiscally-Constrained Project List.

5. Fiscal Constraint

The LRTP fiscally constrained project list identifies priority projects within the SEDA-COG MPO region that are not currently listed in the 2017 TIP/TYP and would be set for funding in the 2029-2040 timeframe.

Planning-level project cost estimates for projects on the Scored List were compiled from various PennDOT and MPO sources and adjusted to 2016 dollars. Where a cost was not available, a cost estimate (in 2016 dollars) was prepared based on the project type, description, and engineering cost estimation practices. The fiscal guidance requires cost estimates to be made to the year of expenditure...
(YOE) based on a cost inflation of 3.0% per year (compounded). The average YOE for the Plan Period is 2035, so all project costs were inflated to 2035 dollars for use in the fiscal constraint exercise.

6. Fiscally Constrained Project List

Projects from the Scored List were systematically selected for funding according to the scoring/ranking, project type, funding eligibility, county priorities, and resulting project mix.

Figure 59 illustrates the locations of the 37 Fiscally Constrained Long Range Plan Projects. The point icons reflect the project type, and each point is keyed to the project listing in Table 34. The distribution of projects by Project Type and County are given in Error! Reference source not found. and Table 33, respectively.

While each county took a slightly different approach in developing their priorities, a majority of the projects put forward were asset management types of projects, and this is reflected in the fiscal constraint. A reasonable distribution of projects and dollar value across the counties was achieved.

Table 32. Distribution of Fiscally Constrained Projects by Project Type

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Projects</th>
<th>Dollar Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>9</td>
<td>2,454,000</td>
</tr>
<tr>
<td>Facilities Extension</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>System Preservation</td>
<td>26</td>
<td>74,536,000</td>
</tr>
<tr>
<td>Highway</td>
<td>4</td>
<td>18,621,000</td>
</tr>
<tr>
<td>Bridge (State)</td>
<td>2</td>
<td>5,785,000</td>
</tr>
<tr>
<td>Bridge (Local)</td>
<td>12</td>
<td>22,723,000</td>
</tr>
<tr>
<td>Signals</td>
<td>5</td>
<td>13,822,000</td>
</tr>
<tr>
<td>Safety</td>
<td>3</td>
<td>13,585,000</td>
</tr>
<tr>
<td>TAP/Trails</td>
<td>1</td>
<td>877,000</td>
</tr>
<tr>
<td>Transit</td>
<td>1</td>
<td>768,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>37</strong></td>
<td><strong>78,635,000</strong></td>
</tr>
</tbody>
</table>

Table 33. County Distribution of Fiscally-Constrained Projects

<table>
<thead>
<tr>
<th>County</th>
<th>Projects</th>
<th>Dollar Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>5</td>
<td>17,686,000</td>
</tr>
<tr>
<td>Columbia</td>
<td>3</td>
<td>7,175,000</td>
</tr>
<tr>
<td>Juniata</td>
<td>3</td>
<td>9,825,000</td>
</tr>
<tr>
<td>Mifflin</td>
<td>6</td>
<td>9,609,000</td>
</tr>
<tr>
<td>Montour</td>
<td>5</td>
<td>4,508,000</td>
</tr>
<tr>
<td>Northumberland</td>
<td>5</td>
<td>6,334,000</td>
</tr>
<tr>
<td>Snyder</td>
<td>6</td>
<td>14,453,000</td>
</tr>
<tr>
<td>Union</td>
<td>4</td>
<td>9,045,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>37</strong></td>
<td><strong>78,635,000</strong></td>
</tr>
</tbody>
</table>
Fiscally Constrained Long Range Transportation Plan Projects

Long Range Transportation Plan

- Planning
- Safety
- Highway
- Ped/Bike/Trails
- Bridge
- Transit
- Signals

Data Sources: NHI, PNDI, BOF, PennDOT, County Data

PA State Plane North, NAD83 feet

1 inch = 8.18 miles

Figure 59
Table 34. Fiscally Constrained Project List

<table>
<thead>
<tr>
<th>Cty ID</th>
<th>Project Title</th>
<th>County</th>
<th>Description/Project Need</th>
<th>Project Type</th>
<th>Project Cost Estimate (2035 Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL-03</td>
<td>SR 150 (High Street/Bellefonte Avenue) Reconstruction</td>
<td>Clinton</td>
<td>Road rehabilitation including sub-base, walkways, turning radius at Fairview and Huston Streets, and retaining wall.</td>
<td>System Pres - Highway</td>
<td>$8,768,000</td>
</tr>
<tr>
<td>CL-06</td>
<td>SR 150 and SR 2020 (Lusk Run Road) Intersection - New access road</td>
<td>Clinton</td>
<td>New access will create a bus staging area and remove congestion from Rt. 150 and Lusk run road.</td>
<td>System Pres - Highway</td>
<td>$957,000</td>
</tr>
<tr>
<td>CL-08</td>
<td>Fishing Creek Bridge Decking (SR 204, segment 82)</td>
<td>Clinton</td>
<td>Replace bridge decking</td>
<td>System Pres - Bridge</td>
<td>$3,349,000</td>
</tr>
<tr>
<td>CL-18</td>
<td>Downtown Lock Haven Signal and Pedestrian Upgrades, SR 0150</td>
<td>Clinton</td>
<td>Improve pedestrian safety and traffic flow</td>
<td>System Pres - Signal</td>
<td>$4,009,000</td>
</tr>
<tr>
<td>CL-22</td>
<td>Bucktail School Access Bridge, Chapman Township</td>
<td>Clinton</td>
<td>Chapman Twp Bridge. Deck replacement needed (Span 2 - 80% delamination). Provides access to High, Jr High, Elementary for Keystone Central School District.</td>
<td>System Pres - Bridge</td>
<td>$603,000</td>
</tr>
<tr>
<td>CO-06</td>
<td>County Bridge # 86 over West Branch Shingle Run In Pine Township</td>
<td>Columbia</td>
<td>The Township has been requesting this bridge to be updated as they cannot take their heavy road equipment across the bridge. The bridge is one of the main routes to the township building as well as having a residential development area just before the bridge. This then requires the township to do a long detour with their equipment to do any work on the road from the state route to these residential dwellings.</td>
<td>System Pres - Bridge</td>
<td>$1,429,000</td>
</tr>
<tr>
<td>CO-18</td>
<td>Bridge Bundling</td>
<td>Columbia</td>
<td>2 bridges in Sugarloaf Twp, 1 Fishing Creek Twp, 1 Stillwater Borough - candidate for current TIP</td>
<td>System Pres - Bridge</td>
<td>$1,315,000</td>
</tr>
<tr>
<td>J-01</td>
<td>Sheesley Road Bridge Replacement</td>
<td>Juniata</td>
<td>Replace bridge.</td>
<td>System Pres - Bridge</td>
<td>$929,000</td>
</tr>
<tr>
<td>J-07</td>
<td>SR 0035 Mifflintown Area</td>
<td>Juniata</td>
<td>Resurfacing of PA 35, Mifflintown Area, Fernmanagh Township, Segment 380 to 560</td>
<td>System Pres - Highway</td>
<td>$2,508,000</td>
</tr>
<tr>
<td>J-10</td>
<td>US 22 WILLIAM PENN HWY</td>
<td>Juniata</td>
<td>Resurfacing of US 22 from Plouf Valley Road to County Line</td>
<td>System Pres - Highway</td>
<td>$6,388,000</td>
</tr>
<tr>
<td>Mi-01</td>
<td>US Route 22 Corridor/Transportation Study</td>
<td>Mifflin</td>
<td>This would look at both the North and South corridors connecting Huntingdon and Snyder Counties. This combines 2 studies that were recommended in the comprehensive plan. The northern corridor looks at improved access to the corridor between Lewistown and Snyder County, which is linked to Selingrove. 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 SR 22 corridor. The southern corridor aspect would look to link to a project completed in the past few years for Huntingdon and Blair Counties.</td>
<td>Planning</td>
<td>$526,000</td>
</tr>
<tr>
<td>Mi-03</td>
<td>Mill Road Mitigation Plan</td>
<td>Mifflin</td>
<td>Further explore recommendations in the County Comprehensive Plan. The focus of the study will be to evaluate current and future transportation needs and deficiencies in the area of Mill Road and the Electric Ave. interchange including ways to improve safety, capacity constraints, land use conflicts and improved access management. The ramp exiting off the Electric Ave. at the southeast quadrant ends within approximately 45 feet of Mill Road, which is also part of the State highway system. This situation leads to conflicts as drivers exiting from US Route 322 onto Electric Ave. must compete with vehicles entering Electric Ave. from Mill Road. At the same time this is occurring, there are competing interests for the turning lane in the middle of Electric Ave. Within approximately 290 feet of the Mill Road entrance there is a corresponding ramp across Electric Ave. that goes back onto Route 322. The turning lane serves vehicles both making left hand turns onto the Route 322 ramp and onto Mill Road. This situation has resulted in accidents and near misses for drivers trying to determine who can use the center turning lane.</td>
<td>Planning</td>
<td>$175,000</td>
</tr>
<tr>
<td>Mi-06</td>
<td>Route 322 Interchange Improvement Study</td>
<td>Mifflin</td>
<td>Further explores recommendations in the County Comprehensive Plan. Interchanges at Burnham, Electric Avenue, Walnut Street and Charles Street are substandard and impact accessibility. They do not meet current AASHTO standards.</td>
<td>Planning</td>
<td>$351,000</td>
</tr>
<tr>
<td>Mi-12</td>
<td>Juniata Street/Reservoir/Bratton/ Fourth Street Safety Improvement</td>
<td>Mifflin</td>
<td>Address crash history and intersection safety for 5-leg intersection in high crash corridor. Consider roundabout installation or street closure/networking to address needs.</td>
<td>System Pres - Safety</td>
<td>$2,088,000</td>
</tr>
<tr>
<td>Mi-13</td>
<td>Honey Creek Road (SR 1002) Bridge Bundle</td>
<td>Mifflin</td>
<td>Three posted/SD bridges within 2 miles of each other along Honey Creek Road (SR 1002). Two bridges are on TYP, but are not in development. Add the third if cost savings can be realized. Two bridges are concrete arch type. One (posted) is steel/stringer/girder type.</td>
<td>System Pres - Bridge</td>
<td>$2,436,000</td>
</tr>
<tr>
<td>Mi-19</td>
<td>Replacement of the Kishacoquillas Creek Bridge in Brown Township</td>
<td>Mifflin</td>
<td>The bridge was built around 1920 and provides the only access into a neighborhood of approximately 150 homes. The bridge has an ADT of 800, and is a Single Lane, Two Span, concrete encased steel I-Beam bridge 109 feet in length. The bridge is narrow and has a poor alignment creating sharp curves and limited sight distance at both approaches, which causes all traffic to stop prior to crossing the bridge. The age, poor condition, and alignment of the bridge necessitate replacement.</td>
<td>System Pres - Bridge</td>
<td>$4,033,000</td>
</tr>
</tbody>
</table>
Table 34. Fiscally Constrained Project List

<table>
<thead>
<tr>
<th>City ID</th>
<th>Project Title</th>
<th>County</th>
<th>Description/Project Need</th>
<th>Project Type</th>
<th>Project Cost Estimate (2035 Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MO-01</td>
<td>Spruce Street Improvement Project</td>
<td>Montour</td>
<td>Further definition of project need and potential remedies required.</td>
<td>Planning</td>
<td>$175,000</td>
</tr>
<tr>
<td>MO-02</td>
<td>US 11 Corridor Congestion and Safety Study</td>
<td>Montour</td>
<td>&quot;Smart Transportation&quot; study of land use/transportation interactions in the US 11 Corridor. Include operations along SR 54 and other network streets in Danville, PA.</td>
<td>Planning</td>
<td>$351,000</td>
</tr>
<tr>
<td>MO-03</td>
<td>Major Medical Activity Centers Coordinated Transit Expansion</td>
<td>MULTIPLE</td>
<td>Explore potential options for expansion/modification/coordinating/etct.—under direct consultation with transit providers, operators, and county commissioners—to meet unmet needs related to major medical centers and other medical activity centers. The service options may expand and better coordinate transit systems for accessing Geisinger and other medical activity centers within and beyond the SEDA-COG MPO region.</td>
<td>Transit</td>
<td>$768,000</td>
</tr>
<tr>
<td>MO-04</td>
<td>Railroad Street Bridge Rehab.</td>
<td>Montour</td>
<td>Rehabilitate SD local bridge along Railroad Street.</td>
<td>System Pres - Bridge</td>
<td>$2,337,000</td>
</tr>
<tr>
<td>MO-06</td>
<td>US 11 &amp; PA 54 Traffic Signal Enhancements</td>
<td>Montour</td>
<td>Update/enhance signals and hardware; consider preemption, adaptive, detection, battery backup, pedestrian accommodations.</td>
<td>System Pres - Signal</td>
<td>$877,000</td>
</tr>
<tr>
<td>N-02</td>
<td>Northumberland Borough Truck Circulation Improvements</td>
<td>Northumberland</td>
<td>Identify and implement low-cost projects aimed at improving and/or mitigating truck circulation issues, with an eye toward post-CSVT needs.</td>
<td>Planning</td>
<td>$175,000</td>
</tr>
<tr>
<td>N-06</td>
<td>Bridge #73 City of Shamokin</td>
<td>Northumberland</td>
<td>Superstructure replacement is needed. Average daily traffic is 7,200 vehicles per day. PennDOT is doing the design for this project.</td>
<td>System Pres - Bridge</td>
<td>$4,037,000</td>
</tr>
<tr>
<td>N-07</td>
<td>Bridge #100 Jackson Township</td>
<td>Northumberland</td>
<td>Total replacement is needed. PennDOT is doing the design for this project.</td>
<td>System Pres - Bridge</td>
<td>$728,000</td>
</tr>
<tr>
<td>N-08</td>
<td>Bridge #192 Rockefeller Township</td>
<td>Northumberland</td>
<td>Total replacement is needed. PennDOT is doing the design for this project.</td>
<td>System Pres - Bridge</td>
<td>$710,000</td>
</tr>
<tr>
<td>N-09</td>
<td>Bridge #78 Upper Mahanoy Township</td>
<td>Northumberland</td>
<td>Total replacement is needed. PennDOT is doing the design for this project.</td>
<td>System Pres - Bridge</td>
<td>$684,000</td>
</tr>
<tr>
<td>S-02</td>
<td>Study of Permanent Detour of Middleburg on SR 522</td>
<td>Snyder</td>
<td>Study to determine the feasibility of an alternative route around Middleburg Borough to eliminate heavy truck traffic within the borough.</td>
<td>Planning</td>
<td>$175,000</td>
</tr>
<tr>
<td>S-03</td>
<td>SR 522 Improvements</td>
<td>Snyder</td>
<td>Study to determine highway upgrades and the possibility of turning lanes or 'go arounds' in various areas that create backups in high volume areas (i.e. near Wood Mode, Smallsh Barrick Road, etc.).</td>
<td>Planning</td>
<td>$175,000</td>
</tr>
<tr>
<td>S-08</td>
<td>US 11/15 Corridor Revitalization and Master Plan</td>
<td>Snyder</td>
<td>&quot;Smart Transportation&quot; study of land use/transportation interactions in the US 11/15 Corridor post-CSVT. Address safety, changing signal system needs, street space usage.</td>
<td>Planning</td>
<td>$351,000</td>
</tr>
<tr>
<td>S-10</td>
<td>US 522/Salem Road/University Avenue Safety Improvement</td>
<td>Snyder</td>
<td>Address crash history issues at ISIP intersection. Consider roadway safety review and potential resolutions to traffic and pedestrian/bike issues.</td>
<td>System Pres - Safety</td>
<td>$3,049,000</td>
</tr>
<tr>
<td>S-13</td>
<td>US 11 &amp; 15 Traffic Signal Enhancements, Hummel's Wharf to Shamokin Dam</td>
<td>Snyder</td>
<td>Update/enhance signals and hardware; consider preemption, adaptive, detection, battery backup, pedestrian accommodations.</td>
<td>System Pres - Signal</td>
<td>$2,255,000</td>
</tr>
<tr>
<td>S-14</td>
<td>SR 522 Safety Improvements</td>
<td>Snyder</td>
<td>Improved pedestrian safety in the S22 corridor including Middleburg, Beavertown, and a look at Beaver Springs which will include lighting, handicap accessibility, marked crossings, walkability, and in-town traffic control slowing devices, etc.</td>
<td>System Pres - Safety</td>
<td>$8,448,000</td>
</tr>
<tr>
<td>U-07</td>
<td>Buffalo Valley Rail Trail, At-Grade Crossing of US 15</td>
<td>Union</td>
<td>Design and construct at-grade rail trail crossing of US 15 to incorporate median refuge and crossing signal (if warranted).</td>
<td>TAP/Trails</td>
<td>$877,000</td>
</tr>
<tr>
<td>U-12</td>
<td>US 15 Traffic Signal Enhancements, Bucknell to Zeigler Road</td>
<td>Union</td>
<td>Update/enhance signals and hardware with video detection, emergency preemption, adaptive signal system.</td>
<td>System Pres - Signal</td>
<td>$2,250,000</td>
</tr>
<tr>
<td>U-13</td>
<td>County Bridge #21 (T.374 Shuck Rd)</td>
<td>bridge replacement</td>
<td>Replace Bridge. Serves a rural agricultural area on a lower volume road and provides access for farm vehicles, delivery and logging trucks.</td>
<td>System Pres - Bridge</td>
<td>$3,288,000</td>
</tr>
<tr>
<td>U-14</td>
<td>County Bridge #1 (T.526 Rd.)</td>
<td>bridge replacement</td>
<td>Replace bridge. Provides access to rural farming and forest area in Gregg Township on a lower volume township road.</td>
<td>System Pres - Bridge</td>
<td>$2,630,000</td>
</tr>
</tbody>
</table>
7. Illustrative Project List

The LRTP Illustrative Project List (Table 35) includes projects that do not fit within the Fiscally Constrained Plan but are to be carried along for future consideration and selection for funding, as the program evolves. The Illustrative List is formed from the following:

- Scored Projects that did not fit within the 2016 LRTP Fiscal Constraint.
- Candidate Projects that were not part of the county top 10 lists.
- Projects from the 2011 LRTP Fiscally Constrained List that were re-evaluated and did not fit within the 2016 LRTP Fiscal Constraint – These projects were added at the request and with approval of the LRTP Steering Committee.

8. Transportation Program Expenditures

A full breakdown of the TIP/TYP and Plan Period expenditures according to the federal and state funding streams is provided in Table 36. The following acronyms and terms for the funding streams are used:

- **NHPP** – National Highway Performance Program (Federal)
- **STBG** – Surface Transportation Block Grant (Federal)
- **State Highway** – PA State Highway Funds (State)
- **State Bridge** – PA State Bridge Funds (State)
- **Off-System Bridge** – For all bridges, including those not on the Federal-Aid System (Federal)
- **Safety HSIP** – Highway Safety Improvement Program (Federal)

A listing of TYP projects is included in Appendix F. The programmed dollars for the CSVT projects were filtered and accounted separately, as these amounts represent discretionary/spike allocations that are not part of the regular “base allocation.” The table also provides a measure of revenue utilization (% Utilization). For the second and third 4-year periods of the TYP, the % Utilization below 100% is likely a reflection of the LRTP’s revenue forecasting assumptions, which escalated the federal funding streams.
Table 35. Illustrative Project List

<table>
<thead>
<tr>
<th>Cty ID</th>
<th>Project Title</th>
<th>County</th>
<th>Description/Project Need</th>
<th>Project Type</th>
<th>Project Cost Estimate (2035 Dollars)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL-01</td>
<td>SR 64 Widening and Curve Straightening</td>
<td>Clinton</td>
<td>DOI project includes minor safety consideration (guardrail updates), but does not directly address concerns.</td>
<td>System Preservation</td>
<td>$1,017,000</td>
<td>2011 LRTP Fiscally Constrained</td>
</tr>
<tr>
<td>CL-04</td>
<td>SR 2022 (Sugar Run Road) Widening Study</td>
<td>Clinton</td>
<td>DOI Resurfacing Project through intersection in 2019. Does not include intersection improvements since ROW would be required.</td>
<td>Planning</td>
<td>$1,017,000</td>
<td>2011 LRTP Fiscally Constrained</td>
</tr>
<tr>
<td>CL-05</td>
<td>SR 120 and SR 144 Intersection</td>
<td>Clinton</td>
<td>DOI Resurfacing Project through intersection in 2019. Does not include intersection improvements since ROW would be required.</td>
<td>System Preservation</td>
<td>$1,524,000</td>
<td>2011 LRTP Fiscally Constrained</td>
</tr>
<tr>
<td>CL-07</td>
<td>Old Hill Road Bridge on T-537 (Over Fishing Creek)</td>
<td>Clinton</td>
<td>DOI Resurfacing Project through intersection in 2019. Does not include intersection improvements since ROW would be required.</td>
<td>System Preservation</td>
<td>$293,000</td>
<td>2011 LRTP Fiscally Constrained</td>
</tr>
<tr>
<td>CL-12</td>
<td>High Speed Interchange at I-80 and SR 230 (Future I-99) Design</td>
<td>Clinton</td>
<td>I-99 missing link in Clinton County.</td>
<td>Facilities Extension</td>
<td>$277,755,000</td>
<td>Project cost exceeds total program allocation</td>
</tr>
<tr>
<td>CL-15</td>
<td>US 220 Widening, I-80 to Salona</td>
<td>Clinton</td>
<td>I-99 missing link in Clinton County. Widening of US 220 to 4-lane cross-section from I-80 Interchange to existing 4-lane, limited access section near Salona.</td>
<td>Facilities Extension</td>
<td>$39,564,000</td>
<td>Monitor corridor post-Auction Road improvements may change.</td>
</tr>
<tr>
<td>CL-19</td>
<td>Bike/Ped Trail connecting Lock Haven and Jersey Shore</td>
<td>Clinton</td>
<td>Identified in Clinton County Greenway and Open Space Plan, Susquehanna Greenway Strategic Plan, Valley Vision 2020.</td>
<td>TAP/Trails</td>
<td>$12,515,000</td>
<td></td>
</tr>
<tr>
<td>CL-21</td>
<td>Peake Avenue Bridge, Mill Hall, Deck Replacement</td>
<td>Clinton</td>
<td>Adjacent box beams are failing. Needs new beams and decking.</td>
<td>System Pres - Bridge</td>
<td>$4,712,000</td>
<td>DRAFT TIP carries construction $ in 2023-24, as part of Twelve Year Program.</td>
</tr>
<tr>
<td>CO-01</td>
<td>County Bridge # 93 Sam Eckman Covered Bridge Rehabilitation in Pine/Greenwood Twp</td>
<td>Columbia</td>
<td>Old preservation work in 2013.</td>
<td>System Pres - Bridge</td>
<td>$1,918,000</td>
<td>Local bridge Preservation done in 2013</td>
</tr>
<tr>
<td>CO-02</td>
<td>County Bridge # 50 over Catawissa Creek</td>
<td>Columbia</td>
<td>Bridge #50 has a very deep water hole that requires diving equipment for inspection of its piers. There is scour occurring. This is a school bus route.</td>
<td>System Pres - Bridge</td>
<td>$3,332,000</td>
<td>Local bridge</td>
</tr>
<tr>
<td>CO-03</td>
<td>County Bridge # 48 over Catawissa Creek</td>
<td>Columbia</td>
<td>This bridge is near the Lake Glory campgrounds. Though the road is marked for limited weight, campers still continue to try to reach the campground to end up backing up to go around to the proper entrance. In addition, a Christmas tree farmer continues to use the bridge though marked appropriately for weight. There is another covered bridge (#31) near Knoebels Grove that also becomes an issue for campers trying to enter the campground for the park. A study for these two bridges would help to find better solutions while maintaining the integrity of the two covered bridges.</td>
<td>System Pres - Bridge</td>
<td>$5,085,000</td>
<td>Alternatives study suggested by engineer for County Bridges #11, 31 and 48 (see CO-03 and CO-08).</td>
</tr>
<tr>
<td>CO-04</td>
<td>County Bridge # 57 over Montour Run</td>
<td>Columbia</td>
<td>System Preservation</td>
<td>System Preservation</td>
<td>$1,545,000</td>
<td>2011 LRTP Fiscally Constrained</td>
</tr>
<tr>
<td>CO-05</td>
<td>County Bridge # 141 over Green Creek in Jackson Township</td>
<td>Columbia</td>
<td>Other detours available - might be a candidate for demolition when/if ever closed.</td>
<td>System Pres - Bridge</td>
<td>$1,526,000</td>
<td>Local bridge Reasonable detour available; Potential candidate for closure/demolition</td>
</tr>
<tr>
<td>CO-07</td>
<td>County Bridge # 136 over Raven Creek</td>
<td>Columbia</td>
<td>System Preservation</td>
<td>System Preservation</td>
<td>$1,769,000</td>
<td>2011 LRTP Fiscally Constrained</td>
</tr>
<tr>
<td>CO-08</td>
<td>County Bridge # 11 Esther Furnace Covered Bridge</td>
<td>Columbia</td>
<td>System Preservation</td>
<td>System Pres - Bridge</td>
<td>$2,960,000</td>
<td>Alternatives study suggested by engineer for County Bridges #11, 31 and 48 (see CO-03 and CO-08).</td>
</tr>
<tr>
<td>CO-14</td>
<td>Bike/Ped Trail connecting Bloomsburg and Catawissa</td>
<td>Columbia</td>
<td>Identified in North Branch Canal Trail Feasibility Study, Susquehanna Greenway Strategic Plan, Columbia County Comprehensive Recreation, Parks, Greenways and Open Space Plan, Valley Vision 2020, Creating Safe, Walkable and Healthy Communities in the Middle Susquehanna Region. Part of 500-mile Susquehanna Greenway (Lake Ontario to Chesapeake Bay).</td>
<td>TAP/Trails</td>
<td>$6,242,000</td>
<td></td>
</tr>
<tr>
<td>J-06</td>
<td>SR 007S Honey Grove Resurfacing</td>
<td>Juniata</td>
<td>Resurfacing of SR 75, Honey Grove to Spruce Hill, Spruce Hill and Tuscara Township.</td>
<td>System Pres - Highway</td>
<td>$8,299,000</td>
<td>Cost exceeds available $</td>
</tr>
<tr>
<td>J-08</td>
<td>SR 003S, Smith Rd to Snyder Co.</td>
<td>Juniata</td>
<td>Resurfacing of SR 35, Smith Road to Snyder County, Line Fayette and Monroe Townships.</td>
<td>System Pres - Highway</td>
<td>$10,624,000</td>
<td>Cost exceeds available $</td>
</tr>
<tr>
<td>J-09</td>
<td>SR 003S, Huntingdon to Tuscara</td>
<td>Juniata</td>
<td>Resurfacing of SR 35, Huntingdon Country Line to Tuscara Township, Lack and Tuscara Township.</td>
<td>System Pres - Highway</td>
<td>$10,228,000</td>
<td>Cost exceeds available $</td>
</tr>
</tbody>
</table>
### Table 35. Illustrative Project List

<table>
<thead>
<tr>
<th>Cty</th>
<th>Project Title</th>
<th>County</th>
<th>Description/Project Need</th>
<th>Project Type</th>
<th>Project Cost Estimate (2035 Dollars)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI-04</td>
<td>Havice Creek Bridge Replacement Project</td>
<td>Mifflin</td>
<td>The proposed project is the replacement of the existing structurally deficient and functionally obsolete bridge carrying Havice Valley Road (T-463) over Havice Creek in Armagh Township, Mifflin County. T-463 provides the only permanent access to farms and several homes, a number of seasonal cabins and provides a secondary access to Poe Valley State Park, Poe Paddy Recreational area and the Bald Eagle State Forest. T-463 is closed from the eastern end during the winter months. The existing bridge is a 18' 6&quot; center to center of bearing steel I beam bridge with a curb to curb width of 18' 0&quot;. Significant deterioration to the existing superstructure and substructure necessitated the replacement of the existing bridge necessary. A precast concrete box culvert is anticipated for the replacement bridge.</td>
<td>System Pres - Bridge</td>
<td>$1,718,000</td>
<td>Local bridge</td>
</tr>
<tr>
<td>MI-17</td>
<td>Downtown Lewistown Streetscape Improvement</td>
<td>Mifflin</td>
<td>Continue streetscape project started in 2004 on Market, Main and Water Streets.</td>
<td>TAP/Trails</td>
<td>$2,630,000</td>
<td>No local match committed.</td>
</tr>
<tr>
<td>MI-18</td>
<td>Replacement of the Treaster Run Bridge in Armagh Township</td>
<td>Mifflin</td>
<td>The Bridge was built in 1935, has an ADT of 200, and is a Single Lane, Single Span, Reinforced Concrete Arch Bridge 40 feet in length. The bridge is narrow and has a &quot;hump&quot; in the middle causing poor sight distance for oncoming traffic. The bridge is deteriorating and is starting to undermine due to the mis-alignment with the stream. The age, poor condition, and alignment of the bridge necessitate replacement.</td>
<td>System Pres - Bridge</td>
<td>$2,630,000</td>
<td>Local bridge &gt; 20'</td>
</tr>
<tr>
<td>N-01</td>
<td>Collaborative Community Transit Service</td>
<td>MULTIPLE</td>
<td>Explore potential options for expansion of transit services—under direct consultation with transit providers, operators, and county commissioners—to meet unmet transportation needs. The project is intended to identify and meet public transportation needs when they emerge.</td>
<td>Transit</td>
<td>$3,945,000</td>
<td></td>
</tr>
<tr>
<td>N-03</td>
<td>Bike/Ped Trail connecting Watsontown, Milton, and East Lewisburg</td>
<td>Northumberland</td>
<td>Identified in Warner Run Pathways Plans, Northumberland County Greenway Plan, Valley Vision 2020, Susquehanna Greenway Strategic Plan.</td>
<td>TAP/Trails</td>
<td>$9,380,000</td>
<td></td>
</tr>
<tr>
<td>N-04</td>
<td>Bike/Ped Trail connecting Northumberland and Sunbury</td>
<td>Northumberland</td>
<td>Identified in Building Safe Walkable and Healthy Communities in the Middle Susquehanna Region, Lake Augusta Gateway Corridor Plan, Susquehanna Greenway Strategic Plan.</td>
<td>TAP/Trails</td>
<td>$10,658,000</td>
<td></td>
</tr>
<tr>
<td>N-10</td>
<td>SEEDCO Rail Extension</td>
<td>Northumberland</td>
<td>Rail Extension is needed into the SEEDCO Industrial Park in Coal Township to continue industrial development. Site selectors are requesting rail access in 50% of Requests For Information.</td>
<td>Rail</td>
<td>$7,540,000</td>
<td>RAIL PROJECT</td>
</tr>
<tr>
<td>S-01</td>
<td>Mill Road Signalization and Turn Lanes</td>
<td>Snyder</td>
<td>Realignment of Mill/Linkage intersection, roundabout or other improvements being considered as part of CSVT Southern Section Final Design, to potentially reduce the number of bridges required in the CSVT.</td>
<td>Facilities Extension</td>
<td>$1,524,000</td>
<td>2011 LRTP Fiscally Constrained</td>
</tr>
<tr>
<td>S-04</td>
<td>SR 35 Safety Improvements</td>
<td>Snyder</td>
<td>Improved pedestrian safety in Freeburg, Mt. Pleasant Mills, and Richfield boroughs on the SR 35 corridor including lighting handicap accessibility, marked crossings, in town traffic control slowing devices, etc.</td>
<td>System Pres - Safety</td>
<td>$5,543,000</td>
<td>Conduct site inventory to better define the issues.</td>
</tr>
<tr>
<td>S-11</td>
<td>Bike/Ped Trail connecting Shamokin Dam and Selinsgrove</td>
<td>Union / Snyder</td>
<td>Identified in Valley Vision 2020, and Susquehanna Greenway Strategic Plan, Susquehanna River Sports Park Feasibility Study. Part of 500-mile Susquehanna Greenway (Lake Ontario to Chesapeake Bay).</td>
<td>TAP/Trails</td>
<td>$2,351,000</td>
<td></td>
</tr>
<tr>
<td>S-12</td>
<td>Rehabilitation of Norfolk Southern Railroad Bridge over Susquehanna River</td>
<td>Northumberland/Snyder</td>
<td>Rehabilitation of 3,500 foot railroad bridge across Susquehanna River, east of Selinsgrove. This is the only access to rail in Snyder County.</td>
<td>Rail</td>
<td>$163,548,000</td>
<td>RAIL PROJECT</td>
</tr>
<tr>
<td>U-09</td>
<td>Bike/Ped Trail connecting Montgomery and Allenwood</td>
<td>Union</td>
<td>Identified in Greenway Plans for Lycoming and Union counties, Valley Vision 2020, and Susquehanna Greenway Strategic Plan. Feasibility study done for Lycoming portion; Union is advancing feasibility study. Part of 500-mile Susquehanna Greenway (Lake Ontario to Chesapeake Bay).</td>
<td>TAP/Trails</td>
<td>$1,754,000</td>
<td></td>
</tr>
<tr>
<td>U-10</td>
<td>Bike/Ped Trail connecting Lewisburg and Shamokin Dam</td>
<td>Union / Snyder</td>
<td>Identified in Greenway Plans for Union County, Valley Vision 2020, and Susquehanna Greenway Strategic Plan, Susquehanna River Sports Park Feasibility Study. Part of 500 mile Susquehanna Greenway (Lake Ontario to Chesapeake Bay).</td>
<td>TAP/Trails</td>
<td>$4,936,000</td>
<td></td>
</tr>
<tr>
<td>U-11</td>
<td>Railroad Expansion for Great Stream Commons and Timber Run Industrial Park</td>
<td>Union</td>
<td>Would provide rail service to 400 acre mixed-use business and industrial park.</td>
<td>Rail</td>
<td>$8,327,000</td>
<td>RAIL PROJECT</td>
</tr>
</tbody>
</table>
### Table 36. Transportation Program Expenditures

<table>
<thead>
<tr>
<th></th>
<th>Transportation Improvement Program (TIP)</th>
<th>Second 4-Years of TYP</th>
<th>Third 4-Years of TYP</th>
<th>Long Range Plan Period</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NHPP</td>
<td>64,608,684</td>
<td>70,568,000</td>
<td>70,568,000</td>
<td>28,135,000</td>
<td>233,879,684</td>
</tr>
<tr>
<td>STBG</td>
<td>28,073,156</td>
<td>28,860,000</td>
<td>28,860,000</td>
<td>12,252,000</td>
<td>98,045,156</td>
</tr>
<tr>
<td>State Highway</td>
<td>265,497,000</td>
<td>267,791,976</td>
<td>72,018,000</td>
<td>22,085,000</td>
<td>627,391,976</td>
</tr>
<tr>
<td>CSVT</td>
<td>182,994,339</td>
<td>194,918,637</td>
<td>0</td>
<td>0</td>
<td>377,912,976</td>
</tr>
<tr>
<td>State Highway - CSVT</td>
<td>82,502,661</td>
<td>72,873,339</td>
<td>72,018,000</td>
<td>22,085,000</td>
<td>249,479,000</td>
</tr>
<tr>
<td>State Bridge</td>
<td>26,606,000</td>
<td>23,170,960</td>
<td>23,145,000</td>
<td>7,639,000</td>
<td>80,560,960</td>
</tr>
<tr>
<td>Off-System Bridge</td>
<td>10,716,488</td>
<td>10,820,000</td>
<td>10,820,000</td>
<td>4,594,000</td>
<td>36,950,488</td>
</tr>
<tr>
<td>Safety (HSIP)</td>
<td>7,259,400</td>
<td>3,702,400</td>
<td>0</td>
<td>3,930,000</td>
<td>14,891,800</td>
</tr>
<tr>
<td>Total Projects</td>
<td>402,760,728</td>
<td>404,913,336</td>
<td>205,411,000</td>
<td>78,635,000</td>
<td>1,091,720,064</td>
</tr>
<tr>
<td>Total Projects - CSVT</td>
<td>219,766,389</td>
<td>209,994,699</td>
<td>205,411,000</td>
<td>78,635,000</td>
<td>713,807,088</td>
</tr>
<tr>
<td>Reserve Line Items</td>
<td></td>
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<td></td>
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<tr>
<td>NHPP</td>
<td>2,466,316</td>
<td>0</td>
<td>269,635,000</td>
<td>272,101,316</td>
<td></td>
</tr>
<tr>
<td>STBG</td>
<td>2,113,844</td>
<td>0</td>
<td>110,272,000</td>
<td>112,385,844</td>
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</tr>
<tr>
<td>State Highway</td>
<td>0</td>
<td>0</td>
<td>194,551,000</td>
<td>194,551,000</td>
<td></td>
</tr>
<tr>
<td>State Bridge</td>
<td>0</td>
<td>0</td>
<td>62,597,000</td>
<td>62,597,000</td>
<td></td>
</tr>
<tr>
<td>Off-System Bridge</td>
<td>103,512</td>
<td>0</td>
<td>41,342,000</td>
<td>41,445,512</td>
<td></td>
</tr>
<tr>
<td>Safety (HSIP)</td>
<td>3,116,600</td>
<td>14,809,600</td>
<td>35,366,000</td>
<td>53,292,200</td>
<td></td>
</tr>
<tr>
<td>Total Reserve</td>
<td>7,800,272</td>
<td>14,809,600</td>
<td>713,763,000</td>
<td>736,372,872</td>
<td></td>
</tr>
<tr>
<td>Total Projects + Reserve</td>
<td>410,561,000</td>
<td>625,133,936</td>
<td>792,398,000</td>
<td>1,828,092,936</td>
<td></td>
</tr>
<tr>
<td>Total Projects - CSVT+ Reserve</td>
<td>227,566,661</td>
<td>430,215,299</td>
<td>792,398,000</td>
<td>1,450,179,960</td>
<td></td>
</tr>
<tr>
<td>Total Base Allocation</td>
<td>222,596,000</td>
<td>456,799,692</td>
<td>793,070,000</td>
<td>1,472,465,692</td>
<td></td>
</tr>
<tr>
<td>% Utilization</td>
<td>102.2%</td>
<td>94.2%</td>
<td>99.9%</td>
<td>98.5%</td>
<td></td>
</tr>
</tbody>
</table>
C. Implementation Strategies

Beyond the identification of projects for future construction, the SEDA-COG MPO has developed a framework of implementation strategies that identifies staff activities designed to accomplish the plan goals. The listing is, in essence, a summary of the major points and recommendations of the LRTP. As such, it provides context for both directing and assessing the MPO’s activities during the life of the LRTP.

The strategies listed in Table 37 reflect updates and reformatting since the strategies were first developed for the 2011 LRTP. New strategies and steps are listed at the last page of the table, and are given a value of “New” in the Time Period column. Many of the implementation steps were drawn from the comprehensive plans for the eight counties in the MPO. (A listing of transportation strategies recommended in the county comprehensive plans is included in Appendix B).

Where possible, strategies are tagged with a relevant performance measure so that the success of the measures can be monitored over future updates. Performance measures listed in italics are proposed measures and require additional development to implement.

The activities are listed by the time period for their implementation. “Ongoing” indicates an activity that will be underway on a continuing basis for the life of the plan. “Near term” items are activities that can be completed within the next five years, before the next plan update. “Mid-term” items will take from five to ten years to complete, and “Long term” items are anticipated to take ten years or longer.

The symbols given under “Partners” are scaled to indicate relevance. A large dot (●) indicates that partner has a central role in carrying out the measure, while a small dot (●) indicates a supporting role.
## Figure 37. Implementation Plan

<table>
<thead>
<tr>
<th>Time Period</th>
<th>SEDA-COG MPO Long Range Transportation Plan Strategies and Implementation Items</th>
<th>Partners</th>
<th>Associated Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing</td>
<td>Continue to work with PennDOT, members and stakeholders to identify required projects within the region, and methods for advancing them to the TIP.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders WATS MPO &amp; other Planning Partners</td>
<td>Spending guidelines for preservation and SD bridge use</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to work with members and PennDOT to incorporate the LPN project development process and smart transportation land use contexts.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td>Projects through LPN process</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to work with Districts to identify funding for bridge preservation and major bridge projects, as well as locally owned bridge projects and local preservation projects.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td>SD Bridge Rates, Preservation Funding, Rate of SD on</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to work with Districts in identifying funding to maintain or reduce portions of the network with poor IRI and out of cycle (or poor OPI).</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td>Pavement with Poor IRI</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to monitor identified performance measures identified in plan and prepare summaries on an annual basis.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td>All</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to provide information on current issues related to Marcellus Shale to MPO members.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td>Sessions Held Annual Attendees</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to host LTAP sessions, and otherwise circulate related information to MPO members.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td>Miles of Pedestrian and Bicycle Facilities</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Identify the current status of and complete other inventories needed to advise the planning process, such as bike and pedestrian facilities, employment centers, freight facilities, informal park and ride locations, pipelines etc.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td></td>
</tr>
<tr>
<td>Ongoing</td>
<td>Coordinate with the Districts to develop and maintain an agreed upon listing of the Business Plan Network, and regularly update figures for maintenance work backlogs.</td>
<td>PennDOT MPO Members Municipalities and Stakeholders</td>
<td></td>
</tr>
</tbody>
</table>
### Figure 37. Implementation Plan

<table>
<thead>
<tr>
<th>Time Period</th>
<th>SEDA-COG MPO Long Range Transportation Plan Strategies and Implementation Items</th>
<th>Partners</th>
<th>Associated Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing</td>
<td>Continue to brief MPO members on new tools, applications, and funding opportunities.</td>
<td>PennDOT</td>
<td>Fatal Crashes</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to work with members, local stakeholders, and project sponsors to identify local projects for continuing programs including ARC Local Access Roads, Rail Freight Assistance, Transportation Alternatives, ARLE, Green Light-Go, and other sources.</td>
<td>MPO Members Municipalities and Stakeholders WATS MPO &amp; other Planning Partners</td>
<td>Serious Injury Crashes Crashes by Type</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to participate in District led safety initiatives, including work with Districts to identify suitable locations for linear treatments, and appropriate levels of funding as part of the TIP update cycles. Continue facilitating road safety reviews and identify safety issues for LPN forms.</td>
<td>MPO Members Municipalities and Stakeholders</td>
<td>Plans/updates completed</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to support MPO members in developing comprehensive plans, greenway plans, corridor plans and otherwise carrying out their planning process.</td>
<td>Municipalities and Stakeholders</td>
<td></td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to work with Districts to proactively identify opportunities to preserve and protect cultural, environmental and historic resources and integrate them into programmed projects.</td>
<td>WATS MPO &amp; other Planning Partners</td>
<td></td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to work with Districts in identifying, prioritizing and funding ITS and other innovative treatments.</td>
<td>Municipalities and Stakeholders</td>
<td></td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to support the development of alternative fuel networks in the SEDA-COG region.</td>
<td>Municipalities and Stakeholders</td>
<td>Number of Facilities or Fuel Consumption</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue outreach and monitoring efforts outlined in Public Participation Plan. Maintain Public Participation Plan update schedule.</td>
<td>Municipalities and Stakeholders</td>
<td></td>
</tr>
</tbody>
</table>
## Figure 37. Implementation Plan

<table>
<thead>
<tr>
<th>Time Period</th>
<th>SEDA-COG MPO Long Range Transportation Plan Strategies and Implementation Items</th>
<th>Partners</th>
<th>Associated Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing</td>
<td>Support the continued development of rail served industry at appropriate locations.</td>
<td>PennDOT  MPO Members Municipalities and Stakeholders WATS MPO &amp; other Planning Partners</td>
<td>Rail Freight by cars/tons</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to monitor employment in plan updates.</td>
<td></td>
<td>Employment, Manufacturing &amp; Extraction Related Sectors.</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Continue to identify local candidates for support through LTAP technical assistance.</td>
<td></td>
<td>Tech Assist Incidents</td>
</tr>
<tr>
<td>Ongoing</td>
<td>Work with members and PennDOT to identify and advance appropriate studies that can be addressed through the UPWP process.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Near</td>
<td>Complete the inventory of locally owned bridges between 8’ and 20’ in length.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Near</td>
<td>Administer and maintain a process for providing context and zoning information in the screening process.</td>
<td></td>
<td>Projects through LPN Process</td>
</tr>
<tr>
<td>Near</td>
<td>Work with members and PennDOT to develop and maintain and inventory of assets and locations for which the smart transportation context has been determined.</td>
<td></td>
<td>Projects with Defined Context in Inventory from All Sources</td>
</tr>
<tr>
<td>Near</td>
<td>Work with Transit providers and the Williamsport MPO to update the Coordinated Public Transit - Human Services Transportation Plan.</td>
<td></td>
<td>Transit Trips by Provider Out-of-County Trips by Provider</td>
</tr>
<tr>
<td>Near</td>
<td>Develop core transportation network(s) within the SEDA-COG MPO region using the economic centers methodology developed by PennDOT or an appropriate alternative. Use the evaluation to advise transportation planning decisions, ensuring that the regional asset maintenance program preserves access to regional transportation, care and employment centers.</td>
<td></td>
<td>IRI, OPI or SD deck area on prioritized routes</td>
</tr>
</tbody>
</table>
### Figure 37. Implementation Plan

<table>
<thead>
<tr>
<th>Time Period</th>
<th>SEDA-COG MPO Long Range Transportation Plan Strategies and Implementation Items</th>
<th>Partners</th>
<th>Associated Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near</td>
<td>Through update of Coordinated Public Transit-Human Services Transportation Plan, develop a plan to inventory and survey informal carpool locations, and use the data to help interested service providers implement services such as vanpools or ride matching.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>Mode Choice</td>
</tr>
<tr>
<td>Near</td>
<td>Work with Districts to develop and post mapping showing local posted and bonded roads, and posted bridges, beginning with the counties most impacted by Shale Activities.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>IRI, OPI or SD deck area on prioritized routes vs unposted routes on same BPN level</td>
</tr>
<tr>
<td>Near</td>
<td>Use employment data to identify major freight centers within the region.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td></td>
</tr>
<tr>
<td>Near</td>
<td>Work with PennDOT Bureau of Maintenance &amp; Operations (BOMO) and Districts to identify and develop a method for identifying crashes involving non-motorized vehicles.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>Crashes or fatal crashes involving non-motorized vehicles</td>
</tr>
<tr>
<td>Mid</td>
<td>Complete the local asset data collection process being implemented by PennDOT.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>Municipalities Completed</td>
</tr>
<tr>
<td>Mid</td>
<td>Work with PennDOT to identify future ITS applications, using data from weather events, roadway closure system and other sources.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>ITMS Installations or Motorist Passing/Viewing Active Messages</td>
</tr>
<tr>
<td>Mid</td>
<td>Work with MPO members to implement a prioritized network for non-motorized vehicles.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>Crashes or fatal crashes involving non-motorized vehicles</td>
</tr>
<tr>
<td>Mid</td>
<td>Identify locations or facilities where rapid changes in traffic may make more frequent counts desirable.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td></td>
</tr>
<tr>
<td>Mid</td>
<td>Work with Districts to implement and maintain a standardized method for measuring congestion and projecting future volumes.</td>
<td>PennDOT, MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>Miles of congested roadway</td>
</tr>
</tbody>
</table>
### Figure 37. Implementation Plan

<table>
<thead>
<tr>
<th>Time Period</th>
<th>SEDA-COG MPO Long Range Transportation Plan Strategies and Implementation Items</th>
<th>Partners</th>
<th>Associated Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid</td>
<td>Work with Joint Rail Authority to implement measures to maximize coordination between local and railroad planning efforts.</td>
<td>PennDOT</td>
<td></td>
</tr>
<tr>
<td>Mid</td>
<td>Consider development of an access measure for permitted wells, considering routes to water sources, NHS and interstate systems and active rail lines.</td>
<td>MPO Members, Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td></td>
</tr>
<tr>
<td>Mid</td>
<td>Identify facilities on the Interstate and NHS where prioritization to improve compliance with current criteria is desirable.</td>
<td>Municipalities and Stakeholders</td>
<td>Count of Facilities not Meeting Criteria</td>
</tr>
<tr>
<td>Mid</td>
<td>Develop and program corridor level studies as appropriate to address conditions.</td>
<td>Municipalities and Stakeholders, WATS MPO &amp; other Planning Partners</td>
<td>Congestion or condition on prioritized corridors compared to system avg.</td>
</tr>
<tr>
<td>Mid</td>
<td>Use employment data to develop information on the major travel patterns for each identified employment center and between counties.</td>
<td>Municipalities and Stakeholders</td>
<td>Employment by sector % jobs located in growth areas</td>
</tr>
<tr>
<td>Mid</td>
<td>Develop corridor studies or access assessments as appropriate to evaluate serviceability of connections from major employment and freight centers to NHS and Interstate systems.</td>
<td>Municipalities and Stakeholders</td>
<td>IRI, OPI or SD deck area on prioritized routes vs other routes on same BPN level</td>
</tr>
<tr>
<td>Mid</td>
<td>Develop criteria for and complete an inventory of regional attractions.</td>
<td>Municipalities and Stakeholders</td>
<td></td>
</tr>
<tr>
<td>Long</td>
<td>Conduct a review of county hazard mitigation plans and summarize trends significant at the regional level, and evaluate their applicability for a regional transportation security evacuation plan.</td>
<td>Municipalities and Stakeholders</td>
<td></td>
</tr>
<tr>
<td>Long</td>
<td>Conduct an inventory of existing sidewalk facilities and use it to identify critical gaps in the network.</td>
<td>Municipalities and Stakeholders</td>
<td>Miles of Pedestrian Facilities</td>
</tr>
<tr>
<td>Long</td>
<td>Develop new accessibility measures that can be applied to attractions and freight centers.</td>
<td>Municipalities and Stakeholders</td>
<td></td>
</tr>
</tbody>
</table>
## Figure 37. Implementation Plan

<table>
<thead>
<tr>
<th>Time Period</th>
<th>SEDA-COG MPO Long Range Transportation Plan Strategies and Implementation Items</th>
<th>Partners</th>
<th>Associated Performance Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long</td>
<td>Perform access inventories identifying for routes connecting attractions to NHS roadways.</td>
<td>PENN DOT</td>
<td>MPO Members</td>
</tr>
<tr>
<td>New</td>
<td>Participate in the development of a multi-agency Greenway and Trail Authority.</td>
<td>PENN DOT</td>
<td>MPO Members</td>
</tr>
<tr>
<td>New</td>
<td>Examine the establishment of a bike/ped advisory committee at the MPO level.</td>
<td>PENN DOT</td>
<td>MPO Members</td>
</tr>
<tr>
<td>New</td>
<td>Facilitate coordinated land use-transportation study of CSVT impacts.</td>
<td>PENN DOT</td>
<td>MPO Members</td>
</tr>
<tr>
<td>New</td>
<td>Support municipalities with CSVT local access interchanges in efforts to plan/prepare for land use and transportation impacts.</td>
<td>PENN DOT</td>
<td>MPO Members</td>
</tr>
</tbody>
</table>
PLAN ASSESSMENT

A. Performance Measures

Performance measures and associated targets are the focal point of a performance-based transportation plan. Performance measures demonstrate how well a region’s transportation system is meeting the goals and expectations of the region’s LRTP. Measuring performance of the LRTP is a way to gauge the impacts of the decision-making process. Performance measures answer questions as to whether the transportation system is getting better or worse over time and whether transportation investments are correlated or linked to stated goals and outcomes. Federal law requires states and MPOs to set targets in relation to the set of national performance measures.

Performance measures should be clearly defined to ensure that stakeholders and the public understand what is being measured and that they reflect the performance attributes that are of greatest value for the community. By defining specific performance measures, attention is focused on key issues of concern that can be influenced by transportation policies and investments.

One of the most important roles for performance measures is to allow the LRTP's goals and objectives to be tracked over time in order to inform the public, planners and decision-makers on the condition of the transportation system. By monitoring and reporting on these measures, stakeholders can see whether the region is moving toward the desired goals and objectives of the plan. This enables decision-makers to examine what is happening on the system and make more informed decisions. MPOs use performance measurement tools to evaluate their transportation system and guide investment decisions reflected in the region's LRTP. Performance information, together with public and stakeholder input, support decision-makers in making investment choices and trade-offs within available resources.

Currently, the SEDA-COG MPO has a number of tools to help monitor and evaluate progress toward the vision, goals and objectives of the plan. See the following companion documents and services:

- 2015 SEDA-COG MPO Regional Performance Measures Report (see Appendix G)
- 2015 SEDA-COG Comprehensive Economic Development Strategy (CEDS) Five Year Update
- SEDA-COG Energy Resource Center Services
- 2014 SEDA-COG MPO Public Participation Plan
- 2014 PennDOT Bridge and Pavement Performance Measures Reports (see Appendix H)

Since 2011, the SEDA-COG MPO has prepared annual evaluations of transportation system trends and other planning program performance measures. While many of the measures are similar to those

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required by FHWA and tracked by PennDOT, the SEDA-COG MPO looks at different aspects of the more broadly reported measures. The 2015 report is provided in Appendix G.

The recently enacted FAST Act continues MAP-21’s emphasis on a performance-based approach to transportation decision-making to support the seven national goals of the federal-aid highway program. These seven national performance goals include:

1. Safety
2. Infrastructure Condition
3. Congestion Reduction
4. System Reliability
5. Freight Movement and Economic Vitality
6. Environmental Sustainability
7. Reduced Project Delivery Delays

National performance measures and state performance targets were developed as part of MAP-21. Final federal rulemaking for the Safety performance measure had been completed prior to completion of this LRTP. Final federal rulemaking for the Pavement and Bridge Infrastructure Condition performance measures is expected in September 2016. The FAST Act sustains the performance based approach, and it is anticipated that rulemaking will continue to emerge for the other performance goals listed above.

The PA Planning Partners, in coordination with PennDOT, are responsible for reflecting these measures and targets in future LRTP updates. Therefore, as part of this LRTP, the SEDA-COG MPO has identified performance measures and associated targets to address these goals. Monitoring and further development of performance measures will be ongoing, and the next LRTP update (5 years) will be shaped in part by progress achieved toward these goals.

The SEDA-COG MPO LRTP performance measures and associated targets are identified in Table 38.

- The goal of the safety performance measures is a continual decline in the number of fatalities, serious injuries, and pedestrian/bicyclist injuries on the MPO’s roadways.

- Performance measures for pavements and bridges provide key measures to drive investment decisions in meeting PennDOT’s overall asset management strategy. The consideration of these measures was included in the development of performance measures for the LRTP.

- Performance measures and targets are defined for reducing structurally deficient (SD) bridges by count (as % of total) and deck area, along with International Roughness Index (IRI) and Overall Pavement Index (OPI) for pavements. Additional bridge and pavement performance measures are included in PennDOT’s Performance Measures Annual Report, which are provided in Appendix H. The SEDA-COG MPO will work with PennDOT toward meeting targets for improving bridge conditions and pavement performance.
Table 38. SEDA-COG MPO Long Range Transportation Plan Performance Measures

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Strategy</th>
<th>Target (2015/Long Range)</th>
<th>Baseline</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGHWAY SAFETY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decrease 5-year average of fatalities.</td>
<td>Programming of priority safety projects on the TIP.</td>
<td>Continued trend to decrease fatalities</td>
<td>255 total fatalities 51.0 per year</td>
<td>PA Crash Information Tool 2011-2015</td>
</tr>
<tr>
<td>Decrease 5-year average of serious injuries.</td>
<td>Programming of priority safety projects on the TIP.</td>
<td>Continued trend to decrease serious injuries</td>
<td>522 total major injuries 104.4 per year</td>
<td>PA Crash Information Tool 2011-2015</td>
</tr>
<tr>
<td>Decrease 5-year average of pedestrian and bicycle fatalities and serious injuries.</td>
<td>Programming of priority safety projects on the TIP.</td>
<td>Continued trend to decrease pedestrian and bicycle fatalities and serious injuries</td>
<td>35 pedestrian fatalities 3 bicycle fatalities 60 pedestrian serious injuries 12 bicycle major injuries 110 total fatal &amp; serious Injuries 22.0 per year</td>
<td>PA Crash Information Tool 2011-2015</td>
</tr>
<tr>
<td>BRIDGES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce the number of structurally deficient (SD) bridges (by % of total)</td>
<td>Continue to program SD bridges on the TIP, with emphasis on locals. Sustain Local Bridge Sub-Committee effort.</td>
<td>NHS, Non-Interstate 4.0%</td>
<td>6.5%</td>
<td>PennDOT Performance Measures Annual Report 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &gt; 2,000 ADT 8.1%</td>
<td>11.6%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &lt; 2,000 ADT 8.9%</td>
<td>8.5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local &gt; 20’ 12.8%</td>
<td>29.6%</td>
<td></td>
</tr>
<tr>
<td>Reduce the percentage of structurally deficient (SD) bridge deck area.</td>
<td>Continue to program SD bridges on the TIP, with emphasis on locals. Sustain Local Bridge Sub-Committee effort.</td>
<td>NHS, Non-Interstate 3.7%</td>
<td>5.3%</td>
<td>PennDOT Performance Measures Annual Report 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &gt; 2,000 ADT 5.4%</td>
<td>7.2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &lt; 2,000 ADT 9.6%</td>
<td>6.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Local &gt; 20’ 11.8%</td>
<td>27.5%</td>
<td></td>
</tr>
<tr>
<td>PAVEMENT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce or maintain poor IRI on roadways to meet statewide goals.</td>
<td>Continue to program pavement cycle and capital maintenance projects on the TIP.</td>
<td>NHS, Non-Interstate 2.5%</td>
<td>2.5%</td>
<td>PennDOT Performance Measures Annual Report 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &gt; 2,000 ADT 2.2%</td>
<td>2.4%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &lt; 2,000 ADT 21.8%</td>
<td>23.7%</td>
<td></td>
</tr>
<tr>
<td>Maintain % Good and Excellent OPI on roadways to meet statewide goals.</td>
<td>Strategize pavement projects to address IRI and OPI concurrently on lower level systems.</td>
<td>NHS, Non-Interstate 90.6%</td>
<td>90.7%</td>
<td>PennDOT Performance Measures Annual Report 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &gt; 2,000 ADT 91.0%</td>
<td>77.1%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-NHS &lt; 2,000 ADT 79.4%</td>
<td>75.0%</td>
<td></td>
</tr>
</tbody>
</table>

Note: The “Long Range” and “2015” targets from PennDOT Performance Measures Reports are identical. No specific date is used to define “Long Range”.
The performance measures identified will be evaluated, developed, and further refined in future LRTP updates. Such an evaluation will serve as checkpoints on how well the SEDA-COG MPO is addressing the performance measures, in pursuit of ongoing patterns of improvement and, ultimately, a transportation system that has reached a steady state of good condition. The development of new performance measures is expected through the ongoing federal rulemaking process. When this occurs, the MPO will receive guidance from PennDOT about the measure and its associated targets that will contribute to the Pennsylvania goals.

B. Plan Expenditures and the Scorecard of Influence

The 2017 TIP/TYP expenditures for the 2017-2029 period were expressed as a percentage of the base revenue allocation of flexible funds (NHPP, STP, State Highway, and State Bridge) and compared to the PennDOT guidance provided in the Scorecard of Influence. The SEDA-COG MPO program achieves and exceeds the guidelines for the Bridge and Highway Reconstruction/Full-Rehabilitation categories, as shown in Table 39. The guideline placed no limitation on spending for capacity-adding projects.

| Table 39. Plan Expenditures vs. Scorecard of Influence Required Investment Levels |
|--------------------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Bridges                                          | Flexible Funds*                | % Flexible Funds                | Guideline                       |
| $260,821,444                                    | $592,236,000                   | 44%                            | 40%                             |
| Highway Reconstruction/Full-Rehabilitation       | $312,636,533                   | 53%                            | 12%                             |

Notes: * The dollar value of Flexible Funds shown in the table was calculated to exclude dollars spent on the CSVT project.

C. Air Quality Conformity

None of the counties within the SEDA-COG MPO are designated as non-attainment according to the Environmental Protection Agency (EPA) established health-based standards for six criteria air pollutants, referred to as the National Ambient Air Quality Standards (NAAQS). Therefore, air quality conformity analysis of the projects with the LRTP is not required.

D. Environmental Justice Equity Analysis

For the purposes of long-range transportation planning, MPOs must specifically address Environmental Justice (EJ) in the process of developing and advancing transportation programs and projects. The foundation of EJ was established in Title VI of the Civil Rights Acts of 1964 to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.
The three main EJ objectives are:

- To identify, address, minimize, mitigate, and (preferably) avoid disproportionately high and adverse human health and environmental effects resulting from the program of transportation projects, particularly 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.

In order to show that the LRTP meets these objectives, an Equity Analysis—a.k.a., “Benefits and Burdens Analysis”—was prepared to show the potential benefit and/or burden on the EJ populations. Complete documentation of the analysis, which summarizes the evaluations and outcomes that were completed in compliance with the EJ policy, is provided in Appendix I.
OUTREACH & PUBLIC INVOLVEMENT

As a part of the update to the SEDA-COG MPO Long-Range Transportation Plan (LRTP), the MPO developed and implemented a range of events and opportunities to effectively engage the public and foster an ongoing stakeholder dialogue throughout the draft plan development phase. A variety of activities implemented at key milestones throughout the update process enabled the MPO to solicit and collect public feedback and comment that could be reviewed and assimilated, as appropriate, into the draft plan in a timely manner. These activities also enhanced the MPO’s data collection efforts over the course of the LRTP update process. The MPO made a concerted effort to employ a broader range of tools and methods to facilitate both public communications and outreach activities as indicated in its recently updated Public Participation Plan. For example, online surveys were designed and launched to extend the reach and timeframes for public feedback during specific activities such as the Transportation Issues Forums (TIFs) and the Environmental Justice Workshops (EJWs). The MPO website continued to serve as a key repository for meeting announcements, public outreach activities, meeting summaries and other pertinent information regarding the LRTP update process. Additionally, an increased effort was made to make ‘real-time’ connections with social media audiences by posting photos and information associated with draft LRTP-related events on SEDA-COG’s Facebook and Twitter pages while the events were taking place.

The MPO also engaged and maintained an ongoing conversation with its committee members throughout the draft plan development process; namely, the Steering Committee, Advisory Group, and Project Scoring Group. These members were called upon for specific purposes throughout the planning process to provide support and guidance regarding the overall development of the updated plan.

The phases of the LRTP process and related activities are summarized below, including the dates and locations of the stakeholder and public meetings.

A. Primary Activities

1. Data Collection

Four stakeholder-focused special interest group meetings were held during the early and middle timeframes of the draft LRTP plan development process in addition to scheduled MPO presentations that actively engaged the MPO Committee membership in the data collection phase. The special interest group meetings included the following:

a. Transportation Issues Forums (TIFs)

Two TIFs were conducted; one on Tuesday, September 22, 2015 and a second one on Thursday, October 1, 2015. The purpose of the SEDA-COG MPO Transportation Issues Forum was to solicit input from key stakeholders regarding their transportation-related issues, concerns and priorities with the future in mind. The input collected was further reviewed and utilized to reinforce existing project data or generate new project concepts for inclusion in the MPO’s updated LRTP. What was unique about these two sessions was the opportunity for attendees to view and identify with the feedback the State Transportation Commission (STC) received in response to their spring 2015 online survey conducted in conjunction with their Twelve Year Program (TYP) update. The STC received over 15,634 transportation issues from more than 5,300 customers statewide. Of those issues, nearly 5% were located within the SEDA-COG MPO region, with biking/walking, road pavement conditions, and safety being the most
commonly identified issues. Other key issues for the MPO region included transit, bridges and freight movement.

The SEDA-COG MPO took several additional steps to refine the STC’s regional survey data results before presenting it to the meeting attendees. Two other recent comment sources were evaluated (2015 STC Twelve Year Program, 2014 PennDOT LRTP) and the feedback was categorized and screened geographically. Finally, the field of comments was narrowed through a *cluster analysis*, which resulted in groupings of comments that addressed similar transportation issues and transportation infrastructure elements. More than 50 clusters were identified and each cluster was displayed over aerial mapping for viewing during the Issues Forum. Project concepts were developed based on the comment clusters, and other related planning efforts were identified to demonstrate how the comments may be addressed. Meeting attendees were invited to review the project concepts and provide additional comments. The option to ‘like’ a project concept was also available to attendees and could be demonstrated by the addition of a ‘star’ to the project description. Mapping of the projects included on the existing Long-Range Transportation Plan was also available, and meeting attendees were encouraged to draw and add features or corrections to these projects as well. Detailed documentation about the cluster analysis methodology and its use in the LRTP public outreach effort is provided in Appendix E.

Another highlight of this event included ‘State of the District’ presentations by representatives of the Pennsylvania Department of Transportation’s (PennDOT) Engineering Districts 2 and 3. Karen Michael, the Assistant District Engineer for Design for Engineering District 2, provided an update on the state of the transportation system in the nine-county district at the first Transportation Issues Forum held on September 22, 2015, at the Clinton County Maintenance Building. Jonathan Ranck, Transportation Planning Specialist with District 3, provided a similar presentation at the second forum held on October 1, 2015, at the Union County Government Center. Both presentations focused on the Department’s efforts to monitor and maintain its aging bridges and roadways while integrating innovative practices to maximize the investment of transportation dollars through safety enhancements, expedited project delivery, partnering, and generally improving the overall quality of the transportation system.

Nearly 50 stakeholders attended both meetings. All of the feedback gathered at each meeting was analyzed and integrated into the MPO’s LRTP update process. The Transportation Issues Forum meeting agenda, handouts, display boards, and PennDOT presentations were also made available for review on the SEDA-COG website following the sessions.

### b. Environmental Justice Workshops

Two Environmental Justice Workshops were conducted on Thursday, April 7, 2016 in two different locations within the eight-county MPO region. The meeting agenda, handouts, and county maps for the mapping exercise were the same for both sessions which were attended by a total of 22 stakeholders. An online survey form was also designed and posted on the SEDA-COG MPO website for use by those stakeholders who were invited, but were unable to attend. The survey was made available for use by the meeting invitees and their peers from April 7 to April 21. Paper copies of the survey as well as the link to the online version were given to the meeting attendees so that they could share them with their peers and other stakeholders they felt may have input that would contribute to the discussion.

A morning session was held at the Durrwachter Alumni Conference Center of the Lock Haven University Campus in Lock Haven, Clinton County, followed by an afternoon session at the Union County Government Center in Lewisburg, PA.
The general purpose of the workshop was to solicit input from a range of key stakeholders who by the nature of their organization or the services offered could provide insight on the potential motorized or non-motorized transportation needs and/or concerns of the traditionally underserved populations within the MPO region. The feedback from the meeting was reviewed and considered, as appropriate, during the development of the draft LRTP.

The following organizations were represented at the Environmental Justice Workshops:

- Clinton County Planning Commission
- Central Susquehanna Opportunities, Inc.
- Greater Susquehanna Valley United Way
- Union-Snyder Agency on Aging
- Service Coordination Resources
- PA Career Link (Clinton/Northumberland/Snyder/Union)
- Snyder County Planning Commission
- Transitions of PA
- Mifflin-Juniata County Department of Human Resources
- Grey Medical Advocate, LLC
- Call A Ride Service, Inc.
- Montour County Planning Commission
- Mifflin-Juniata Regional Services Corp.
- Berwick Area United Way
- Lewisburg Neighborhoods Corp.
- Evangelical Community Hospital
- Central Pennsylvania Workforce Development Corp.
- Union County Planning Commission

Several primary themes surfaced over the course of the meetings, particularly following the mapping exercise; namely: healthcare-related transportation needs, employment-related transportation needs, and increased non-motorized transportation alternatives - sidewalks and bike paths. The healthcare and employment-related discussions included, but were not limited to improving/expanding fixed transit routes, and better alternatives to volunteer transportation services.

As a part of this meeting the MPO also solicited input and recommendations regarding the most effective methods of communications with the traditionally underserved populations in conjunction with the public engagement activities associated with the draft LRTP and TIP updates. As a result, two additional free print publications were added to the MPO’s general media contact list. The new publications, the Bargain Sheet and the Webb Weekly, have broad distribution throughout the majority of the counties included in the MPO region, and both publications are delivered to residential mailboxes and are also available online.

2. Steering Activities

The Steering Committee assisted with the identification of a unified plan vision and its framework, project scoring and ranking criteria, and the evaluation of fiscal scenarios and project costs. The meeting
agenda and meeting summaries for each of these sessions are posted on the SEDA-COG MPO website. The dates of the meetings were as follows:

- June 12, 2015
- August 7, 2015
- October 2, 2015
- November 20, 2015
- January 22, 2016
- March 11, 2016
- April 29, 2016

In addition to the meetings with the MPO Steering Committee, two PennDOT District “Strategy Days” were also conducted during this period. The half-day strategy session for PennDOT District 3 was held on October 22, 2015; and the session with PennDOT District 2 was held on January 29, 2016.

3. Draft Plan

The draft plan phase consisted of presentations to the MPO Steering Committee, Agency Coordination Meeting (ACM), and a public meeting held during the required Public Review and Comment Period. These activities were conducted on the following dates:

- **Agency Coordination Meeting**
  - April 27, 2016

- **Public Review and Comment Period**
  - May 11, 2016 to June 10, 2016

- **Public Meeting**
  - May 25, 2016

4. Final Plan

All comments received during the Public Review and Comment Period, at the ACM meeting, and at the public meeting were compiled, reviewed, and as appropriate integrated into the final version of the draft LRTP. The final plan phase consisted of a presentation to the SEDA-COG MPO and official adoption of the final version of the updated Long Range Transportation Plan. The SEDA-COG MPO adopted the 2016 LRTP at a public meeting held on Friday, July 15, 2016, at SEDA-COG’s office in Lewisburg, PA.

B. Comment Tracking & Response

Public comments received during the public comment period, along with comments received from the LRTP Steering Committee and MPO staff, were collected and tracked in a tabular format. A copy of this “Record of Comments and Resolution” is provided in Appendix J. The following information is tracked for each written comment received:

- Date of Comment
- Name of Commenter
- Source/Location of Comment (referenced to the page and topic of the comment)
C. Public Participation Activity Portfolio

In compliance with the Public Participation Plan, the Activity Portfolio containing record of the public involvement process for the LRTP will be assembled and provided to the SEDA-COG MPO as a separate submission. The Activity Portfolio for the LRTP will include the following:

- Public notices and announcements of comment periods and involvement activities
- Summaries of the proceedings of the public outreach activities
- Listings of participants
- Record of materials displayed, distributed, and/or made available
- Compilations and analysis of surveys conducted and comments received
- Interested Parties distribution lists and correspondence sent/received
- Record of media coverage of the event