

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 Survey⁵, 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 paralleling many of the rail lines, or feeding traffic to them, following the valley floors or winding along the gaps between adjacent ridges. Much of the current 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>

⁵ Bureau of Topographic and Geologic Survey, <http://www.gis.dcnr.state.pa.us/geology/index.html>, PaGEODE Web-Mapping Application for Pennsylvania Geologic Data Exploration.

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

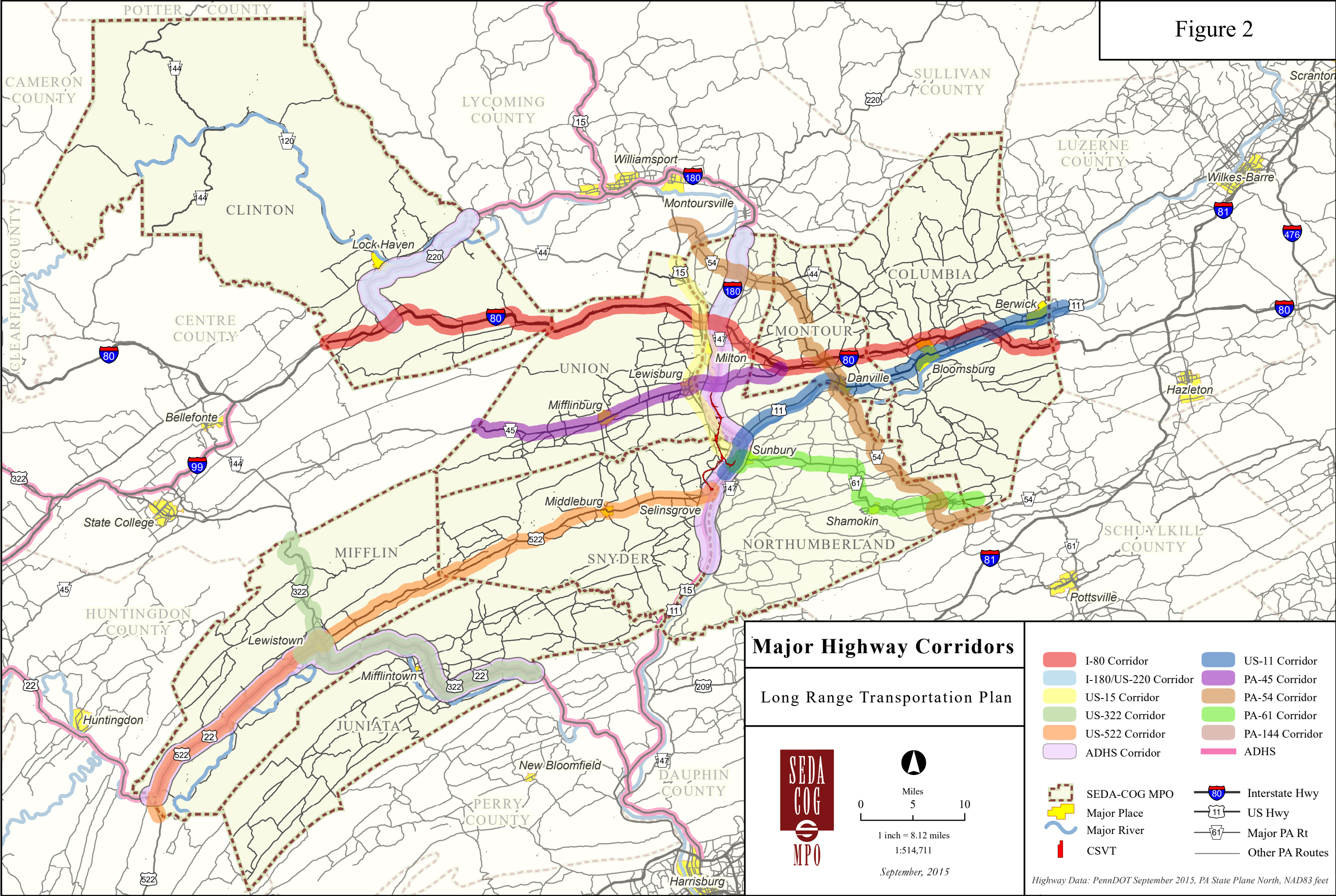
The highway system in the SEDA-COG MPO region includes the physical infrastructure that conveys vehicles (motorized and non-motorized) and supports the movement of people and goods. Highways and streets are the most recognizable primary conduits of travel. Bridges and tunnels conduct certain roadways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

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

Figure 2



**Table 2: Major Highway Corridors**

Route	SEDA-COG MPO Counties	2014 ADT ¹	Truck % ²	ADHS Corridor ³	Notes
I-80	Clinton, Union, Northumberland, Montour, & Columbia	22,000 - 40,000	60% to 70% west of I-180; 25% to 40% east of I-180		
I-180	Northumberland	19,000	29%	Corridor P	Connects I-80 to Williamsport, PA (connects to ADHS Corridor U)
US 15	Snyder & Union	16,000 south of I-80 to 47,000 at Shamokin Dam	7% to 10%		Only non-interstate in Pennsylvania designated as part of the Department of Defense's Strategic Highway Network
US 322	Juniata & Mifflin	15,000 to 25,000	15% to 20%	Corridor M	Co-designated with US 22 south of Lewistown
US 522	Mifflin & Snyder (east of Lewistown)	3,400 to 10,000	7% to 11%		
	Mifflin (west of Lewistown)	9,100 to 9,300	6% to 9%	Corridor M	Co-designated with US 22
US 11	Snyder, Northumberland, Montour & Columbia	11,000 to 17,000	7% to 10% (section connecting PA 147 and US 15 - 20%)		Connects the Bloomsburg-Berwick Urbanized Area with I-80
PA 45	Union, Northumberland, & Montour	1,600 (western Union County line) to 12,000 (Lewisburg)	20% (western Union County line) to 6% (Lewisburg)		Connects Danville / Lewisburg with State College, PA
PA 54	Northumberland & Montour	2,000 to 9,500 (17,000 near Danville)	5% to 10%		Connects US 15 to I-81
PA 61	Northumberland & Columbia	1,800 (southern Columbia County) to 21,000 at Sunbury / Shamokin Dam	8%		Links US 15 to I-81
CSV T	Snyder, Union, & Northumberland	NA	NA	Corridor P-1	Under construction Completion planned for 2024

Source:

¹ Average Daily Traffic, PennDOT, Pennsylvania Traffic Volume Map, 2014 (published January 2016);

http://www.dot7.state.pa.us/BPR_PDF_FILES/MAPIs/Traffic/Traffic_Volume/Statewide/Statewide_2014_tv.pdf.

² Truck %, PennDOT, PennDOT Internet Traffic Management System (iTMS), <http://www.dot7.state.pa.us/itms/main.htm>.

³ Appalachian Regional Commission, *Status of the Appalachian Development Highway System*, 9/30/2015, <http://www.arc.gov/images/programs/transp/ADHSFY2015StatusReport.pdf>, p. 44.

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 roadways⁷. 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

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

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.

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

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

Source:

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

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.

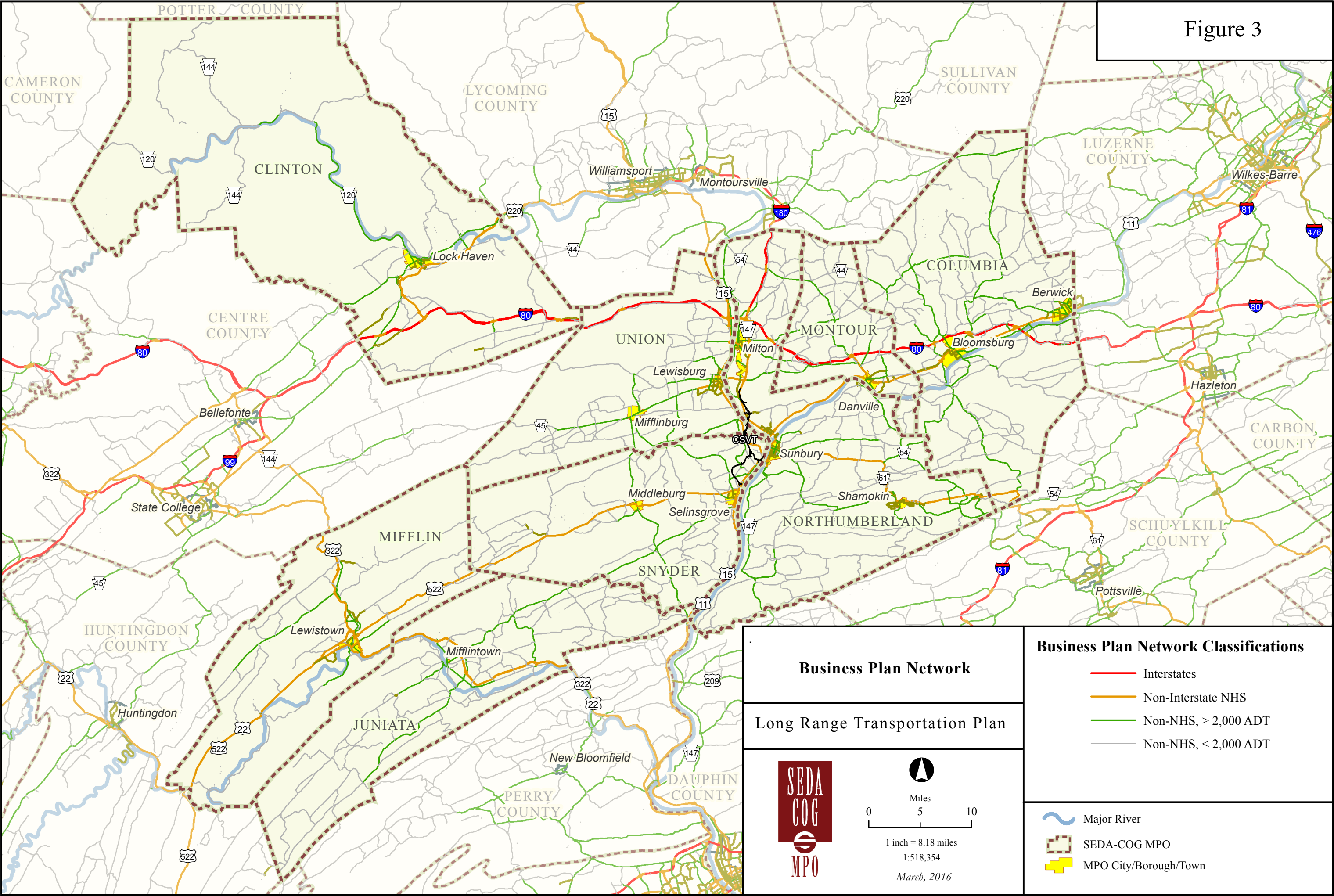
e. National Highway Freight Network

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

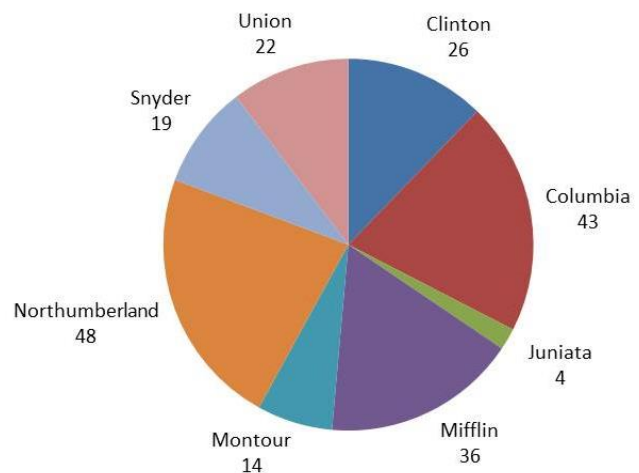


1. Infrastructure Elements

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).

Figure 4. Intersection Traffic Signals by County



Source: PennDOT MPMS IQ, accessed March 2016.

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.

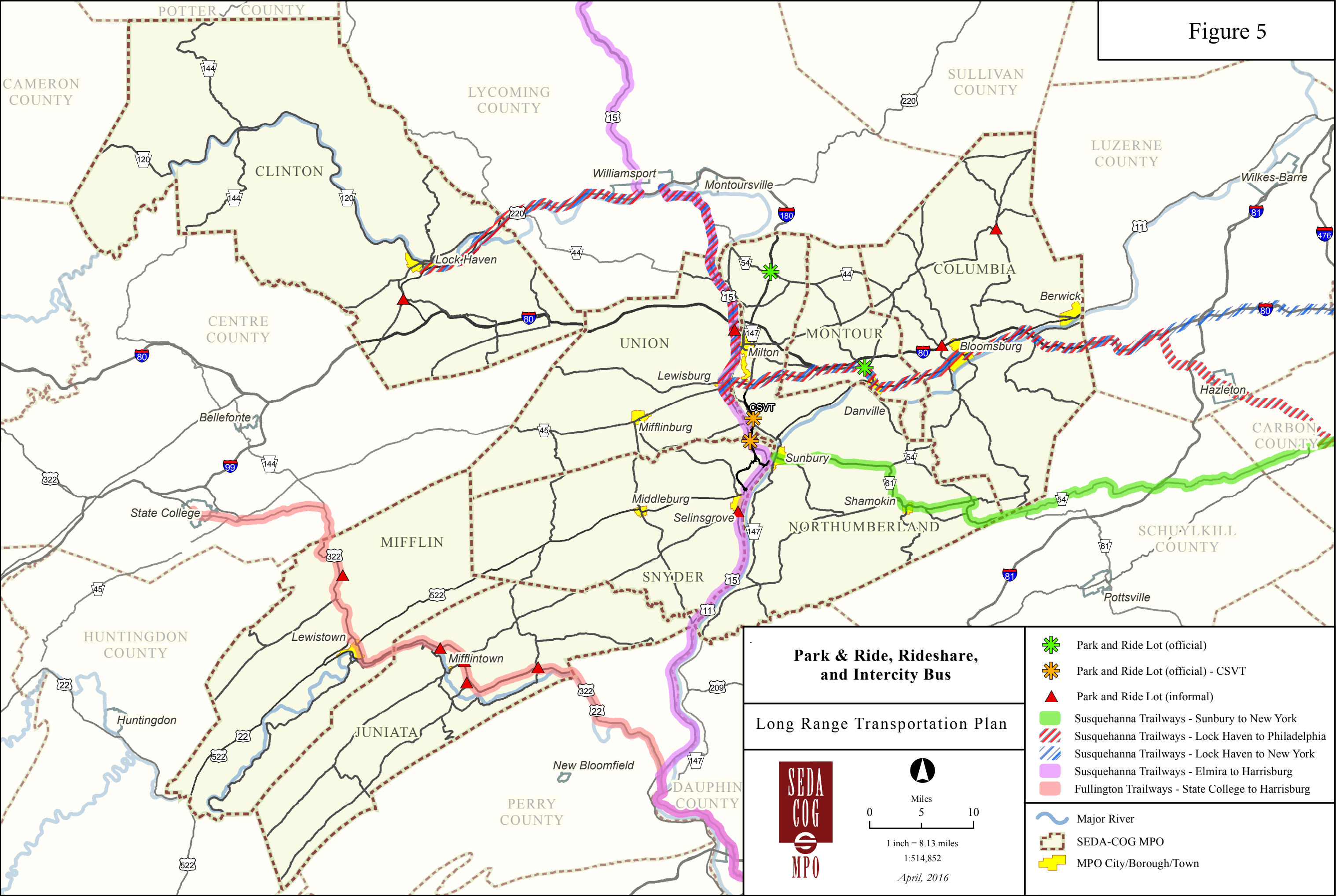
Four SEDA-COG MPO region universities—Bucknell, Bloomsburg, Lock Haven, and Susquehanna—operate small fixed-route transit and shuttle systems for the exclusive use of their student bodies.

(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.

Figure 5



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, Lehigh, 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 portal⁸.

(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

⁸ Centre Area Transportation Authority (CATA), <http://catabus.com/ServiceSchedules/CATACOMMUTE/index.html>.

- Provide a safe area for commuter parking
- Alleviate commuter parking infringing upon private parking lots designated to serve other uses
- Promote environmentally friendly conservation efforts

b. Transit Providers & Profiles⁹

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.¹⁰

⁹ Coordinated Public Transit-Human Services Transportation Plan for the SEDA-COG and Williamsport Area Metropolitan Planning Organizations, May 2014.

¹⁰ *Regional Expansion and Name Change for Local Transit Authority*, January 8, 2016, according to webpage accessed 5/4/2016, <http://www.rabbittransit.org/Home/rabbittransitExpansion.aspx>.



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

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

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

Agency	Operator	Type of Service	Service Area	Hours of Operation
Union/Snyder Transportation Alliance (USTA)	Union-Snyder Community Action Agency (US-CAA) rabbittransit to assume operations in mid-2016	Shared-Ride Van Pool Service	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.

SEDA-COG RPO Long Range Transportation Plan, 2011-2035, SEDA-COG, December 2011.

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 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

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

Table 6. Freight Railroads in the SEDA-COG MPO Region (continued)

Operator	Class	Type	General Location	Length (miles)	Available Transloading Facilities	Notes
North Shore Railroad (NSHR)	III	Short line	Interchange with NS in Sunbury, Northumberland County; serves Columbia, Montour & Northumberland counties	43.5	<ul style="list-style-type: none"> BIDA Yard, Berwick, Columbia County – Ground level Team Tracks. Fahringer Dock, Berwick, Columbia County – Ramp Access Yard 11, Northumberland County – Rail car storage, transload and material storage on site 	Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System
Shamokin Valley Railroad (SVRR)	III	Short line	Interchange with NS in Sunbury, Northumberland County; serves Northumberland County	27.4	<ul style="list-style-type: none"> Shamokin Valley Transload Facility, Northumberland County – Truck to rail transfer of bulk commodities, 1550 rail spur 	Operates on track owned by SEDA-COG JRA; part of the North Shore Railroad Company System
Union County Industrial / White Deer & Reading Railroad (UCIR / WD&R)	III	Short line	Access to NS in Sunbury, Northumberland County; primarily serves Union County	20.4	<ul style="list-style-type: none"> Great Stream Commons, Allenwood, Union County – Transload facility with highway and rail access, ability to support 2 million square foot building 	UCIR operates for 3 railroad owners: SEDA JRA, West Shore Railroad Corp., and Lewisburg & Buffalo Creek Railroad. The latter is the Sanders Family ownership.
Reading, Blue Mountain and Northern Railway (RBMN)	III	Short haul	Nine eastern PA counties including Northumberland & Columbia; connects to SVRR at Locust Summit, Northumberland County	327		

Sources:

Technical Memo, Rail Freight Assets, Features and Attractors within the SEDA-COG MPO, Dawood Engineering, Inc., April 2016.

Pennsylvania Intercity Passenger and Freight Rail Plan, PennDOT, February 2010.

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

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

Sources:

SEDA-COG RPO Long Range Transportation Plan, 2011-2035, SEDA-COG, December 2011.

Airnav.com, <http://airnav.com/airports/>, accessed 4/14/2016.

* 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 Facilities¹¹

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.

¹¹ FHWA Guidance: Bicycle and Pedestrian Provisions of federal Transportation Legislation (Updated September 10, 2015); http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/guidance_2015.cfm.

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.

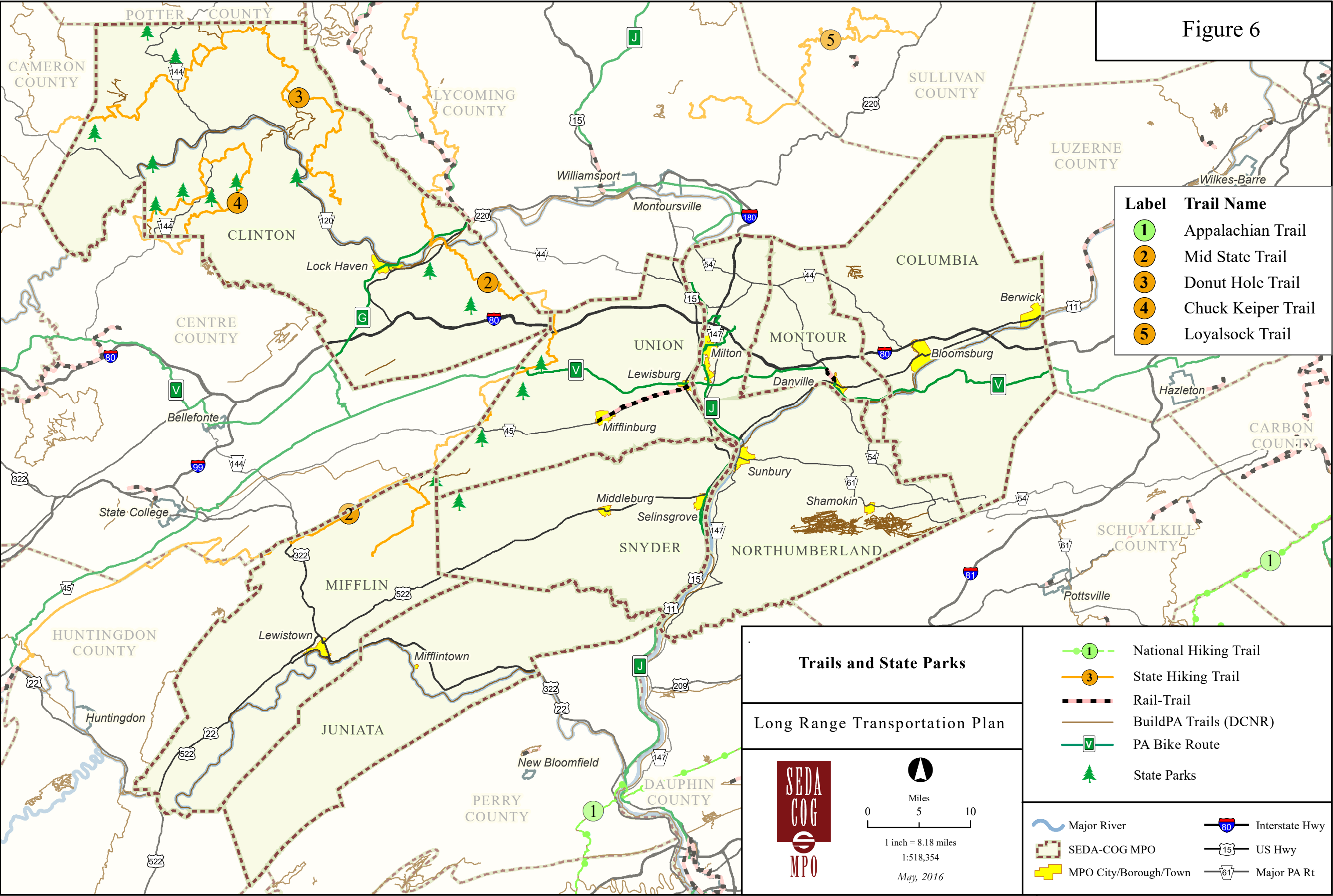
Table 8. Major Trails in the SEDA-COG MPO Region

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

Sources:

SEDA-COG RPO Long Range Transportation Plan, 2011-2035, SEDA-COG, December 2011.
Susquehanna Greenways Partnership, 2016.

Figure 6



Data Sources: PennDOT, DCNR, SEDA-COG

PA State Plane North, NAD83 feet

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.¹²

¹² National Park Service, National Water Trails System website, as accessed 5/4/2016, <https://www.nps.gov/WaterTrails/Trail>.

The PFBC Water Trail Guides webmap illustrates Pennsylvania's water trails as and river access points (<http://fishandboat.com/watertrails/trailindex.htm>). Other public stream and river access points, including locations not on a designated water trail, are provided on the PFBC County Guide page (<http://fishandboat.com/county.htm>).

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>
- North Branch Canal Trail Feasibility Study
http://www.susquehannagreenway.org/sites/default/files/North%20Branch%20Canal%20Trail%20Feasibility%20Study%20SEDA%20COG%202009_Part1.pdf
- Lake Augusta Gateway Corridor Plan
<http://www.susquehannagreenway.org/sites/default/files/Lake%20Augusta%20Gateway%20Corridor%20Plan%20SEDA%20COG%202012.pdf>
- Building Safe, Walkable and Healthy Communities in the Middle Susquehanna Region
<http://www.susquehannagreenway.org/sites/default/files/Safe%20Walkable%20Berwick%20Williamsport%20Northumberland%20Sunbury%20SEDA%20COG%202011.pdf>

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/>.

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

¹³ Mainline Canal Greenway Website, <http://mainlinecanalgreenway.org/about/>, as accessed 6/24/2016.

¹⁴ Susquehanna Greenway Partnership, *Susquehanna Greenway & Trail Authority Case Study*, 2014, http://www.susquehannagreenway.org/sites/default/files/SGTA%20Report_8-29-14%20reduced.pdf.

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)

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

Source: U.S. Census Bureau, 2010 Census, Table P1, *Total Population*, via American FactFinder, <http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>.

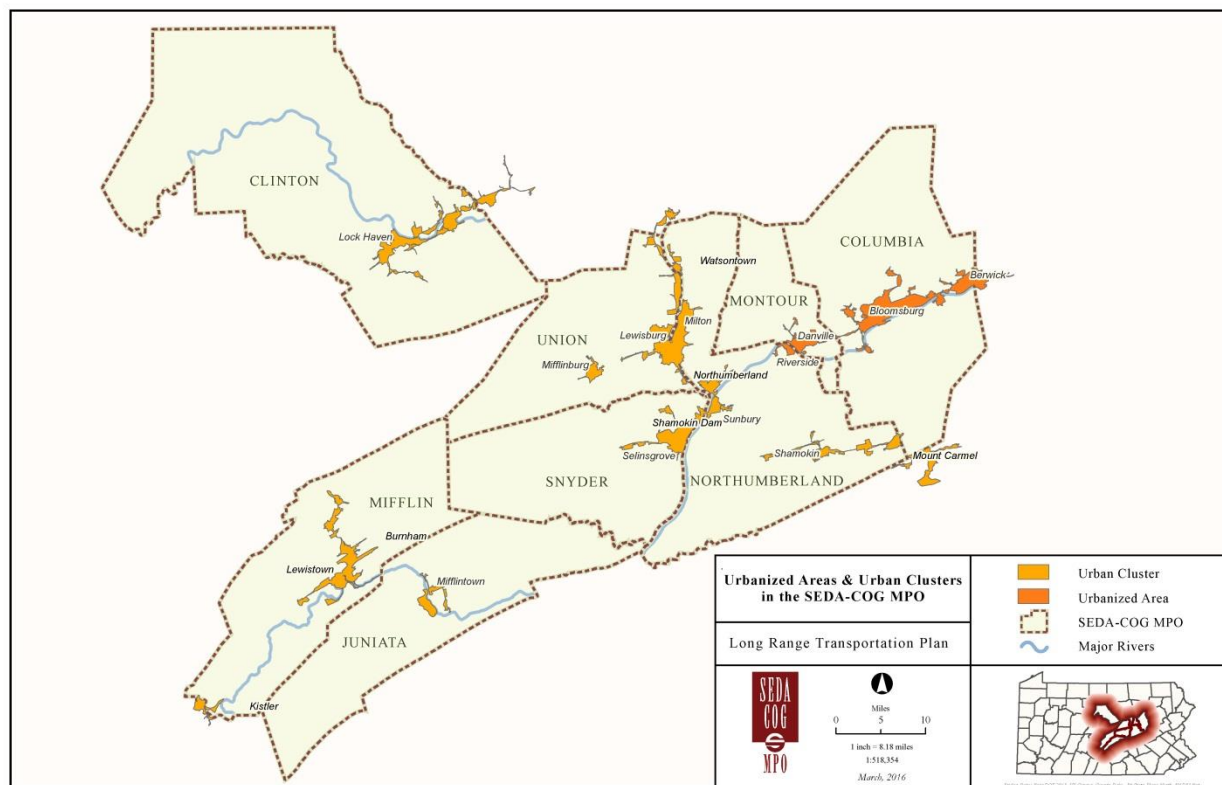
*UZA or UC extends outside of the SEDA-COG MPO region

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.

Figure 7. Urbanized Areas & Urban Clusters in the SEDA-COG 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

County	Census (Actual)	Projection	Projected Change	Census (Actual) 2010	Actual Change	Projections		
	2000	2010	2000 - 2010	2010	2000 - 2010	2020	2030	2040
Clinton	37,914	35,540	-6.3%	39,238	3.5%	41,957	44,973	48,164
Columbia	64,151	64,454	0.5%	67,295	4.9%	67,759	67,922	67,091
Juniata	22,821	23,977	5.1%	24,636	8.0%	24,681	25,013	25,094
Mifflin	46,486	46,744	0.6%	46,682	0.4%	48,102	49,578	50,709
Montour	18,236	17,275	-5.3%	18,267	0.2%	19,524	21,037	22,807
Northumberland	94,556	93,197	-1.4%	94,528	0.0%	95,481	95,264	93,027
Snyder	37,546	38,294	2.0%	39,702	5.7%	41,438	42,156	41,678
Union	41,624	46,414	11.5%	44,947	8.0%	47,499	49,931	51,641
SEDA-COG MPO	363,334	365,895	0.7%	375,295	3.3%	386,441	395,874	400,211
Pennsylvania	12,281,054	12,540,718	2.1%	12,702,379	3.4%	13,230,170	13,759,594	14,132,588

Sources:

U.S. Census Bureau, 2000 Census, Table P1, *Total Population*, via American FactFinder,

<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>.

U.S. Census Bureau, 2010 Census, Table P1, *Total Population*, via American FactFinder,

<http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>.

The Center for Rural Pennsylvania, *Pennsylvania Population Projections, 2010-2040*, March 2014, http://www.rural.palegislature.us/documents/reports/Population_Projections_Report.pdf, accessed 3/25/2016.

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

(listed by 2010 Population Density)

County	Municipality	2000 Census	2010 Census	2000-2010 Change (%)	2000-2010 Change (#)	Land Area (sq. mi.)	2010 Population Density (pop / sq. mi.)
Northumberland	City of Shamokin	8,009	7,374	-7.93%	-635	0.80	9,218
Northumberland	Mount Carmel Borough	6,390	5,893	-7.78%	-497	0.70	8,419
Union	Lewisburg Borough	5,620	5,792	3.06%	172	1.00	5,792
Northumberland	City of Sunbury	10,610	9,905	-6.64%	-705	2.10	4,717
Mifflin	Lewistown Borough	8,998	8,338	-7.33%	-660	2.00	4,169
Clinton	City of Lock Haven	9,149	9,772	6.81%	623	2.50	3,909
Columbia	Town of Bloomsburg	12,375	14,855	20.04%	2,480	4.35	3,415
Columbia	Berwick Borough	10,774	10,477	-2.76%	-297	3.10	3,380
Snyder	Selinsgrove Borough	5,383	5,654	5.03%	271	1.83	3,090
Montour	Danville Borough	4,897	4,699	-4.04%	-198	1.60	2,937
Northumberland	Northumberland Borough	3,714	3,804	2.42%	90	1.51	2,519
Northumberland	Milton Borough	6,650	7,042	5.89%	392	3.43	2,053
Union	Mifflinburg Borough	3,594	3,540	-1.50%	-54	1.80	1,967
Juniata*	Port Royal Borough	977	1,185	21.29%	208	0.70	1,693

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

Geography	Population
Clinton County	1,315
Columbia County	121
Juniata County	973
Mifflin County	2,899
Montour County	446
Northumberland County	620
Snyder County	344
Union County	73 Amish 2,520 Mennonite
SEDA-COG MPO Total	9,311

Sources:

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

Union County Planning Office, 2016.

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

¹⁵ The Ohio State University News Room, "Estimate: A new Amish Community is Founded Every 3 and a half weeks in US", <https://news.osu.edu/news/2012/07/30/amishpop/>, July 30, 2012.

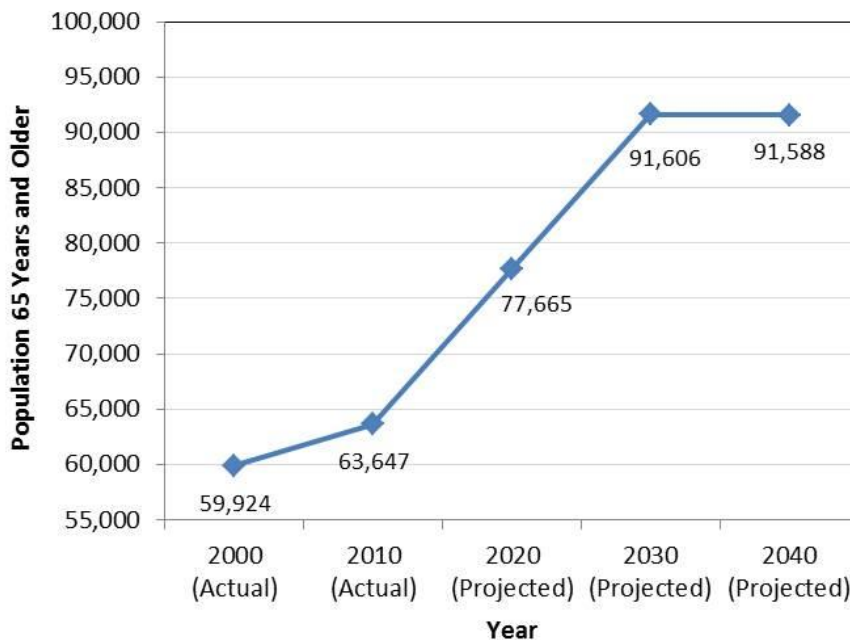
¹⁶ The Ohio State University News Room, "Estimate: A new Amish Community is Founded Every 3 and a half weeks in US", <https://news.osu.edu/news/2012/07/30/amishpop/>, July 30, 2012.

¹⁷ Amish Studies, The Young Center webpage, <https://groups.etown.edu/amishstudies/religion/mennonites/>, 2016.

e. Population over 65 Years

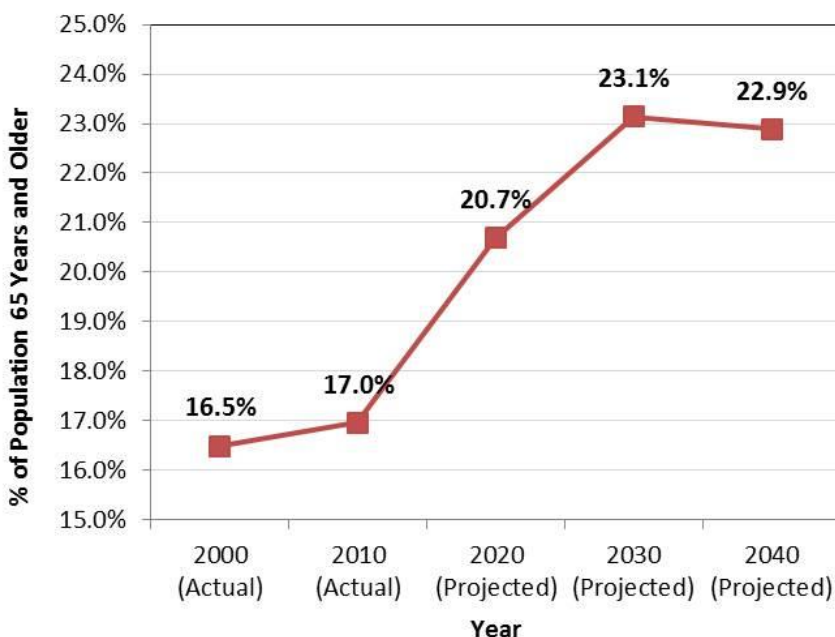
In 2010, the U.S. Census counted 63,647 persons (about 17 percent of the total population) age 65 and older living in the SEDA-COG MPO area. Comparatively, about 16% of Pennsylvania's total 2010 population was 65 and older. **Figure 8** charts the 2000 and 2010 Census populations alongside population 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)



Source: Pennsylvania State Data Center, Population Projections, 2020-2040, via Population Projections Dashboard, <https://pasdc.hbg.psu.edu/Services/PopulationProjectionsDashboard/tabid/2135/Default.aspx>.

Figure 9. Proportion of Population 65 Years and Older (2000 to 2040 by Percentage)



Source: Pennsylvania State Data Center, Population Projections, 2020-2040, via Population Projections Dashboard, <https://pasdc.hbg.psu.edu/Services/PopulationProjectionsDashboard/tabid/2135/Default.aspx>.

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.

¹⁸ AARP, *Waiting for a Ride: Transit Access and America's Aging Population*, 2012, accessed via the AARP webpage, <http://www.aarp.org/content/dam/aarp/livable-communities/old-learn/transportation/waiting-for-a-ride-transit-access-and-americas-aging-population-aarp.pdf>.

¹⁹ U.S. DOT, Healthy aging? FTA's working on that, <https://www.transportation.gov/fastlane/ride-to-wellness>, 2015.

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).

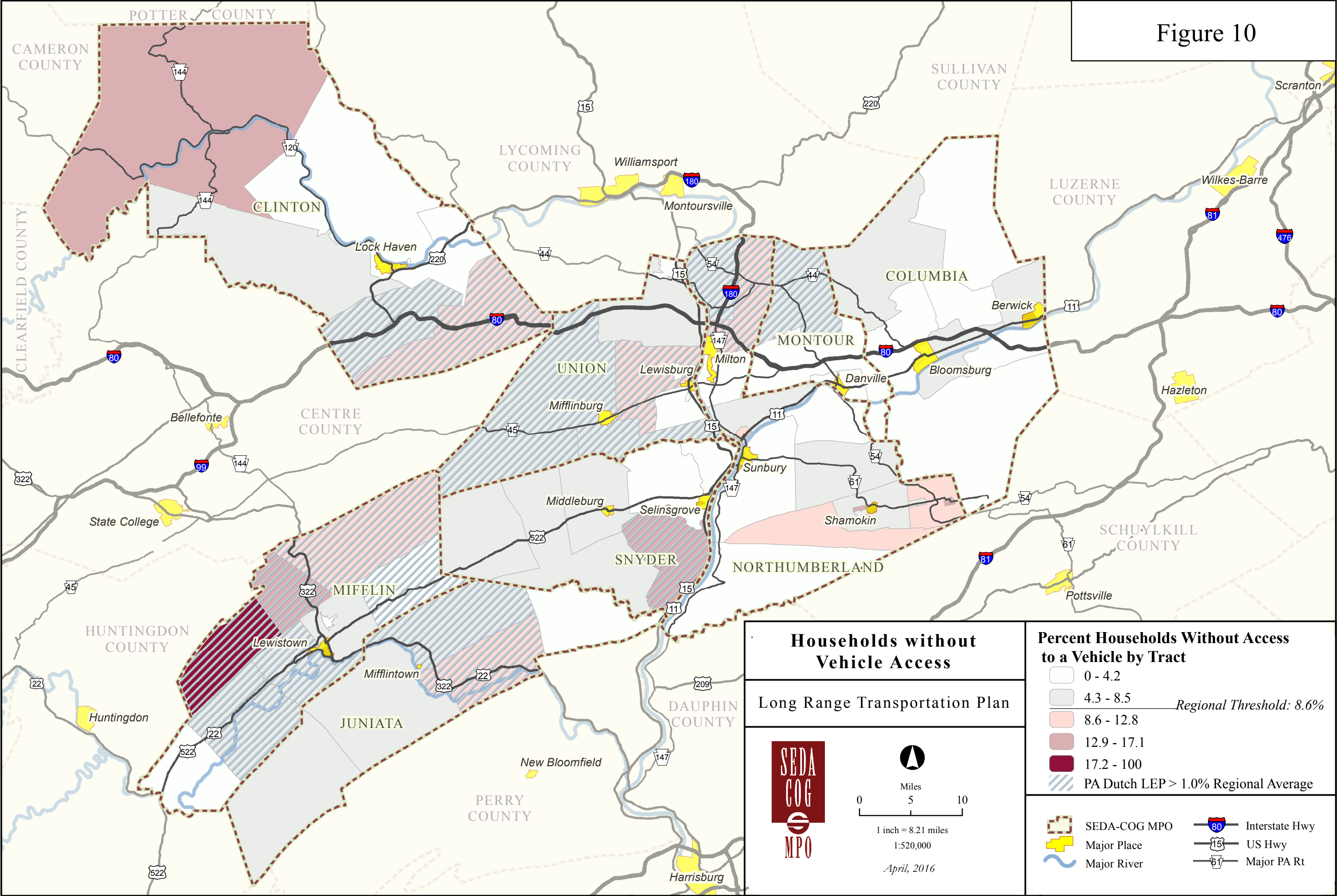
Figure 10 presents the census tracts with the highest concentration of households without access to a vehicle. The percentage of households without or with low access to a personal vehicle is 8.5 percent for the SEDA-COG MPO region, as compared to the national average of 8.9 percent. The Pennsylvania 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.

²⁰ FTA, U.S. DOT Announces Ladders of Opportunity Initiative, <https://www.transit.dot.gov/about/news/us-department-transportation-announces-availability-100-million-new-ladders-opportunity>, 2014.

Figure 10



Bridge Data: U.S. Census Bureau (2010 Census), PennDOT, County GIS; PA State Plane North, NAD83 feet

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

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

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.

²¹ Longitudinal Employer-Household Dynamics webpage, U.S. Census Bureau, 2016. <http://lehd.ces.census.gov/>

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

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

Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics via OnTheMap, Primary Jobs, 2014.

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.

Figure 11

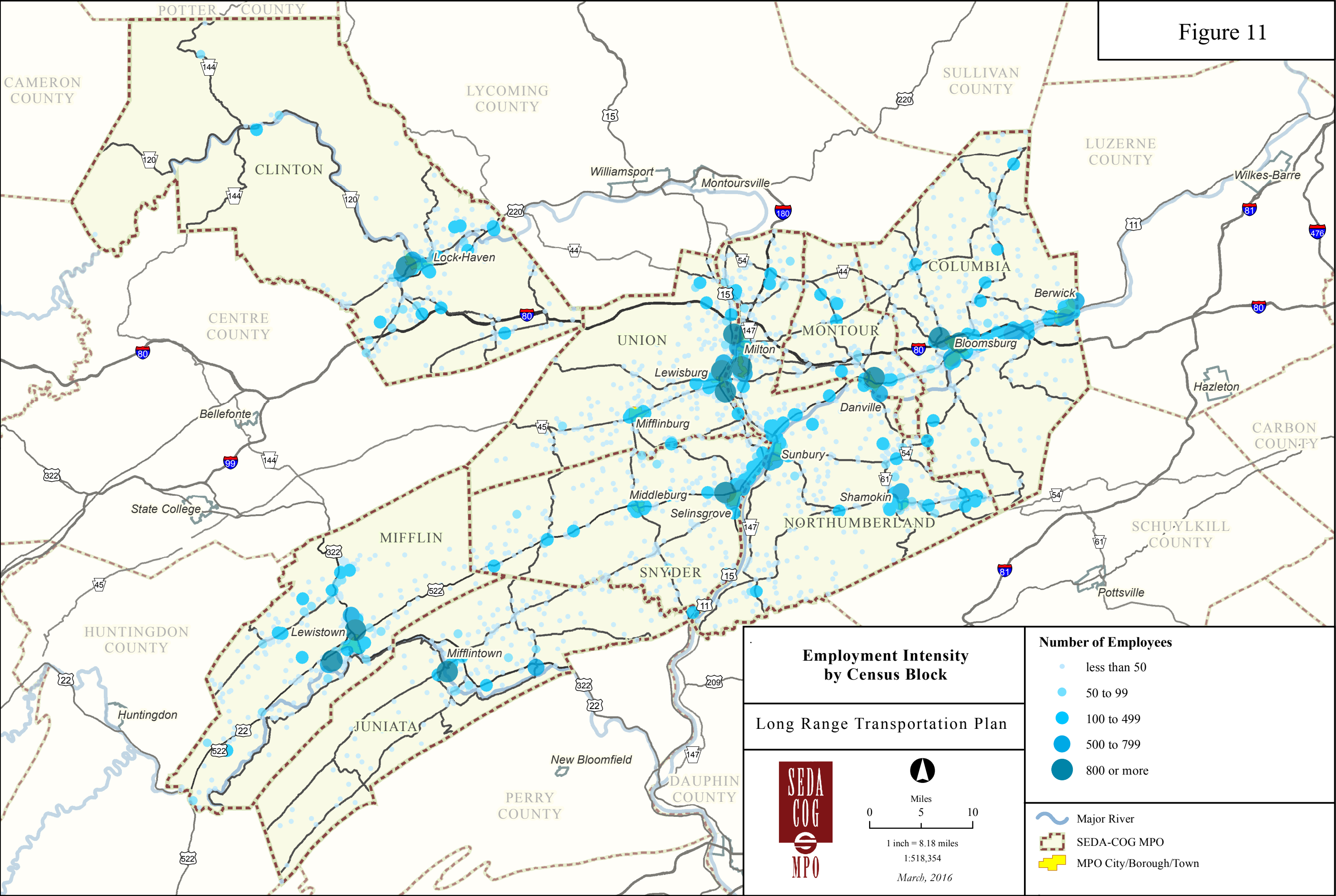


Table 15. Top Employers by County

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

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>.

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.

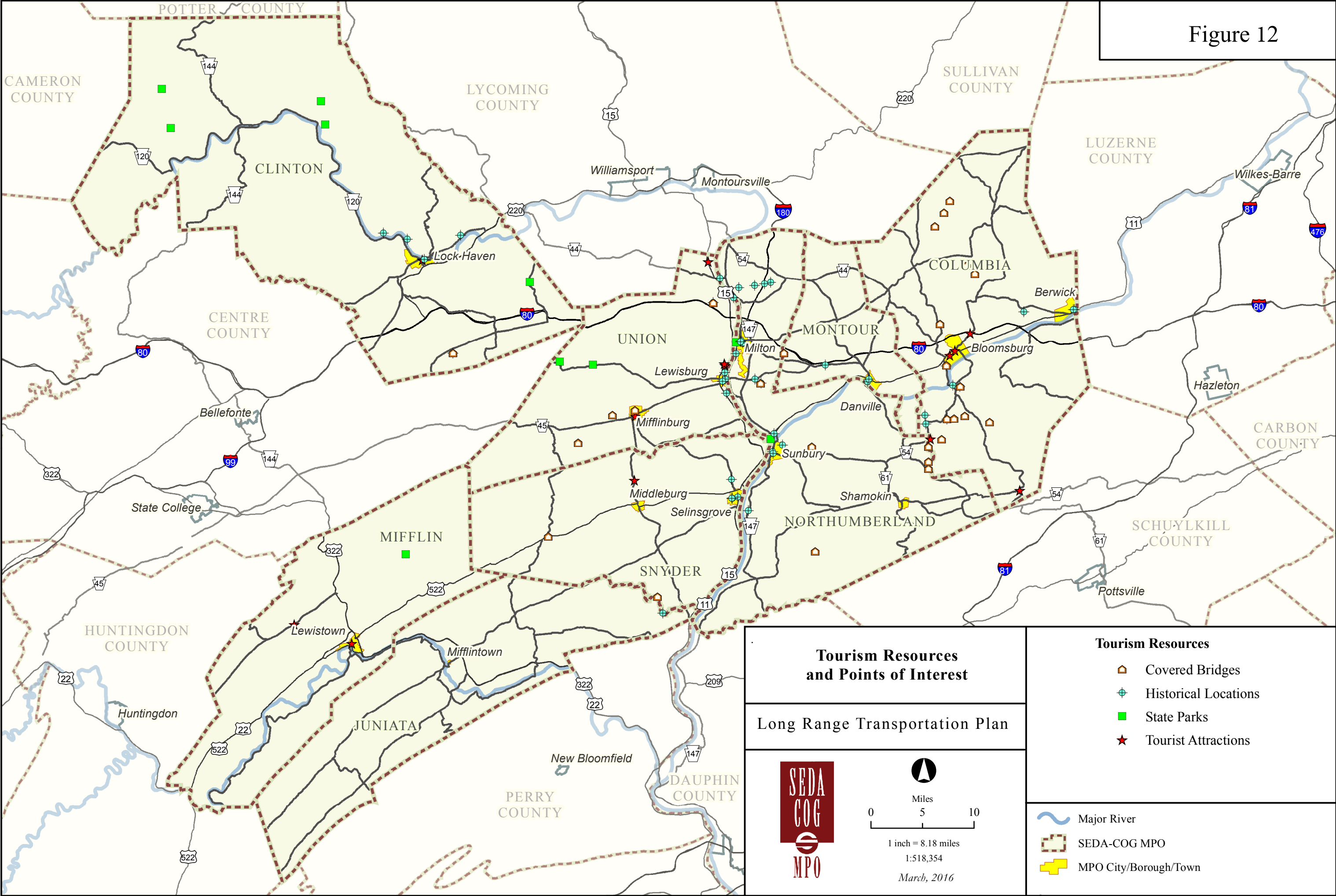
Table 16 summarizes the total tourism economy impacts within the SEDA-COG MPO region. The table shows that tourism generated over \$920 million in revenue in 2013 and supplied almost 11,500 jobs throughout the SEDA-COG MPO region.

Table 16. Total Tourism Economic Impacts (Year 2013)

County	Total Tourism Demand	Employment	Labor Income	Taxes	
				State & Local	Federal
	(Millions of dollars – Except Employment, in Units)				
Clinton	158.1	1,630	54.8	13.8	13.3
Columbia	161.3	2,072	63.4	14.4	14
Juniata	38.6	450	14.4	3.0	2.7
Mifflin	68.1	1,055	33.4	6.3	6.3
Montour	107.3	1,284	38.4	9.9	9.6
Northumberland	130.5	1,896	68.0	12.4	12.8
Snyder	100.1	1,205	35.5	8.5	8
Union	156.5	1,880	59.6	14.3	14
Total	920.5	11,472	367.5	82.6	80.7

Source: Tourism Economics, *The Economic Impact of Travel in Pennsylvania Report for the Year 2013*, January 2015, <http://www.visitpa.com/sites/default/master/files/pa-visitor-economic-impact-2013-final.pdf>.

Figure 12



Data Sources: PennDOT, SEDA-COG, PHMC, DCNR PA State Plane North, NAD83 feet

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

