# SVATS MPO
# Mercer County
# Long Range Transportation Plan Update



## FINAL REPORT

November 2016

**Prepared for:** PennDOT Engineering District 1-0, and Shenango Valley Area Transportation Study (SVATS) MPO

**Prepared by:** Whitman, Requardt & Associates, LLP (WRA)

MCRPC

pennsylvania
DEPARTMENT OF TRANSPORTATION

WRA

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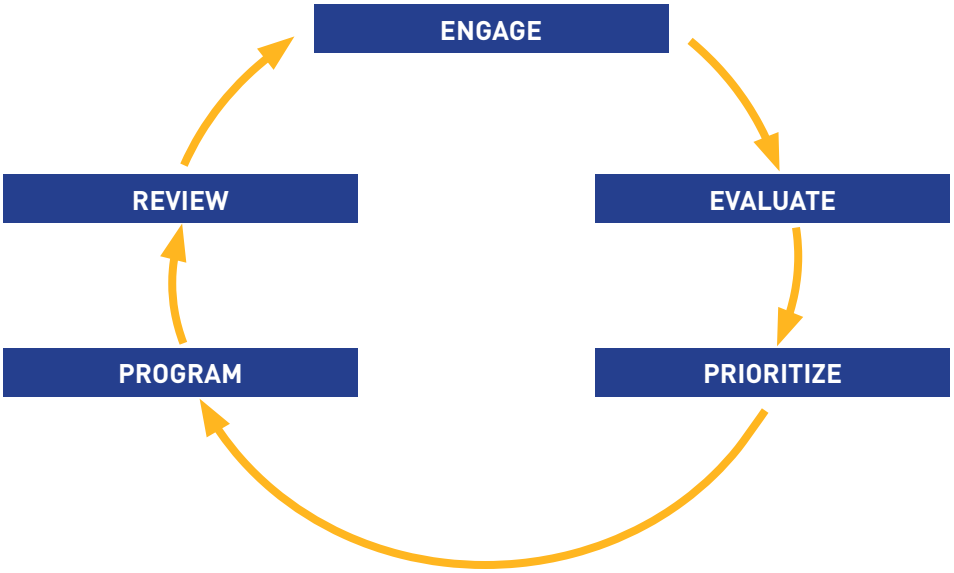
# EXECUTIVE SUMMARY

The Mercer County Long Range Transportation Plan (LRTP) focuses transportation investments and recommended policies to encourage a prosperous future and improve safety and quality of life for Mercer County residents and businesses through the year 2042. The LRTP was adopted by the Shenango Valley Area Transportation Study Metropolitan Planning Organization (SVATS MPO) on November 15, 2016.

The plan has been developed in cooperation with municipalities, the perspectives of stakeholders and residents of Mercer County, county officials, PennDOT, Mercer County Regional Planning Commission (MCRPC), and SVATS MPO. The goals and objectives of the plan are to enhance economic vitality, improve quality of life, and preserve and enhance existing transportation infrastructure. The plan follows an integrated planning process by including insights from municipal comprehensive plans, statewide plans, the Mercer County Comprehensive plan, and corridor and local studies. The LRTP also considers the county's role as a regional recreational destination as it hosts many parks, rivers, and reservoirs as well as its rich industrial past. The over-arching needs heard during the plan's listening tour were a desire to spur economic growth through targeted improvements to freight and industrial infrastructure to bring jobs and prosperity to the county; providing mobility options for residents to access those jobs; and promoting Mercer County as a recreational tourist destination while improving quality of life through developing multi-use trails and improving access to recreational amenities.

The LRTP includes a fiscally constrained set of roadway, transit, rail, air, freight, and bicycle and pedestrian projects. The highway LRTP projects were prioritized using an objective Decision Lens process based upon ranking criteria customized for Mercer County and voted upon by its municipal leaders. The plan also includes recommendations for further studies and policy recommendations. One of the new additions to the plan are lists of maintenance or quick hit projects that PennDOT and municipalities can complete during routine maintenance, a map of key bicycle and pedestrian corridors as identified by the public and municipalities for use in determining needs during scoping of PennDOT betterment projects, and a list of projects on local roads that can be incorporated into future local comprehensive plans and projects.



# ACKNOWLEDGMENTS


### Steering Committee

Matthew Stewart, MCRPC

Daniel Gracenin, MCRPC

Brian McNulty, PennDOT District 1-0

Lyndsie DeVito, PennDOT District 1-0

Daniel Keane, PennDOT Central Office

Scott Thompson-Graves, WRA

Ashley Tracy, WRA

### Municipal & Stakeholder Participation

Borough Council of Stoneboro

Borough Council of West Middlesex

Borough of Stoneboro

City of Farrell

City of Hermitage

City of Sharon

Coolspring Township

Findley Township

Greenville Area Economic Development Corporation

Greenville Borough

Greenville Reynolds Development Corporation

Grove City Planning Commission

Grove City Borough

### Municipal & Stakeholder Participation

Hempfield Township

Mercer Borough

Mercer County Bridge Engineer

Mercer County Community Action Partnership

Mercer County Community Transit

Mercer County Emergency Management Agency

Mercer County Trails Association

PennDOT District 1-0

PennDOT District Bridge Engineer

PennDOT Central Office

Penn Northwest Development Corporation

Pymatuning Township

Sandy Lake Township

Sharon Police Department

Sharon Sanitary

Shenango Valley Chamber of Commerce

Shenango Valley Shuttle Service

Shenango Valley Transportation Study Metropolitan Planning Organization

Shenango Township

Springfield Township

West Middlesex Borough

# INTRODUCTION

### Long Range Transportation Plan Update

The Shenango Valley Area Transportation Study Metropolitan Planning Organization (SVATS MPO) is charged with planning and coordinating Mercer County's transportation investments, including the development of the Long Range Transportation Plan; SVATS MPO consists of 25 members representing municipalities throughout Mercer County.

What is a Long Range Transportation Plan? A Long Range Transportation Plan (LRTP) utilizes public input and stakeholder engagement along with a data-driven approach to consider existing and future transportation, land use, economic, and accessibility concerns within the MPO area. It includes a fiscally constrained set of transportation improvements, recommendations for future studies, and recommended policies to help the region meet its goals and objectives over the next 20+ years. The 2016 LRTP updates the previously adopted 2011 LRTP by meeting the latest state and federal guidance while reflecting current local trends and needs.

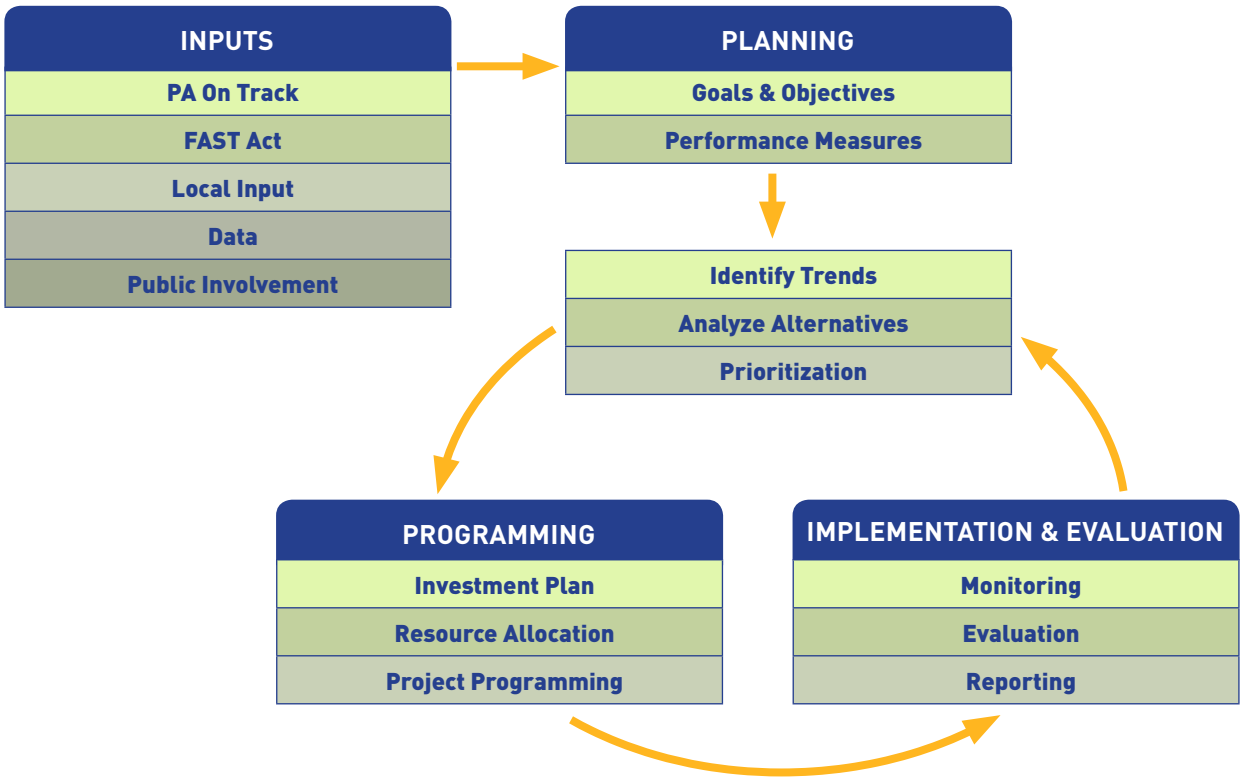
### Performance Based Planning

Federal legislation encourages performance based planning ***(Exhibit 1)***. The LRTP update is a locally driven plan – developed by reviewing local comprehensive plans, county plans, corridor studies, and area-wide plans, combined with a listening tour which included meetings with local stakeholders, officials, public meetings, and an online survey. The listening tour and plan review resulted in many recommended policies and transportation projects. This effort allowed the plan to put a local emphasis on the federal and statewide guidance and determine how targeted transportation investments can help the MPO region meet its goals.

**Performance based planning is a strategic approach that uses data to support decisions that will help to achieve desired outcomes. Simply put, performance measures are used to ensure that the planning process is achieving local goals.**

The performance based planning approach would progress a transportation project from concept to construction. For example, a municipality or member of the public reports an unsafe intersection during a public outreach meeting. The process would be as follows: the intersection location is referenced against crash data and field views to determine if there is a problem that could be addressed through safety treatments; safety treatments are identified that align with current standards; a planning-level project scope and cost estimate is developed for improvements; the project is ranked against other projects throughout the county through objective measures; the project is programmed in order of regional priority; when it is time, the project's scope and cost estimate are refined and funding is sought and allocated; the project is let for competitive bid for design and/or construction; the project is awarded, designed, and built. To ensure that the region is meeting its goals and objectives through projects, the constructed project is evaluated to determine if it has had the desired impact, which in this example is to improve safety. The measurement for this could be the reduction in frequency or severity of crashes at the intersection after safety treatments.

**Exhibit 1 - Performance Based Planning Flowchart**




### Federal Planning Factors

The LRTP addresses federal and state planning criteria set forth by the Federal Highway Administration (FHWA) and PennDOT. On December 4, 2015, President Obama signed the Fixing America's Surface Transportation Act (FAST Act), which outlines 10 Federal planning factors which must be addressed by all LRTPs through projects, plans, or policies. The Federal planning factors are described below:

- **Economic Vitality** - support the economic vitality of the United States, the States, non-metropolitan areas, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;
- **Safety** - increase the safety of the transportation system for motorized and non-motorized users;
- **Security** - increase the security of the transportation system for motorized and non-motorized users;
- **Personal and freight mobility** - increase the accessibility and mobility of people and for freight;
- **Environment** - protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- **Mode interconnectivity** - enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;

- **System management** - promote efficient system management and operation;
- **System preservation** - emphasize the preservation of the existing transportation system.
- **Reliability and stormwater** - Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
- **Tourism** - Enhance travel and tourism

### State Planning Factors

PennDOT released Pennsylvania's Long Range Transportation Plan in December 2015, entitled PA On Track. This plan analyzed the current state and future of Pennsylvania's various transportation systems from automobile, freight transportation including truck and rail, transit, aviation, and port facilities.

PA On Track's strategic direction translated the Federal planning factors to four primary goal areas: system preservation, safety, personal and freight mobility, and stewardship, while also identifying a set of performance measures that will be used to track the state's success in meeting its transportation goals ***(Exhibit 2)***.

**Exhibit 2 - Federal and State Planning Factors**

| FAST Act | PA On Track Goal Areas | PA On Track Performance Measures |
|---|---|---|
| System preservation | System Preservation | % pavements in good and poor condition, pavement structure index, percent of structurally deficient bridges, load-restricted bridges, average age of bus fleet |
| System management | | |
| Safety | Safety | Total number of fatalities and serious injuries, rate of crashes with fatalities and serious injuries per vehicles miles traveled, number of fatalities and serious injuries in work zones, at rail crossings, and roadway-related bicycle and pedestrian fatalities or serious injuries |
| Security | | |
| Personal and freight mobility | Personal and freight mobility | Annual hours of truck/auto delays and cost, annual transit ridership for fixed route and shared ride services, percent/ number of freight bottlenecks eliminated |
| Mode interconnectivity | | |
| Economic Vitality | Stewardship | Annual savings through Next Generation implementation, timely delivery of approved local projects, timely delivery of HOP, number of municipal officials trained through Local Technical Assistance Program on coordination of transportation and land use planning |
| Environment | | |
| Reliability and stormwater | | |
| Tourism | | |

## Local Input

The project team tasked with steering the LRTP consisted of representatives of PennDOT District 1-0, PennDOT Central Office, Mercer County Regional Planning Commission, and the consultant team. The most important component in creating a locally meaningful plan for Mercer County was to solicit as much input as possible from a diverse array of local stakeholders. To achieve this goal, the project team conducted an extensive listening tour between May and July 2016 to gather information from municipalities, stakeholders, and the public regarding transportation related concerns in Mercer County.

### Municipal Outreach

Municipalities in Mercer County were invited to participate in a series of six in-person meetings held throughout the county:

1. Northeast - Lakeview Area
2. Southeast - Grove City Area
3. Southwest - Shenango Valley Cities
4. South Central – Mercer Area
5. Northwest – Greenville Area
6. Southwest - Boroughs and Townships

The strategy for these meetings was to review local studies and comprehensive plans ***(Exhibit 3)*** as a means to inform and kick start the conversations. The project team came prepared with a set of prompting questions to discuss a variety of concerns with municipal officials, as well as blank maps to mark new problem locations. Between meetings, the project team performed field views to visit and photograph areas of concern discussed by members of the public to better understand the problem areas and potential projects.

*The Project Team Meets with Municipalities at 3 Regional Locations*

## Exhibit 3 - Local Plans Reviewed

| Title | Year of Plan |
|---|---|
| Broadway Boulevard Phase 3 Study Shenango Valley Industrial Access Corridor | 1999 |
| DCNR Pennsylvania Land and Water Trail Network Strategic Plan 2014-2019 | 2013 |
| FAST Act Planning Factors | 2015 |
| Greenville Borough and Hempfield Township Comprehensive Plan | 2004 |
| Jamestown Borough Community Plan | 2001 |
| Lakeview Region Comprehensive Plan | 2002 |
| LPN Screening Form User Guide | 2013 |
| Map 21 Planning Factors | 2010 |
| MCRPC Comprehensive Plan Update | 2006 |
| MCRPC Long Range Transportation Plan Update | 2011 |
| Mercer Congestion Management Processes Plan | 2009; 2013 |
| Mercer Natural Heritage Inventory | 2003 |
| Mercer Region Multi-Municipal Comp Plan | 2005 |
| PennDOT's Master Bike Statewide Plan | 2007 |
| Pennsylvania Statewide LRTP: PA On Track | 2015 |
| Route 18 North Planning & Transportation Study | 2002 |
| Sharon Strategic Plan | 2011 |
| Sharpsville Region Comprehensive Plan | 2005 |
| Shenango Township and West Middlesex Boro Join Comprehensive Plan | 2007 |
| Shenango Trail Feasibility Study | 2016 |
| Springfield Township SR 208 Access Management Study | 2016 |
| State Street Study | 2011 |
| Updated Coordinated Public Transit – Human Services Transportation Plan for Mahoning County, Ohio and Mercer County, Pennsylvania (Draft) | 2016 |
| US 19 Corridor Study | 2011 |
| Williamson Road Traffic Impact / Planning Study | 2012 |
| Wolf Creek COG Plan | 2005 |

### Stakeholder Outreach

Stakeholders were engaged early in the plan development due to their expertise in specific components of transportation and related areas. Interviews were conducted by phone, by email, and in person. Agencies interviewed include:

- Greenville Area Economic Development Corporation
- Greenville Reynolds Development Corporation
- Mercer County Emergency Management Agency (EMA)
- Mercer County Bridge Engineer
- Mercer County Community Transit (MCCT)
- Mercer County Community Action Partnership (MCCAP)
- Mercer County Trails Association (MCTA)
- Mercer County Tourism Bureau
- PennDOT District 1-0 District Executive and Assistant District Executive for Design
- PennDOT Bureau of Aviation (BOA)
- PennDOT District 1-0 Bridge Engineer
- Penn Northwest Development Corporation
- Pennsylvania Department of Community and Economic Development (DCED)
- Shenango Valley Shuttle Service (SVSS)
- Shenango Valley Chamber of Commerce

### Public Outreach

Public outreach was conducted in accordance with the SVATS MPO Public Participation Plan. The first public outreach session was conducted at Strawberry Days in Grove City on June 11, 2016 where the project team hosted a booth with information about the LRTP and handed out postcards for a 10-question online survey. The online survey solicited specific information about transportation problem areas and potential projects. To facilitate public involvement, press releases were sent to the local newspaper and through email lists; PennDOT provided a changeable message board that was placed at the following locations throughout the county advertising the travel survey:

- Sharon, East State Street Near Case Avenue Junior Senior High School (5/23-5/29/16)
- Hermitage, SR 18 NB before Longview (5/31-6/5/16)
- Greenville, Main Street on the east side of Greenville Borough (6/6-6/10/16)


*Public Survey Advertised Through Changeable Message Boards in Sharon*

*Public Outreach at Strawberry Days in Grove City*

The second round of public engagement occurred after the draft plan was developed. The draft LRTP was released to the public for a 30-day public comment period starting on October 11, 2016 and ending November 11, 2016 to gather feedback on the report and draft project listings. A public meeting was held at the Mercer County Regional Planning Commission (MCRPC) office on October 19, 2016 as a means for the public to interact with the project team about the plan.

### Mercer County Goals and Objectives

Goals and objectives were developed for Mercer County using input gathered through public, stakeholder, and municipal outreach in combination with federal and state guidelines.

The resounding needs of the public were used to develop the goals of the LRTP. The goals are to improve the quality of life and economic vitality of Mercer County by maintaining the quality of existing infrastructure and investing in targeted multimodal improvements for safety and accessibility. The objectives of the plan are as follows:

**Mercer County LRTP Objectives**

**Enhance Economic Vitality**

- Improve access to local, regional, and national markets
- Provide transportation mobility choices for regional travel
- Ensure travel time reliability
- Increase and support tourism
- Encourage vibrant towns

**Improve Quality of Life**

- Improve safety and security for motorized and non-motorized modes
- Improve transportation mobility choices
- Provide access to natural resources
- Promote environmental stewardship
- Provide and enhance recreational opportunities

**Pursue System Preservation and Enhancements**

- Pursue proper stormwater management & interagency communication
- Enhance pavement quality
- Prioritize bridge maintenance
- Emphasize project delivery and intergovernmental cooperation

# MERCER COUNTY PEOPLE AND PLACES

## Location

Mercer County is located in the northwestern quadrant of Pennsylvania ***(Exhibit 4)***, and is bounded by Ohio to the west, Crawford County to the north, Venango County to the east, Butler County to the southeast, and Lawrence County to the south. Mercer County is part of the Youngstown, OH-PA Urbanized Area (UZA). As such, the County agencies may be subject to regulations as part of the urbanized area and may be eligible for funding that applies to urbanized areas.

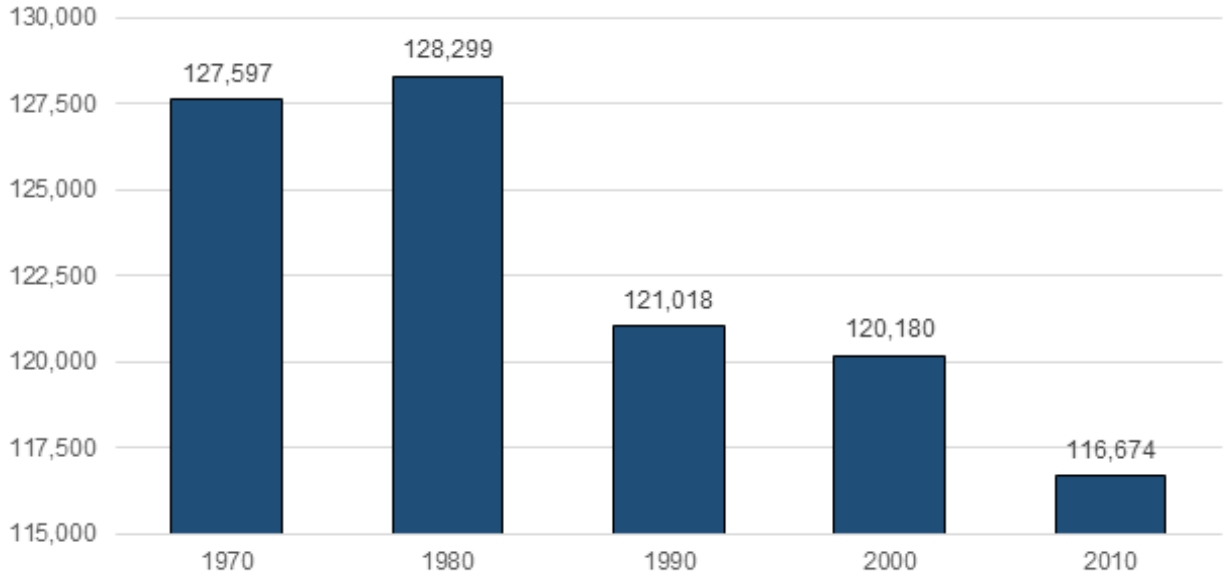
Mercer County's connections to Interstates I-376, I-79, and I-80 provide access to major markets such as Pittsburgh and Erie, PA and Cleveland and Canton, OH within a 2 hour drive. This proximity to major economic and cultural centers improves the quality of life for residents while making Mercer County competitive in the regional and national marketplace.

## Population

Mercer County's population was 116,674 as of the 2010 Census. Using decennial Census population estimates, the long-term population trend for Mercer County since the 1980's has been one of an aging population consistently decreasing ***(Exhibit 5)***.

## Exhibit 4 - Location Map

**Exhibit 5 - Mercer County Population Trends**

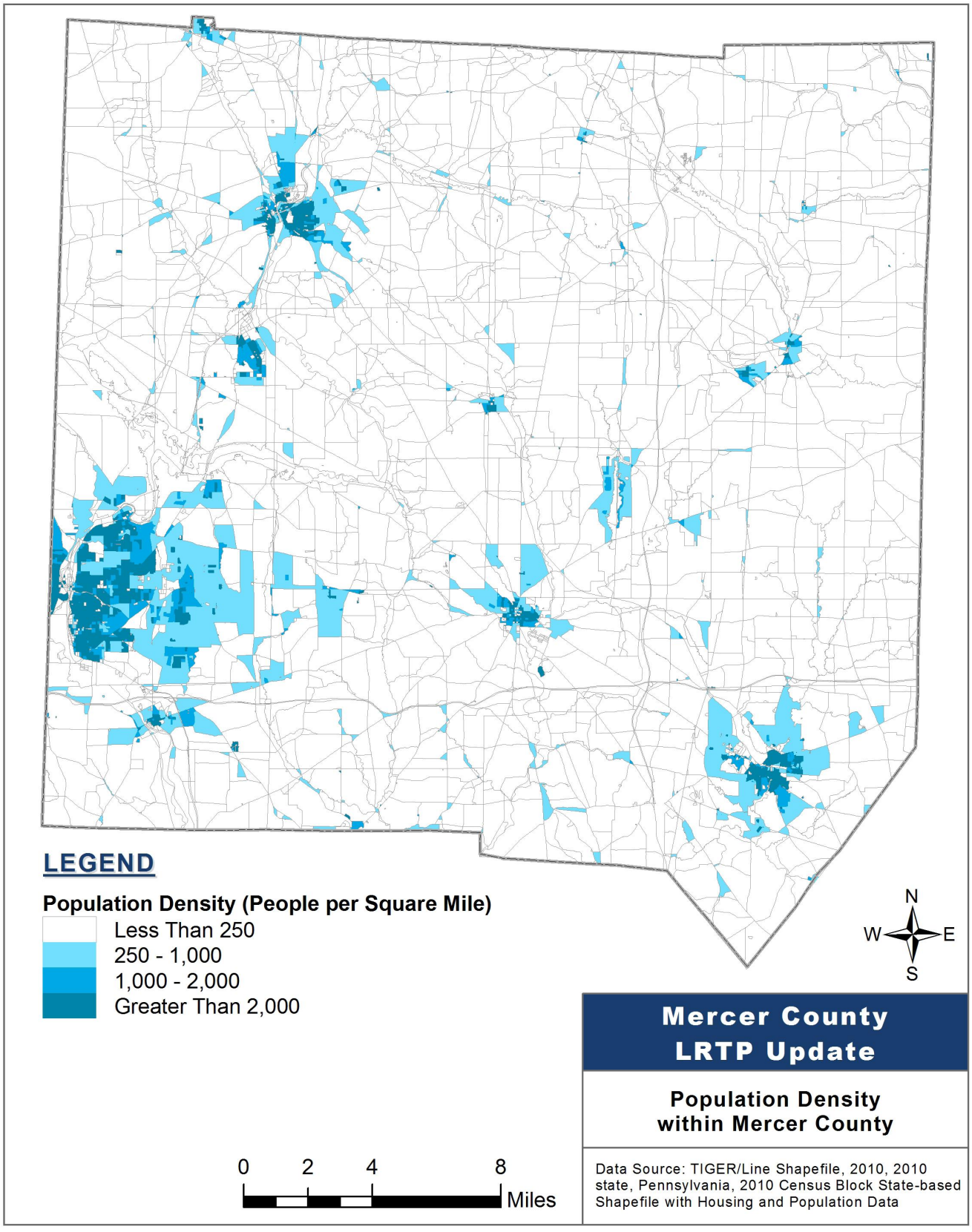



*Source: US Census Bureau*

Many sources such as Census data and American Community Survey (ACS) have shown the historic population in Mercer County as stagnant or declining. It should be noted that demographic and employment forecasts are subject to many external factors and reality may be different by the time the forecast year comes. The Pennsylvania Statewide Travel Demand Model demographic forecasts were also examined for their insight on future population and employment levels. According to the forecasts, population is anticipated to remain steady through 2040. Generally, this database shows that employment could grow by 16% between 2012 and the year 2040. It should be noted that demographic assumptions for travel demand models are typically conservative and assume some growth for population and employment to ensure planning activities cover a reasonably likely congested traffic scenario and to understand where congestion may occur in the future. Given that the travel demand model shows an insignificant increase in population and the historic downward trend, without significant change the steady decline of population is expected to continue into the future.

Given Mercer County's proximity to the Youngstown urbanized area, the economy of Mercer County is closely tied to the neighboring counties in Ohio. For example, approximately one-third of Mercer County residents work in Ohio according to the American Community Survey Journey to Work (ACS JTW) dataset. Regional centers for population density include Greenville, Sharon, Farrell, Hermitage, Mercer, Sandy Lake, Stoneboro, and Grove City ***(Exhibit 6)***.

## Exhibit 6 - Population Density within Mercer County



**Environmental Justice**

An essential part of the planning is to ensure access to the planning process for Environmental Justice (EJ) communities. To this end, a plan must consider and not adversely impact any economically marginalized groups. EJ populations may include minority groups, people living in poverty, single parents, and households with no access to private vehicles.

According to the US Census Bureau The median household income in Mercer County is $43,715 (in 2014 dollars), and the per capita income from 2010-2014 was $23,195. The average household size is 2.35 persons. The Federal poverty guidelines for a household size of 2 and 3 are between $16,020 and $20,160 yearly incomes, respectively. The median resident of Mercer County is slightly above the federal poverty line, though there may be trade-offs in the cost of living in Mercer County compared to other metropolitan areas. According to the US Department of State's cost of living comparisons, Mercer County's overall cost of living is 83% of the nationwide average cost of living.

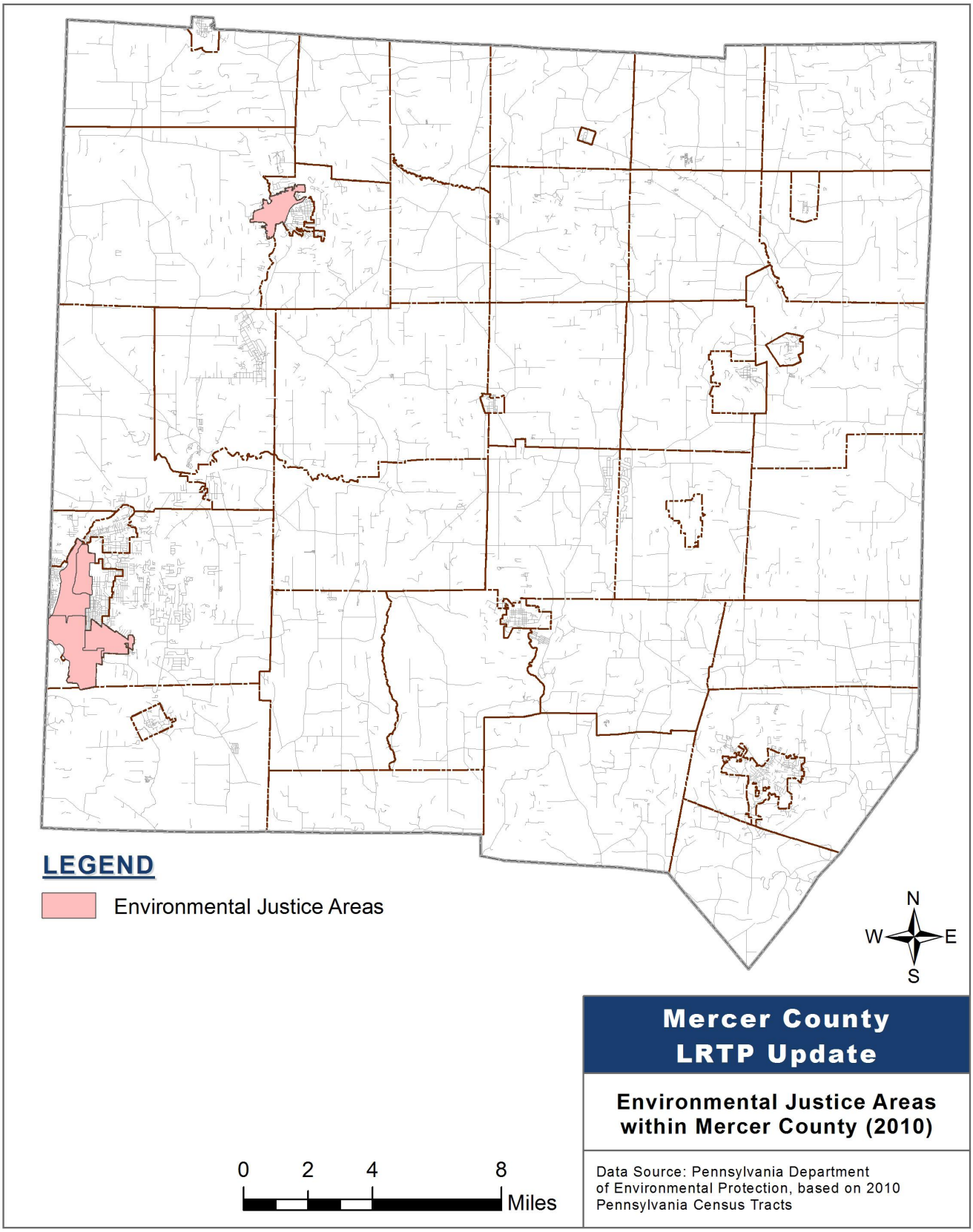
From the 2010 Census, the racial composition of Mercer County is as follows: White alone at 91.6%, Black or African American alone at 5.8%, Two or More Races at 1.5%, and Hispanic or Latino at 1.1%. Mercer County has a diverse minority population and a median average income near the poverty line, which reinforce the importance of considering how this LRTP would impact environmental justice (EJ) populations.

There are five census tracts which meet the Pennsylvania Department of Environmental Protection (PADEP) definition for Environmental Justice Areas by having a poverty rate of 20% or greater or a non-white population of 30% or greater according to the 2010 Census ***(Exhibit 7)***.

The Mercer County Community Action Partnership was interviewed as a stakeholder during the listening tour to determine specific concerns for EJ populations, as well as projects and policies that could improve the quality of life for EJ populations. The primary concerns identified were access to transit, expanded service to get workers to jobs in local and regional locations such as the Youngstown Call Center, and flexible scheduling that would help shift workers maintain their employment.

Many projects and policies that came as a result of this LRTP seek to improve safety and accessibility through sidewalk and pedestrian safety improvements, non-motorized trails, and bike lanes to provide mobility options for residents without private vehicles to access schools, workplaces, and grocery stores. The prioritization scheme used in highway project ranking includes an EJ impact criterion. That helps or has a neutral impact on an EJ community will rank higher than one that does not.

## Exhibit 7 - Environmental Justice Populations



Limited English Proficiency (LEP) populations are another sensitive portion of the population that needs to be accounted for in public involvement. The SVATS MPO has a Limited English Proficiency Plan which can be found on the Mercer County Regional Planning Commission website; two main takeaways from the plan are that the majority of non-English languages spoken in Mercer County are "Other Indo-European" and Spanish, the former possibly due to the large population of Amish who speak a derivation of English and German known as Pennsylvania Dutch.

The LEP Plan shows the six municipalities with LEP population estimates from the American Community Survey who speak English "not well" or "not at all" ***(Exhibit 8)***. The City of Sharon has the highest population of limited proficiency speakers by number, which could be expected due to Sharon's relatively high population density and diversity when compared to the rest of the county. The highest percentages of LEP population out of total population can be found in Wilmington Township and Lake Township, which may be influenced by the density of the Amish population in these municipalities. To ensure that LEP populations were included in the planning process, all meeting advertisements include direct notice of translation services that are available. The translation services can be made available through PennDOT's telephonic translation services to any person who requests translation given adequate notice, which is two days for meetings.

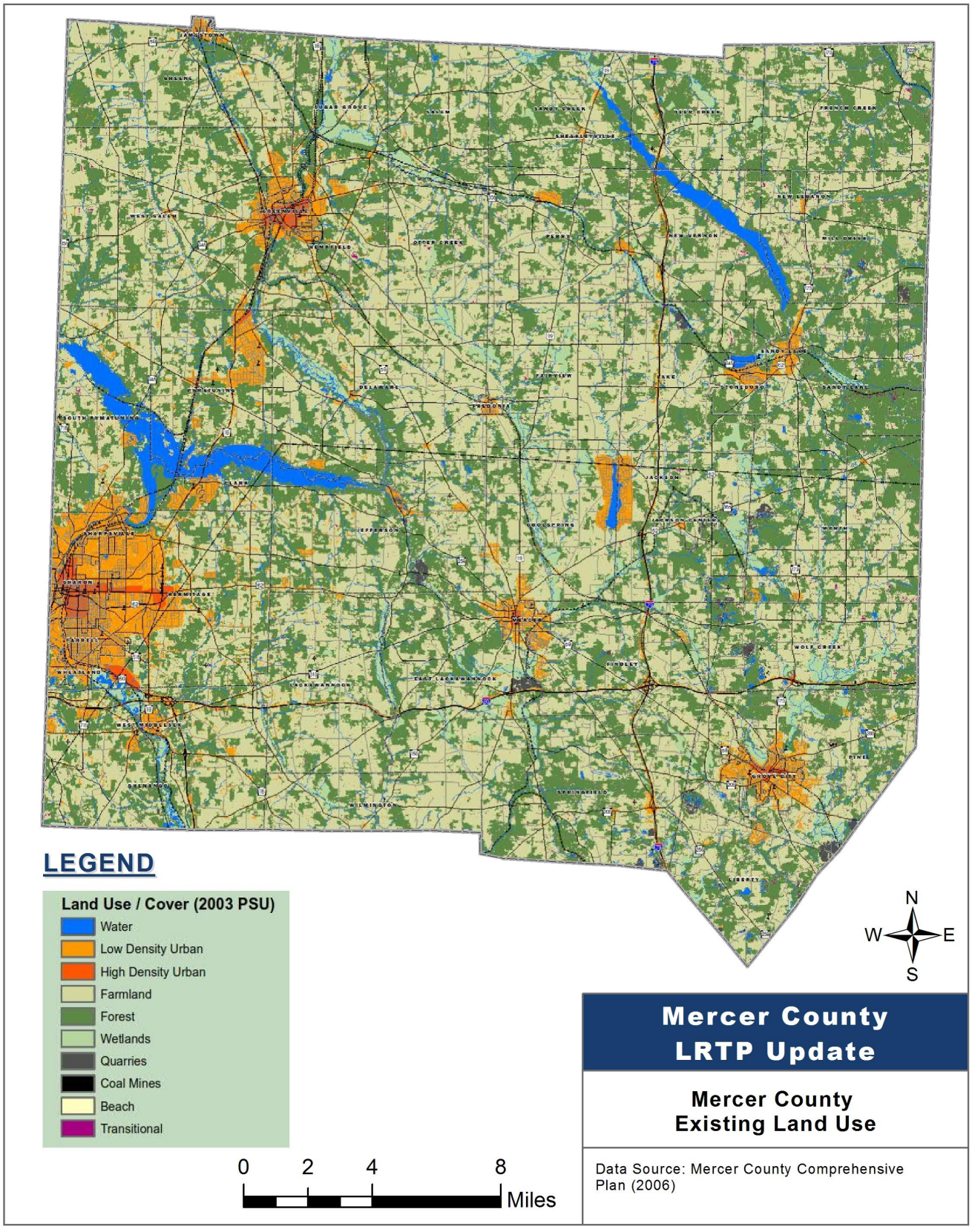
**Exhibit 8 - Limited English Proficiency Populations**

| Municipality | Population that speaks English "not well" or "not at all" | 2010 Total Population | Percentage LEP per capita |
|---|---|---|---|
| City of Sharon | 264 | 14,038 | 1.88% |
| Wilmington Township | 225 | 1,415 | 15.9% |
| Lake Township | 167 | 780 | 21.4% |
| City of Hermitage | 113 | 16,220 | 0.70% |
| E. Lackawannock Township | 105 | 1,682 | 6.24% |
| Fairview Township | 103 | 1,085 | 9.49% |

### Land Use

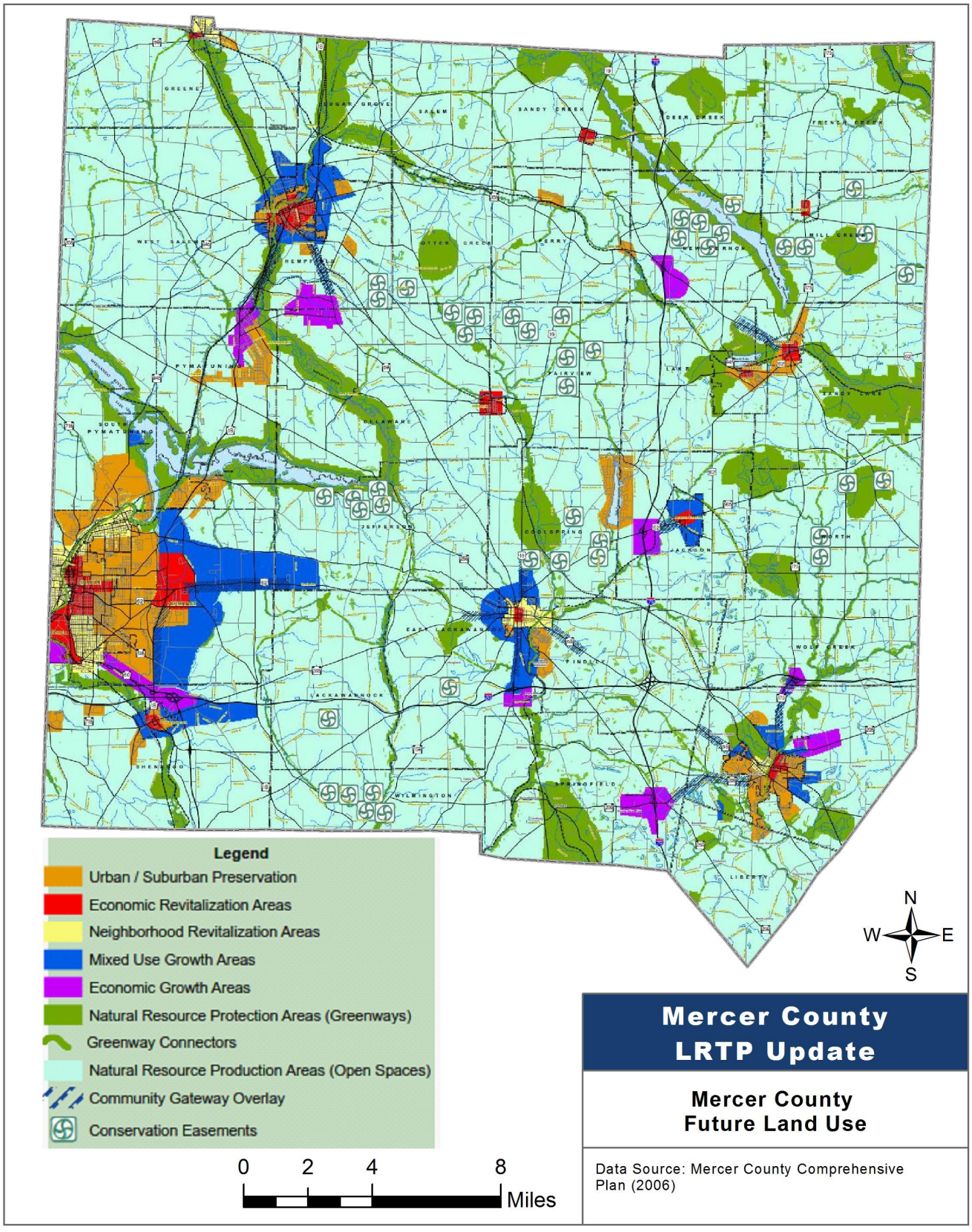
The existing land use for Mercer County includes widely distributed urbanized areas along with farmland, open spaces, and floodplains. The Shenango River and Reservoir and Lake Wilhelm are significant water features with State Parks and community parks nearby ***Exhibit 9***. The future land use for Mercer County includes targeted mixed-use growth areas adjacent to existing urbanized areas, space reserved for greenways and open space, and targeted industrial and manufacturing economic growth areas ***(Exhibit 10)***.

## Exhibit 9 - Existing Land Use




*Source: Mercer County Comprehensive Plan, 2006*

## Exhibit 10 - Future Land Use




*Source: Mercer County Comprehensive Plan, 2006*

### Tourism

Tourism is one of the two new Federal planning factors introduced by the FAST Act. To address this, the LRTP recommends policies and infrastructure improvements that will promote tourism and regional travel to Mercer County, including adding "reasons to stay a second day" and improving connectivity between destinations. Mercer County is home to a number of higher education, tourism, and recreational destinations that draw visitors to the area and improve the quality of life for residents ***(Exhibit 11)***.

**Higher Education** - Mercer County's major higher education opportunities include but are not limited to Grove City College, Thiel College, Penn State Shenango, Laurel Technical Institute, and the Sharon Regional Health System School of Nursing. Higher education facilities may attract out of town travelers as they frequently host expert speakers, sports events, and other cultural events which may result in tourists looking for local activities to fill out their weekend.

**Tourism and Recreational Opportunities** - Mercer County boasts many natural, historical, cultural, and man-made recreational opportunities. Based on the public survey, the top major tourist destinations in and near Mercer County are:

1. Buhl Park – historic community park with Lake Julia, trails, picnic facilities and nearby golf course in Hermitage
2. Deer Park – deer petting zoo with a menagerie of exotic animals in Jamestown near the southern point of Lake Pymatuning
3. Grove City Premium Outlets – name brand retail shopping outlets near I-79
4. Kraynak's Garden Center – traditional family-oriented destination with events such as Christmasland and Easter Bunny Lane in Hermitage
5. Lake Erie – one of the Great Lakes in Erie, PA with fishing, boating, and beach amenities within 1.5 hours' drive via I-79
6. Lake Wilhelm – scenic lake with boating opportunities, part of Maurice K. Goddard State Park
7. Maurice K. Goddard State Park – state park with trails and picnic facilities encompassing Lake Wilhelm
8. New Wilmington – Amish village near Mercer County
9. Sharon Destinations – home to many regional retail tourist attractions including the Original Quaker Steak and Lube restaurant, Daffin's Chocolate Kingdom, The Winner dress boutique, and Reyer's Shoe Store
10. Pymatuning State Park – Lake Pymatuning in Crawford County, north of Mercer County
11. Sandy Lake – lake with boating and fishing opportunities in Stoneboro Borough and Lake Township
12. Shenango River – river through the County including the Shenango Reservoir, providing river floating, kayaking, and bird watching opportunities
13. Volant Village Shops – handcrafted and Amish goods for sale at small local businesses

Other important draws to Mercer County include at least 10 golf courses, 15 historical museums and landmarks, and campgrounds throughout the county. In the following chapter, ***Exhibit 25*** shows official trails in Mercer County which provide both transportation and a recreational destination.

*Lake Julia at Buhl Park*
*Source: Community Foundation, 2014*

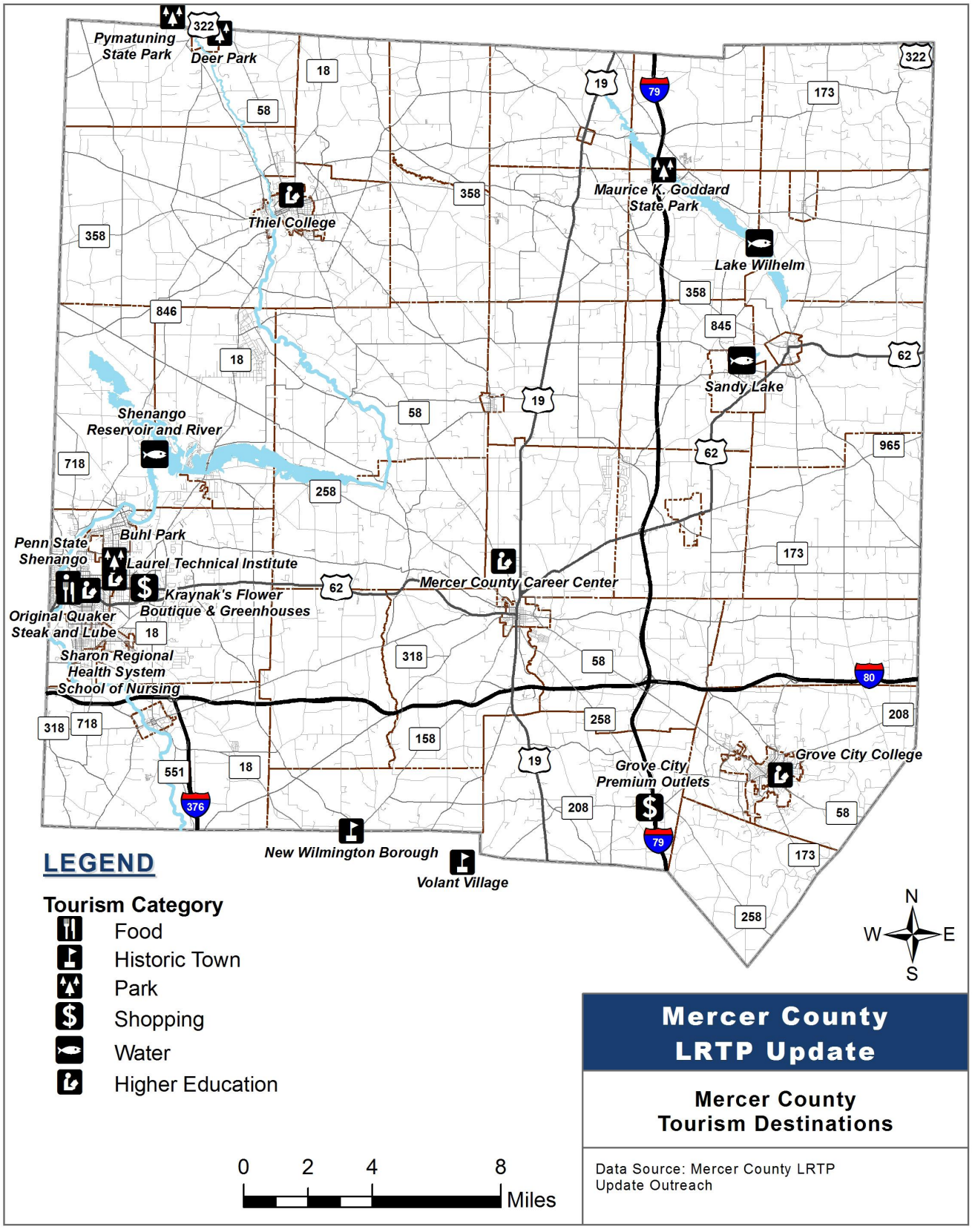
*Kidds Mill Road Historic Covered Bridge*


*Thiel College in Greenville*



*The Upper Shenango River Water Trail*
*Source: Shenango River Watchers, Mercer Tourism Bureau*

## Exhibit 11 - Regional Tourism Generators



# TRANSPORTATION SYSTEM

Mercer County's multimodal transportation system includes interconnected automobile, truck and rail freight, transit, aviation, bicycle, pedestrian, and stormwater infrastructure. The following sections detail the existing infrastructure.

### Automobile

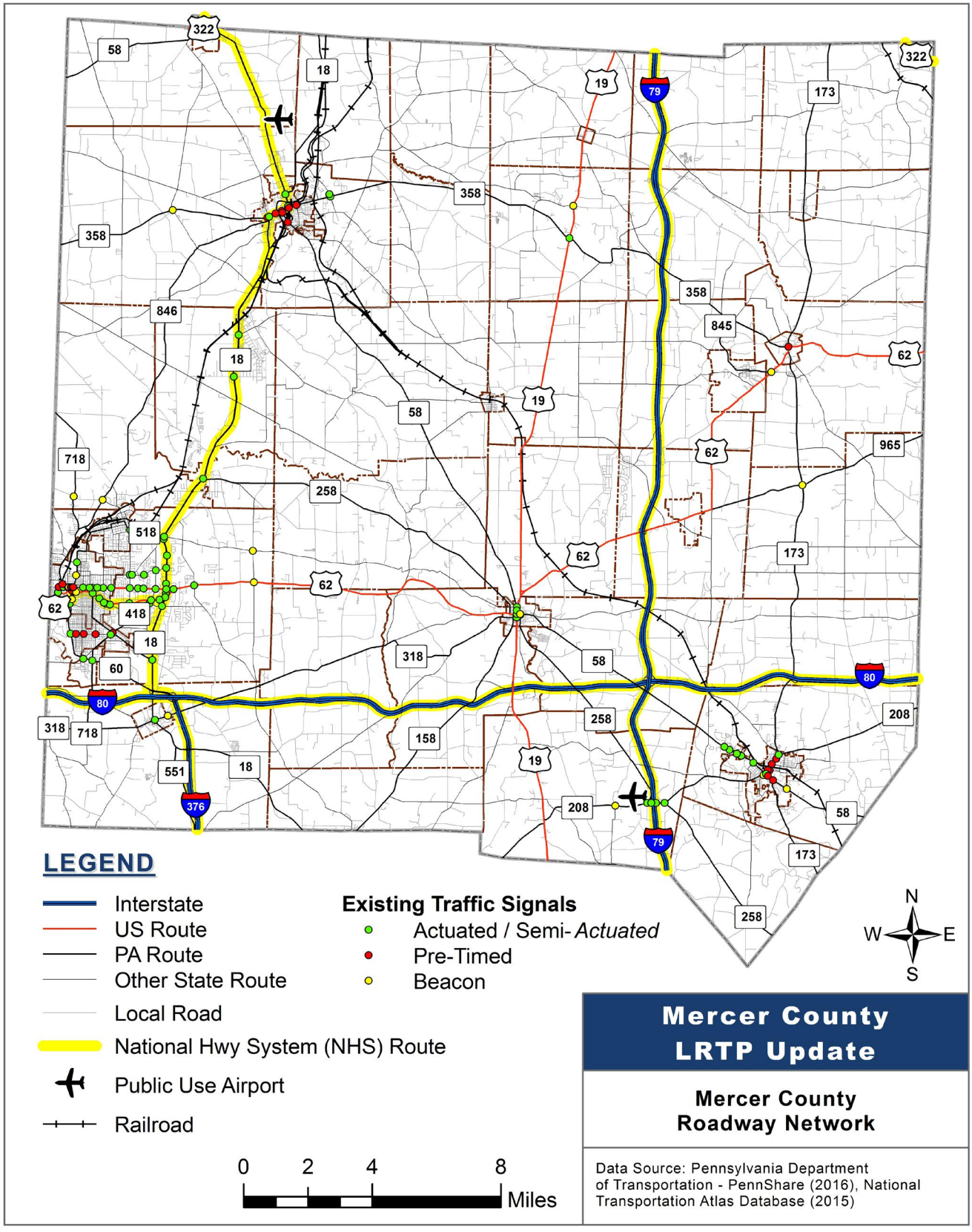
The roadway network in Mercer County consists of the interstates I-80 and I-79, running primarily east-west and north-south, respectively, and interstate I-376 that begins in Mercer County and runs south towards Pittsburgh, PA. Mercer County is unique in its proximity to interstates, as well as various National Highway System (NHS) routes such as US 62, SR 58, and SR 18 ***(Exhibit 13)***. NHS routes are important strategic infrastructure as they are a network of highways that serve major airports, ports, rail or truck terminals, railway stations, pipeline terminals, and other strategic transport facilities; as such, these routes often qualify for special funding sources.

Based on the latest 2016 Average Daily Traffic volumes (ADT) from PennDOT's MPMS IQ system database, the most frequently traveled roadway segments are along I-80, I-79, SR 18, I-376, US 62, SR 3008, SR 358, SR 58, SR 518, and SR 3025. The ADT shown in the table is sorted from highest volume to lowest volume, with the Segment ADT showing the maximum segment volume for each given roadway ***(Exhibit 12)***. As many of these roads vary in traffic volume from one side of the county to the other, the municipality where the maximum ADT segment is located is identified for clarity. The divided highway volumes, such as those along the interstates, were summed together to get the total daily volume on the segment in both directions ***(Exhibit 14)***.

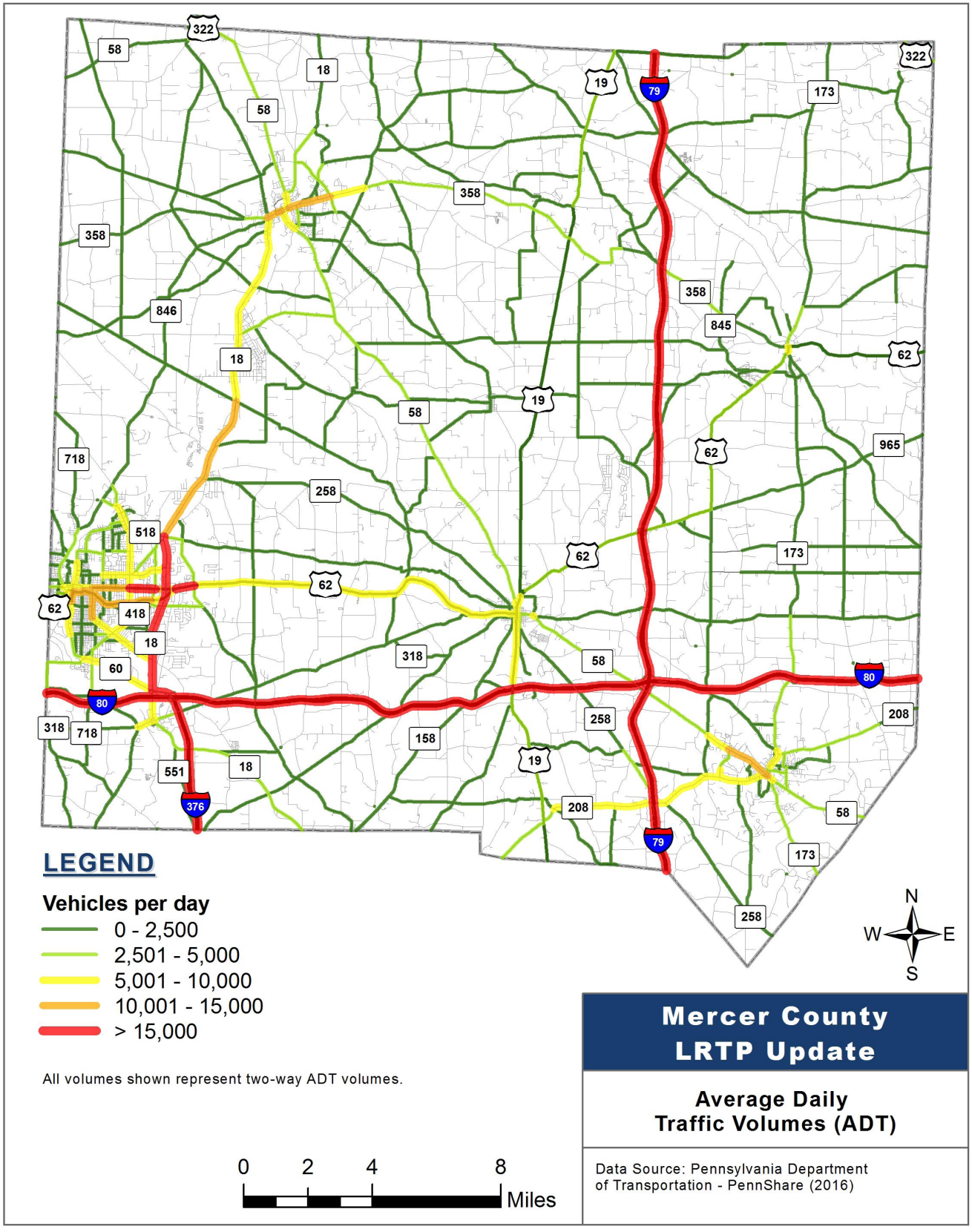
**Exhibit 12 - Highest Traffic Volume Roadways in Mercer County**

| Roadway Name | Municipality | Segment ADT |
|---|---|---|
| I-80 | Findley Township | 31,502 |
| I-79 | Springfield Township, Findley Township | 30,836 |
| SR 18 | City of Hermitage | 20,560 |
| I-376 | Shenango Township | 17,352 |
| US 62 | City of Hermitage | 15,842 |
| SR 3008 / E State Street | Hermitage | 15,534 |
| SR 358 | Hempfield Township | 13,544 |
| SR 58 | Grove City | 12,764 |
| SR 518 | City of Sharon | 10,002 |
| SR 3025 / N Buhl Farm Drive | City of Hermitage | 9,554 |

## Exhibit 13 - Mercer County Roadway Network



## Exhibit 14 - Average Daily Traffic Volumes (ADT)



### Pavement and Bridge Quality

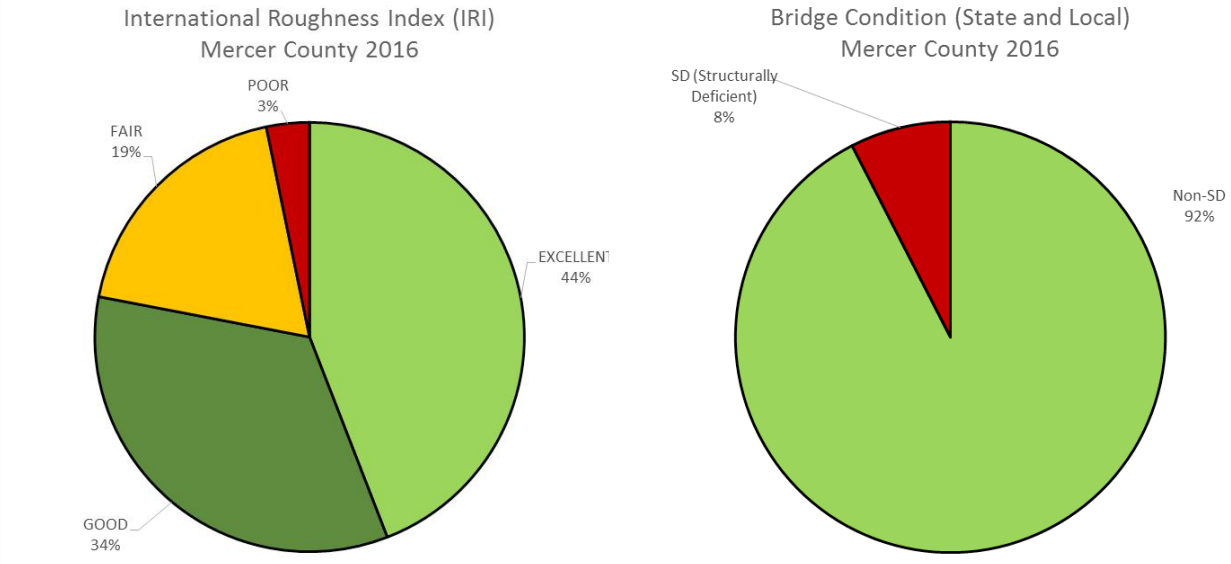
A key index of roadway quality is the International Roughness Index (IRI); the index is an annual inventory of pavement quality conducted by PennDOT using specialized equipment that quantifies pavement smoothness. IRI is an expression of the ride quality of the roadway as experienced by vehicle passengers ***(Exhibit 16)***.

PennDOT also inventories functionally obsolete (FO) and structurally deficient (SD) bridges so they can be prioritized for repair and replacement ***(Exhibit 17)***. Interviews were held with the PennDOT District 1-0 Bridge Engineer and Mercer County Bridge Engineer to identify bridge priorities for the transportation system. According to PennDOT's Annual Report Card for 2016, there are 423 total state-owned bridges in Mercer County and 173 locally-owned bridges. Over 92% of them are in good structural condition ***(Exhibit 15)***.

PennDOT District 1-0 and Mercer County take pride in their innovative approaches to maintaining their extensive system of roadways and bridges, from pioneering the Recycled Asphalt Pavement process to maintain pavement surfaces on state highways, to its precast bridge program that facilitates rapid bridge replacement. Based on PennDOT's annual Report Card, District 1-0 and Mercer County far exceed statewide averages for these performance metrics. District 1-0 is ranked #1 in the state in pavement quality (IRI) for 13 of the past 16 years and is ranked #2 for the lowest number of state-owned SD bridges out of all 11 PennDOT districts.

Mercer County's performance metrics are even better than its district averages. When it comes to pavement quality, a lower IRI is better. The state average for IRI is 144, while PennDOT District 1-0 is 131, and Mercer County has an IRI of 107 (38 for Interstates). The structurally deficient bridge rate for Mercer County state-owned bridges is 7.6%, while District 1-0 is 9.1%, and the state average is 14.9%.

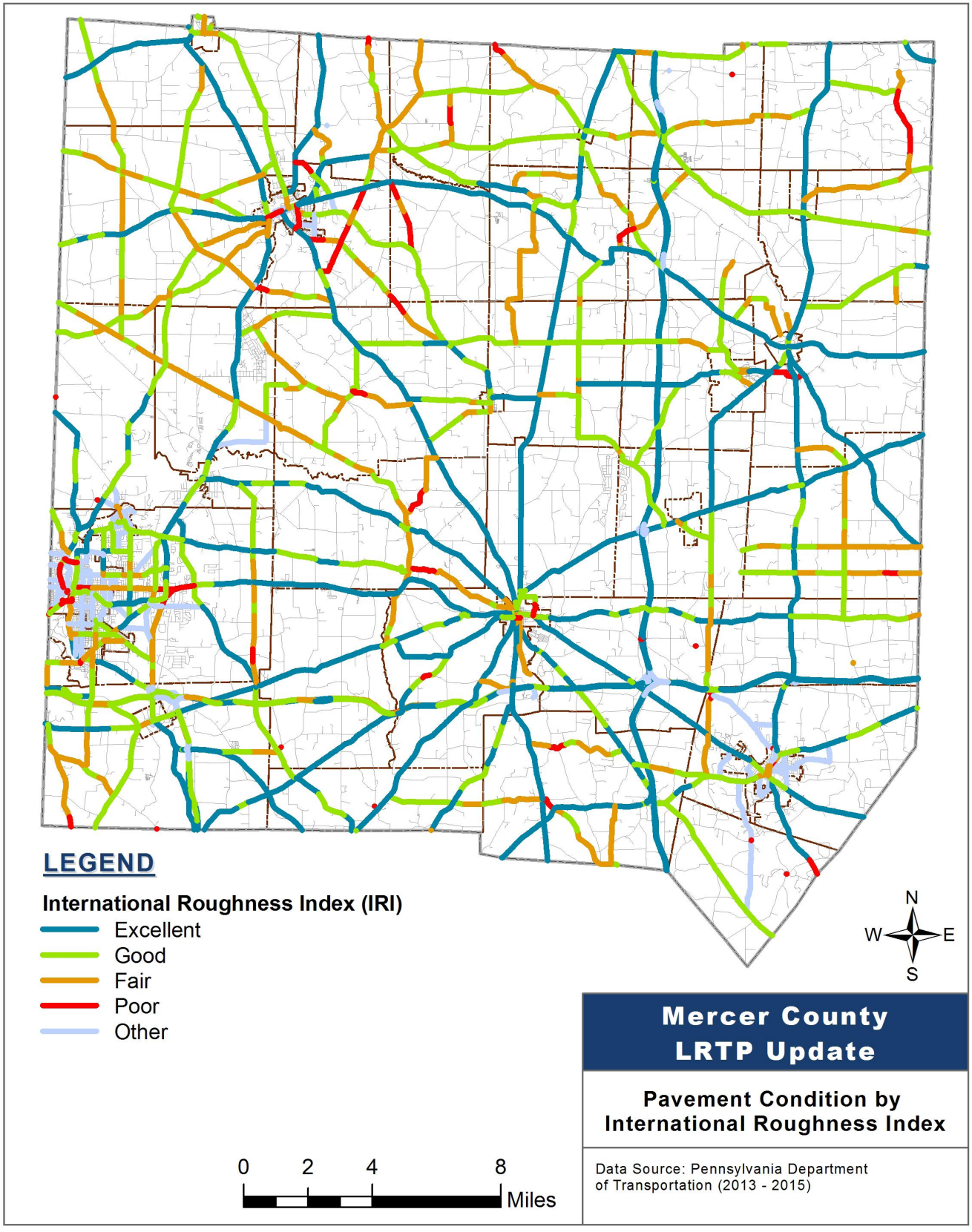
**Exhibit 15 - Pavement & Bridge Quality**



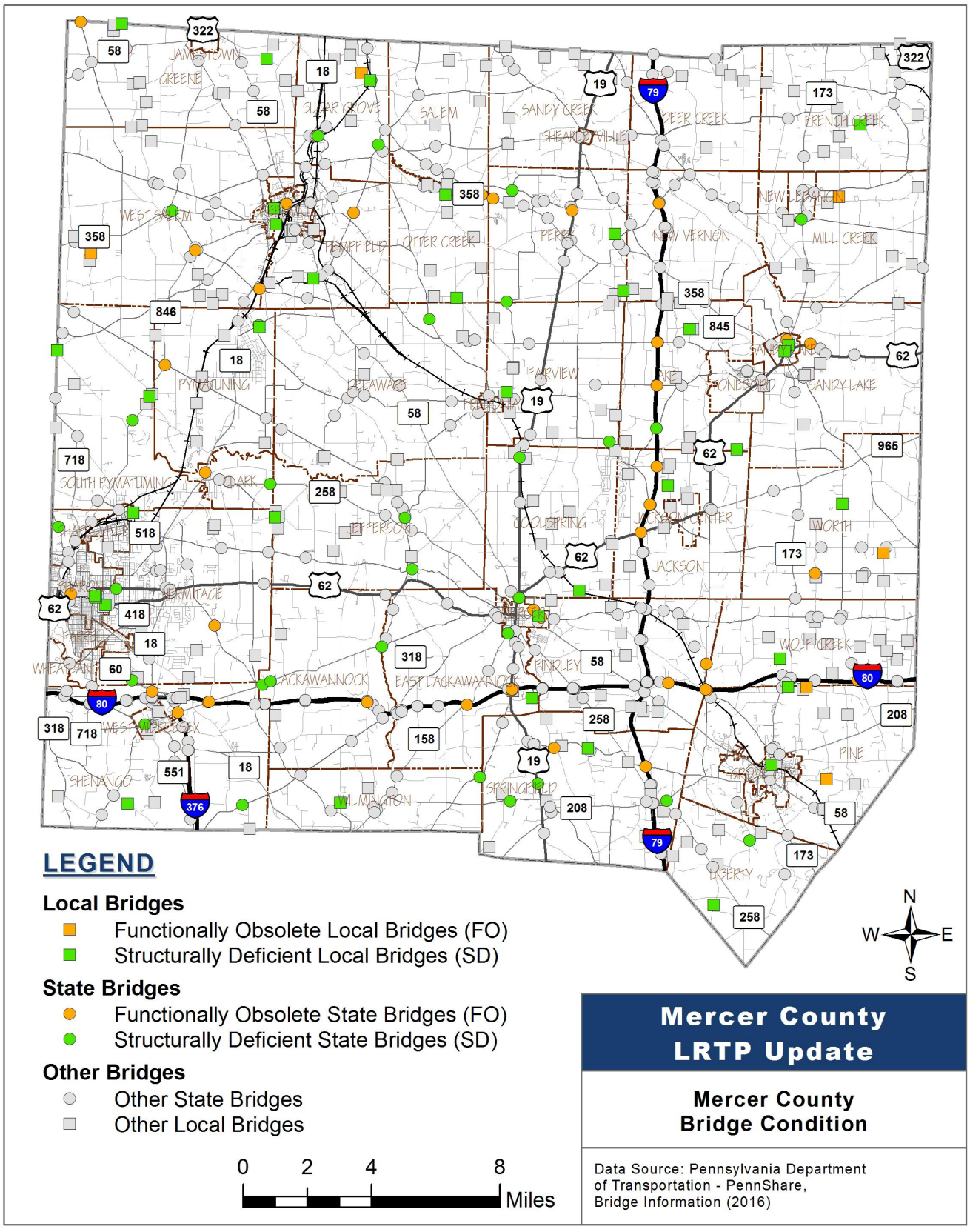
*Freshly repaved section of northbound US 18 near the I-80 Interchange*

*Truss bridge carrying Sixth Street / High Street over the Shenango River in Sharpsville*

## Exhibit 16 - Mercer County Pavement Condition by International Roughness Index (IRI)



## Exhibit 17 - Mercer County Bridge Condition



### Freight

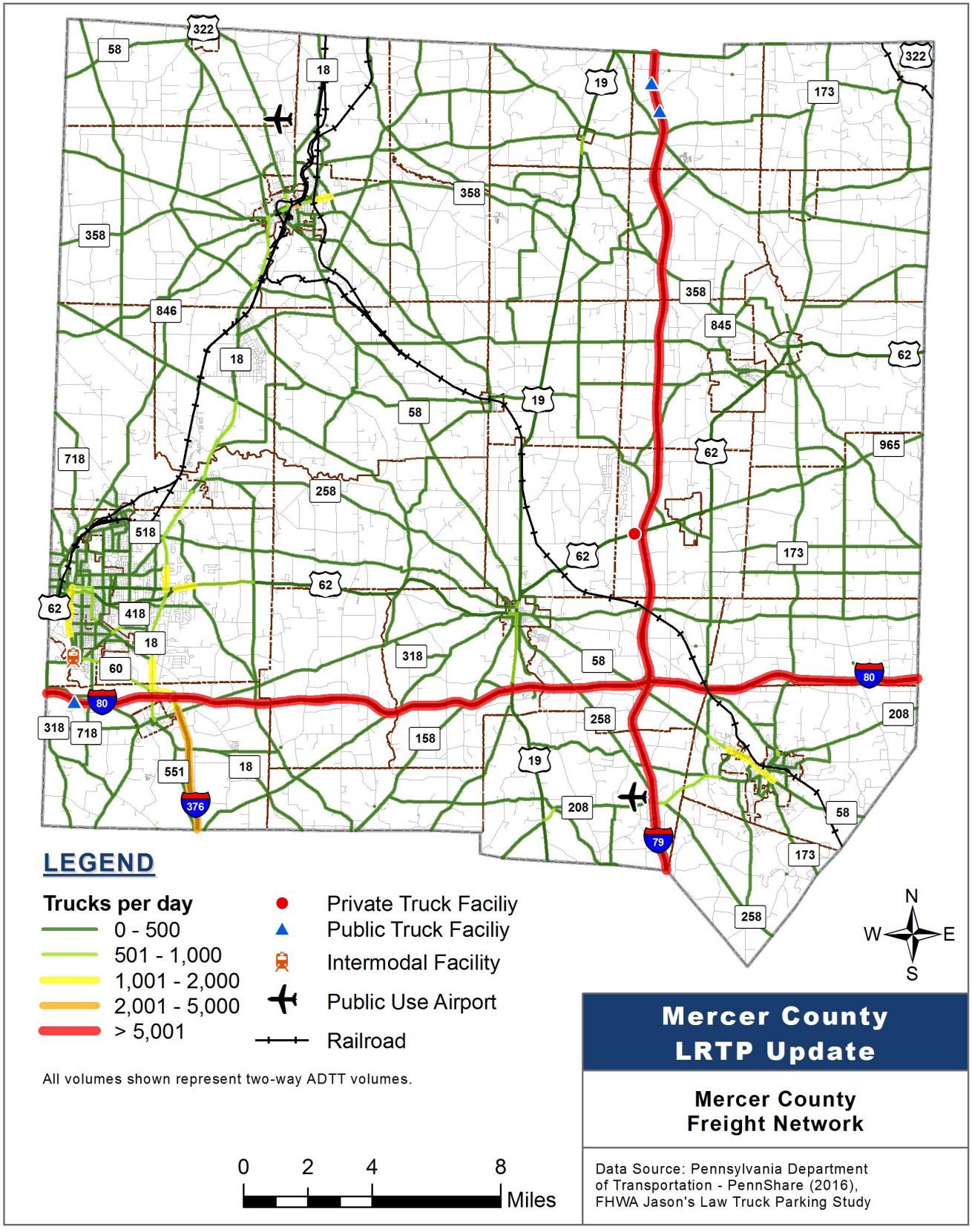
Personal and freight mobility and economic competitiveness are two Federal planning factors that can influence the economy in Mercer County. Mercer County is within a few hours' drive of major metropolitan areas including Youngstown, Pittsburgh, Cleveland, Erie, and Buffalo. The proximity to regional population centers provides Mercer County with a large potential market for goods and services. Mercer County has been actively marketing its industrial capacity as large industrial sites are re-purposed and developed. Canadian National / Bessemer & Lake Erie Railroad and Norfolk Southern have active rail lines in Mercer County. Proximity to rail infrastructure and interstate access broadens the county's access to regional and national markets. Mercer County's freight system was inventoried as part of the LRTP ***(Exhibit 18)***.

The majority of freight in Mercer County is transported by truck, though many cities and boroughs are still tied directly in to the railroad system, as most of the settlement in the county developed around significant rail access and rail support industries. The cities of Sharon and Farrell have a major rail yard and industrial corridor surrounding the railroad tracks; other notable rail connections are in Greenville and Grove City, Reynolds Industrial Park, and Wheatland Borough. Significant current and potential industrial areas within the county include:

- Greenville Reynolds Industrial Park in Pymatuning Township
- Joy Cone Facility in City of Hermitage
- Broadway Avenue Industrial Park in City of Hermitage
- General Electric in Pine Township
- Canadian National Railyard in City of Farrell
- Werner Ladder in Sugar Grove Township
- Hodge Foundry in Hempfield Township
- Wendell August Forge in Springfield Township
- Trinity South Plant in Greenville Borough (future development area)
- I-80 Exit 15 (future development area)
- Development of Sharpsville Furnace in Sharpsville (future development area)

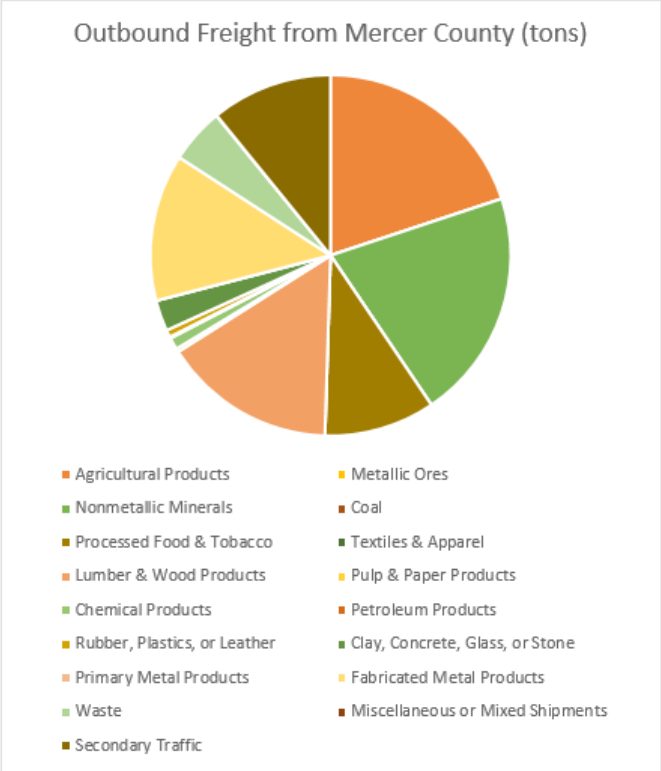

*Greenville Reynolds Industrial Park*

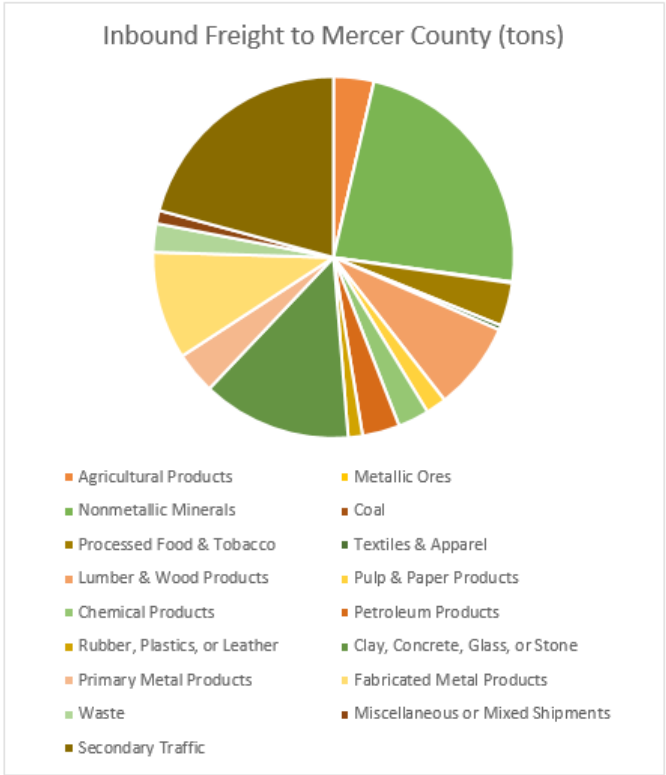
## Exhibit 18 - Mercer County Freight Network



PennDOT's Statewide Commodity Flow Tool was used to analyze the commodities being transported into and out of Mercer County. The top four outbound commodities by tonnage are agricultural products, lumber and wood products, fabricated metal products, and processed food and tobacco. The top four inbound commodities by tonnage include non-metallic minerals, clay, concrete, glass, or stone, fabricated metal products, and lumber and wood products ***(Exhibit 19)***.

**Exhibit 19 - Mercer County Freight Tonnage**

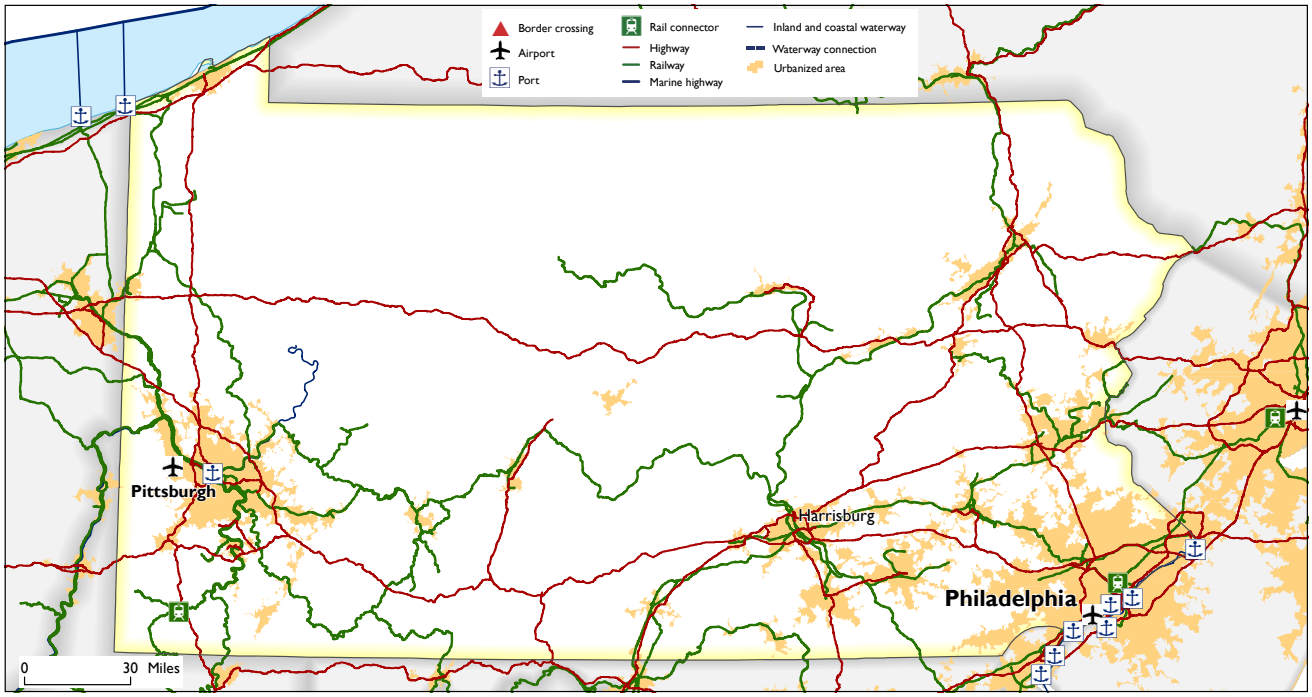



***Source: Pennsylvania Freight Commodity Flow Tool***

The FAST Act has identified a preliminary national multimodal freight network including rail, highway, water, and air infrastructure which is open for public comment as of October 2016 ***(Exhibit 20)***. Mercer County's interstates and rail network are included in this proposed system, including Interstates 79 and 80, as well as Canadian National / Bessemer & Lake Erie and Norfolk Southern railroads. This network is separate from the National Highway Freight Network. Transportation components of this network are eligible for National Highway Freight Program (NHFP) funding. In addition to the national freight network, in the future PennDOT will be determining the Critical Urban Freight Corridors (CUFCs) and Critical Rural Freight Corridors (CRFCs) network in consultation with the MPOs which will also be eligible for NHFP funding.

## Exhibit 20 - Pennsylvania Interim Multimodal Freight Network




Note: For information on methodology used for feature selection in this map, please see U. S. Department of Transportation, Establishment of Interim National Multimodal Freight Network, Docket Number: DOT-OST-2016-0053.

*Source: US Department of Transportation, Multimodal Freight Network Map*


*Left: Norfolk Southern Rail at Reynolds; Right: Freight traffic on Interstate 80*

## Transit

Transit services address personal mobility by providing transit choices and mobility for people who do not have access to personal motor vehicles. Mercer County is served by two transit agencies, the fixed-route Shenango Valley Shuttle Service and the door-to-door shuttle pick-up service Mercer County Community Transit.

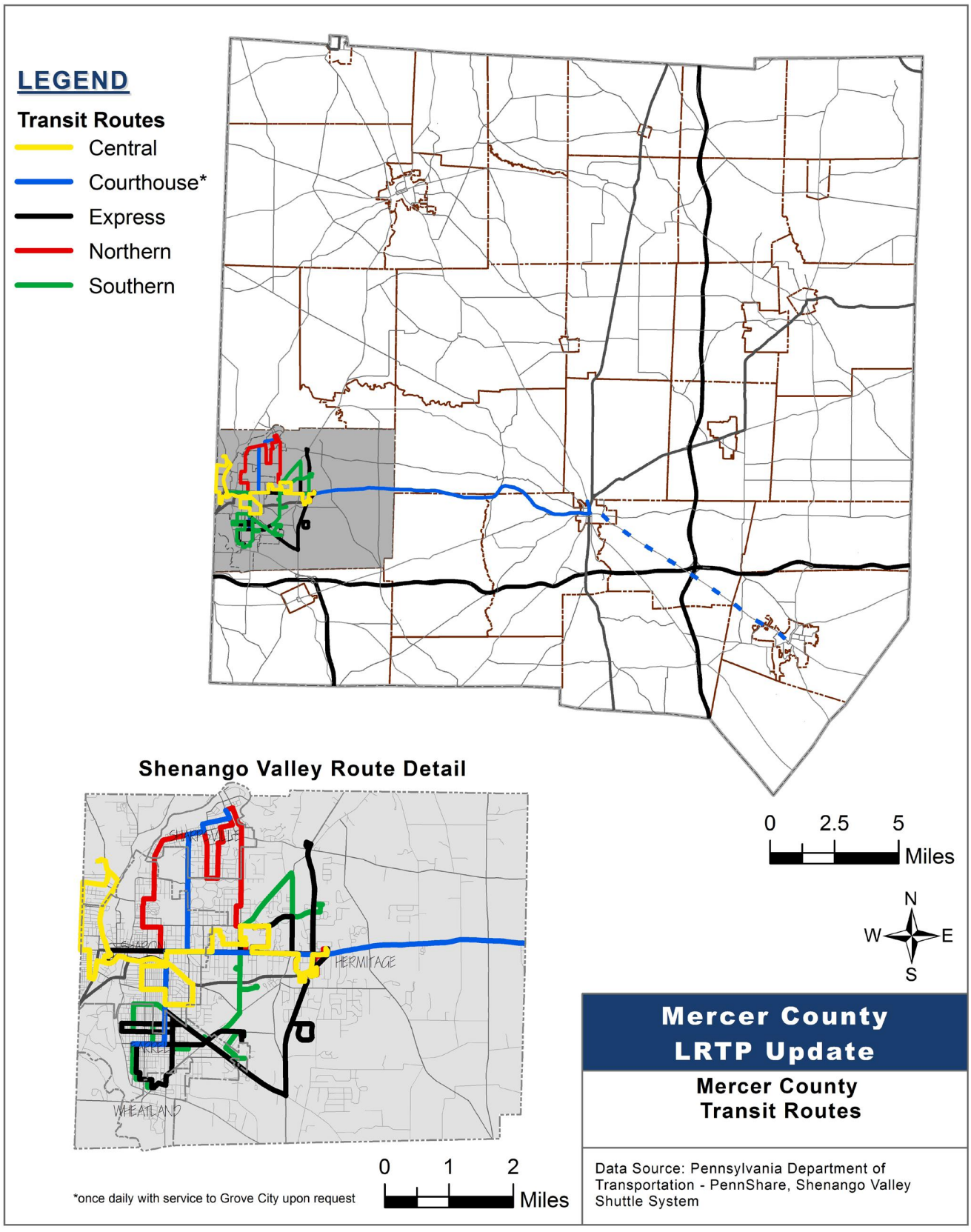
### Shenango Valley Shuttle Service (SVSS)

The Shenango Valley Shuttle Service (SVSS) is a fixed route bus service that serves Farrell, Hermitage, Sharon, Sharpsville, and Wheatland with four fixed routes and one flexible courthouse route that runs to the Mercer County Courthouse once daily with optional service to Grove City upon request ***(Exhibit 21)***. SVSS has operated for over 30 years, providing a low cost transportation alternative for Mercer County. A full fare is $1.25 on the Northern, Southern, Central, and Express routes. The courthouse route is $2.00.

- Northern Route (4-5 buses per day) - Service between Downtown Sharon and the Shenango Valley Mall via Sharpsville.
- Southern Route (4-5 buses per day weekdays, 4 Saturday) - Service between Downtown Sharon and the Shenango Valley Mall via Farrell and Wheatland.
- Central Route (4-6 buses per day) - Service between Downtown Sharon and the Shenango Valley Mall along the State Street corridor.
- Express Route (4 buses per day) - Service between Longview Road and WalMart along the Route 18 corridor.
- Courthouse Route (1 bus per day, to and from courthouse outbound in AM, return trip in PM) - Service between the Shenango Valley and the Mercer County Courthouse, further service can be requested by passengers to the Grove City Public Library.

*The Mercer County Courthouse*

## Exhibit 21 - Shenango Valley Shuttle Service Main Transit Lines



### Mercer County Community Transit (MCCT)

Mercer County Community Transit (MCCT) is a door to door advanced registration program that serves all persons of Mercer County. Transit is funded by state and federal grants and the Mercer County Area Agency on Aging, Inc. Discounted service is available to Senior Citizens age 60 or older and qualified disabled residents. Fares are based on type of trip and destination. All shuttles are equipped for paratransit.

Discussions with stakeholders and the public indicated the need for transit services in urban areas, and desired expansion of routes and schedules to regional destinations; for example one of the transit needs from a tourism perspective is connecting the Grove City Outlets to Grove City Borough, the Pittsburgh International Airport, and downtown Pittsburgh.


*Mercer County Community Transit Shuttle*

The Mercer County Coordinated Public Transit – Human Services Transportation Plan is under development during the writing of this LRTP and is anticipated to be completed by early 2017. One note in the transit workshop for the ongoing transit plan was the desire for more evening and weekend hours, as well as long-distance connections to regional amenities such as the Grove City Outlets, manufacturing and call center employers, and airports. The concerns and needs of the EJ population who relies on transit for their social and economic well-being should also be accounted for in any future transit plans. Policy recommendations can be found in later chapters of this plan to address and encourage transit planning to address local concerns.

### Intercity Travel

Intercity travel is an important component of personal mobility and accessibility within a region, as it allows residents access to employment opportunities, as well as cultural and recreational destinations outside their area. Greyhound and Megabus are the major intercity bus lines operating in the region, and Amtrak is the major intercity rail provider in neighboring regions in Pennsylvania and Ohio. According to local knowledge, the buses currently drive through Mercer County, though none of these services can be accessed directly within Mercer County. Stakeholder interviews with the tourism and transit agencies indicated that there had once been an intercity bus stop for Greyhound within the county which was removed in recent years due to lack of amenities for the public. The loss of this intercity bus stop creates a significant barrier to regional accessibility and mobility for the residents of Mercer County.

One of the policy recommendations of this plan is to pursue re-establishment of this intercity bus stop somewhere in Mercer County along an existing bus route that may be on US 19, I-79, or I-80, perhaps in a place where a public-private partnership would be beneficial to both parties, or at a public location with bathroom facilities and seating.

#### *Greyhound Bus Lines*

There are four Greyhound bus stations within an hour drive of Mercer County; the lines have a station at Youngstown, Ohio that offers two routes between Washington DC, Detroit, and Chicago. There are 4 buses a day through this station. The bus stations at New Castle,

Meadville, and Zelienople are on the route from Erie to Pittsburgh, also with 4 buses a day through those stations. All routes below are current as of July 2016, and all distances are reported from Hermitage zip code 16148. The nearest Greyhound bus stations are located in:

- Youngstown, OH (33 miles, 33 minutes)
- New Castle, PA (19 miles, 26 minutes)
- Meadville, PA (33 miles, 36 minutes)
- Zelienople, PA (35 miles, 38 minutes)

### *Megabus*

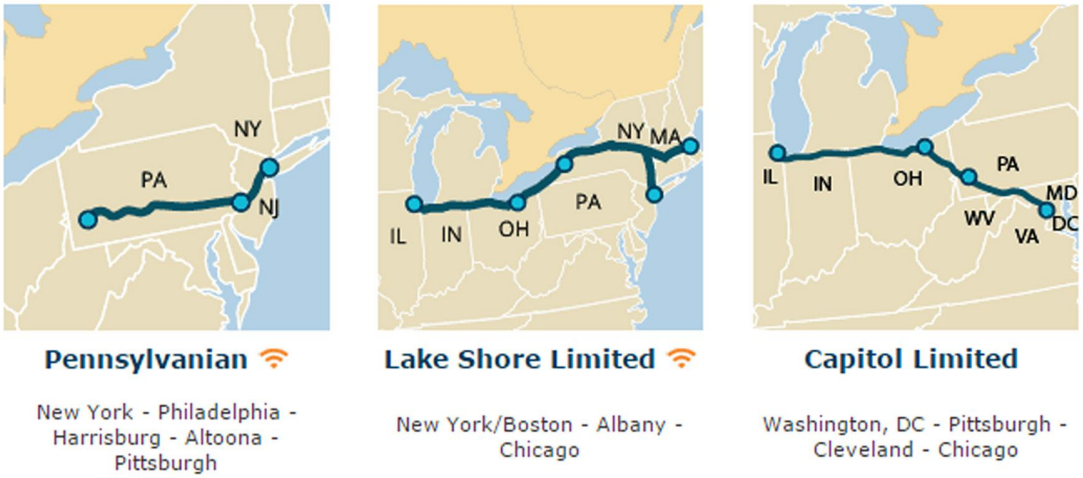
The Megabus station closest to Mercer County in Pennsylvania is located in Pittsburgh (62 miles, 1 hour). Pittsburgh offers direct access to:

- Harrisburg, PA (2 buses a day)
- Morgantown, WV (2 buses a day)
- New York, NY (4 buses a day)
- Philadelphia, PA (2 buses a day)
- State College, PA (6 buses a day)
- Washington, DC (2 buses a day)

### *Amtrak*

Amtrak train routes allow long distance intercity travel between major destinations. There are no Amtrak stations within Mercer County or buses with direct access to Amtrak stations. Within 65 miles of Mercer County there are stations in Alliance, OH, Pittsburgh, PA, and Erie, PA. These offer access to three Amtrak lines: the Pennsylvanian, Lake Shore Limited, and Capitol Limited routes, which provide direct access to Washington DC, Chicago, Philadelphia, Boston, and New York City and connections to other national train routes ***(Exhibit 22)***.

**Exhibit 22 - Amtrak Routes near Mercer County**




*Source: Amtrak Website, 2016*

## Aviation

Aviation facilities are a component of the overall transportation system in Mercer County. There are two public use airports in Mercer County at Greenville and Grove City. There are many private airports, recreational aviation facilities, and medical heliports ***(Exhibit 23)***.

The two public airports are:

- Greenville Municipal Airport (FAA Identifier: 4G1)
- Grove City Airport (FAA Identifier: 29D)

There are many international, domestic, and local airports within 90 minutes of Mercer County. All distances are reported from Hermitage zip code 16148:

### International airports

- 60 miles: Pittsburgh, PA (PIT / KPIT) Pittsburgh International Airport
- 70 miles: Erie, PA (ERI / KERI) Erie International Airport
- 100 miles: Cleveland, OH (CLE / KCLE) Cleveland Hopkins International Airport

### Domestic airports

- 31 miles: Franklin, PA (FKL / KFKL) Venango Regional Airport
- 37 miles: Youngstown, OH (YNG / KYNG) Youngstown-Warren Regional Airport
- 79 miles: Latrobe, PA (LBE / KLBE) Arnold Palmer Regional Airport
- 80 miles: DuBois, PA (DUJ / KDUJ) DuBois Regional Airport
- 84 miles: Akron, OH (CAK / KCAK) Akron-Canton Regional Airport
- 115 miles: Jamestown, NY (JHW / KJHW) Chautauqua County-Jamestown Airport
- 118 miles: Bradford, PA (BFD / KBFD) Bradford Regional Airport

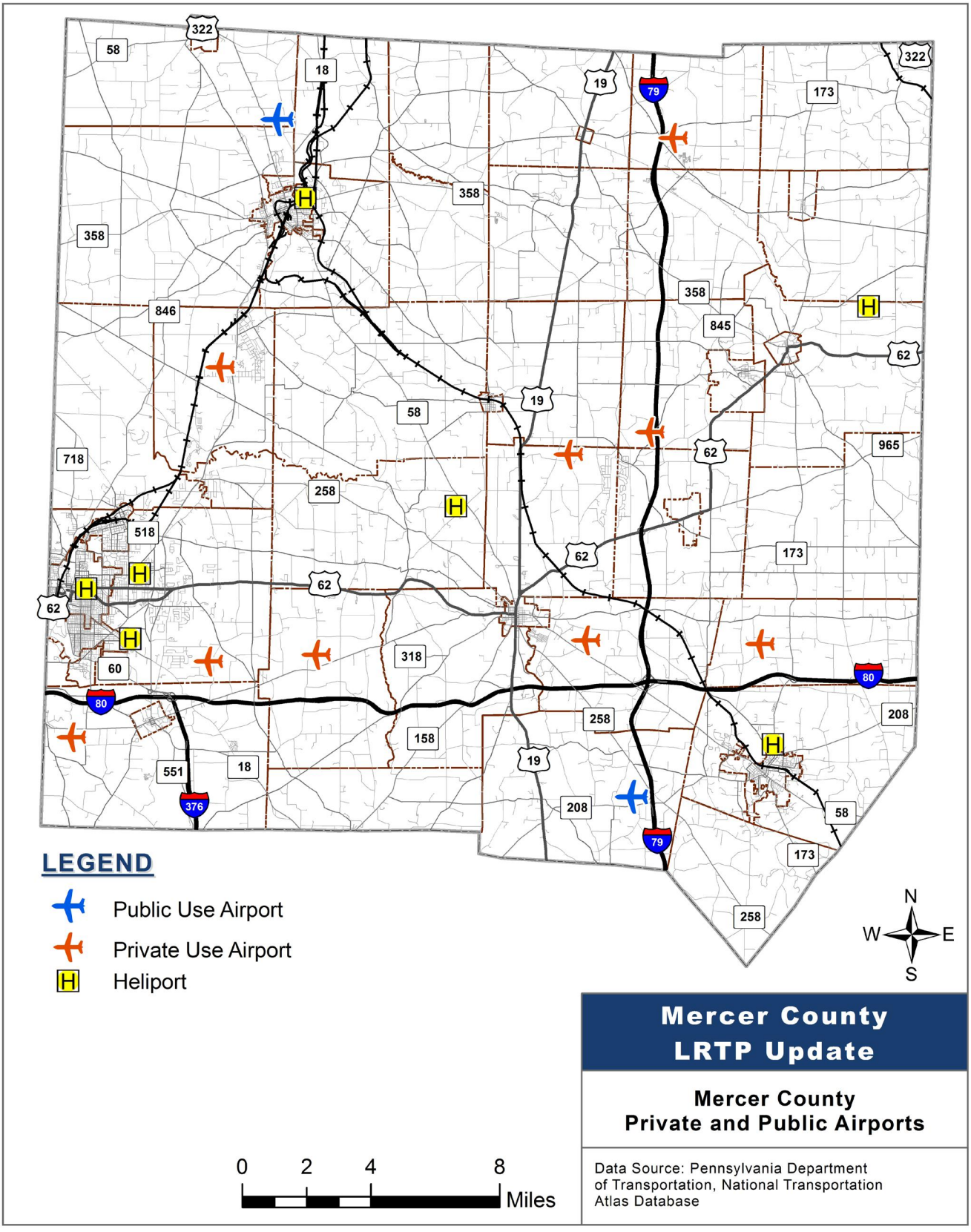
### Local airports

- 46 miles: Butler, PA (BTP / KBTP) Butler County Airport
- 47 miles: Beaver Falls, PA (BFP / KBVI / BVI) Beaver Falls County
- 56 miles: Jefferson, OH (JFN / KHZY / HZY) Northeast Ohio Regional Airport


*Greenville Municipal Airport*
*Source: Google Earth Satellite Imagery*


*Grove City Airport*
*Source: Google Earth Satellite Imagery*

## Exhibit 23 - Mercer County Private and Public Airports

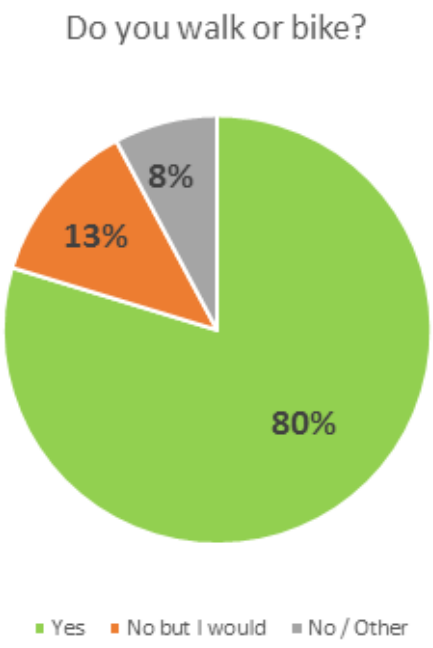


### Bicycle and Pedestrian

Mode interconnectivity and personal mobility are the Federal planning factors that warrant a detailed investigation of bicycle and pedestrian infrastructure. The mode interconnectivity planning factor aims to enhance the integration and connectivity of the transportation system across and between modes for people and freight. For bicyclists and pedestrians, this infrastructure can include sidewalks, trails, and bicycle lanes to provide accessibility and mobility options for segments of the population who have low vehicle ownership, including the impoverished, school children, and the elderly.

Many of the urban areas within Mercer County have robust sidewalk infrastructure, though some areas are in need of upgrades. There are also many low volume rural roads that residents walk on for transportation or exercise. Based on results from the public survey, 80% of respondents walked or biked on sidewalks or local rural roads near their home. A key finding from the listening tour are critical gaps in infrastructure between residential populations and popular destinations such as parks, shopping, jobs, and grocery stores. In addition, sidewalk deficiencies were noted in particular neighborhoods due to maintenance issues such as tree roots, uneven brick or cobbles, and overgrown grass. A map of key bicycle and pedestrian corridors to be used by PennDOT when planning bicycle and pedestrian facilities for betterment projects can be found in later chapters ***(Exhibit 38)***.

**Exhibit 24 - Mercer County Public Survey Active Transportation Results**




*Source: LRTP Public Survey*

*The Project Team Field Views Sidewalk Gaps near Mercer and Greenville*

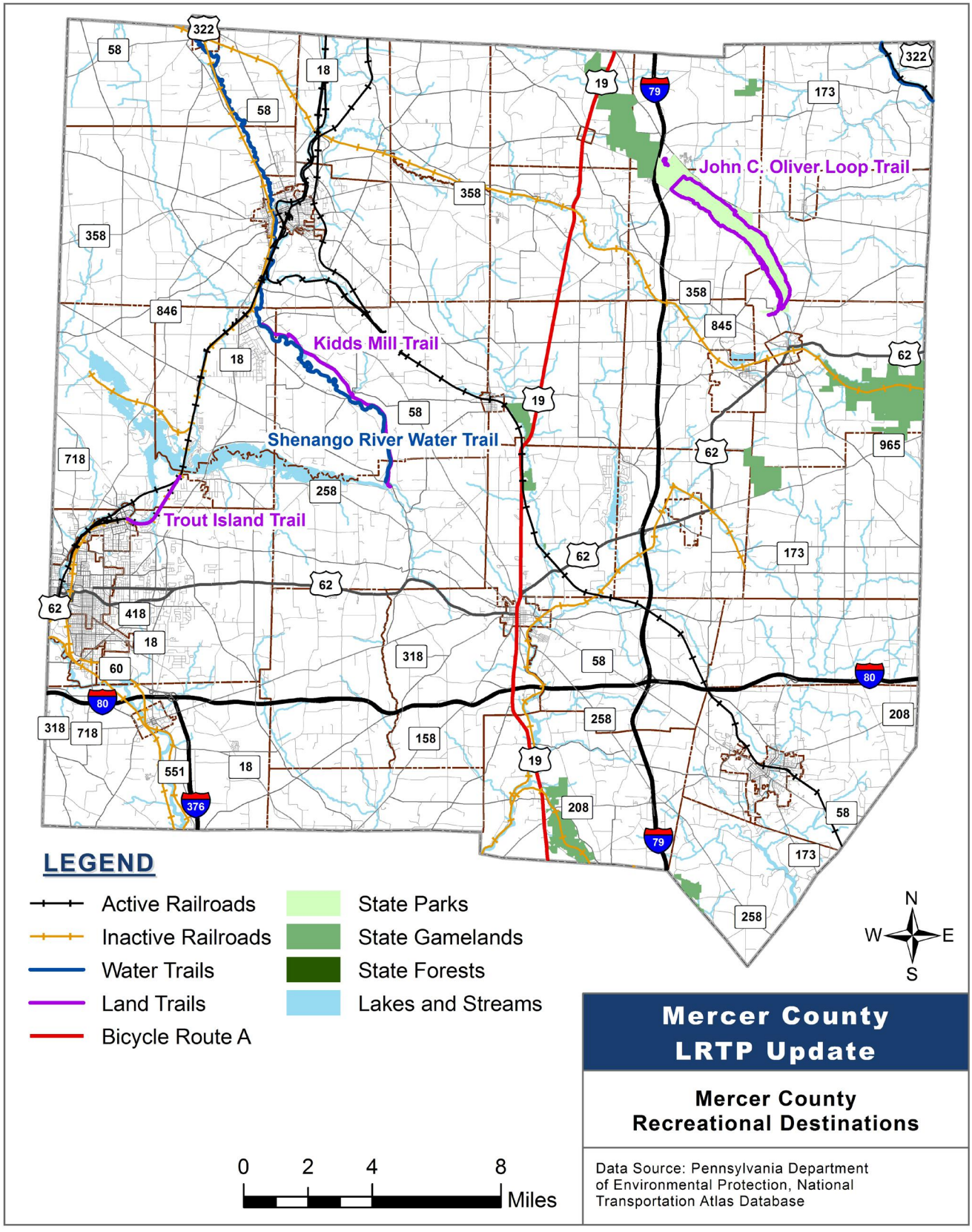
In addition to sidewalks, the project team heard many comments about the desire for multi-use trails and bicycle lanes on the listening tour. The public survey indicated that 46% of respondents travel to a trail for recreational walking or biking. Active transportation can improve health and well-being through exercise. As Mercer County is rich with local recreational destinations, it is important for tourism and quality of life to provide facilities for residents and visitors to reach these conveniently.

The Mercer County Trails Association (MCTA) is the lead organization overseeing and advocating for new trails and connections in Mercer County. Members of MCTA were interviewed to identify their goals and objectives for trails. Their most critical focus is to promote and construct the Shenango Trail, which recently had a Feasibility Study completed. The Shenango Trail will be a paved rail-trail from approximately Greenville to the Pymatuning Reservoir along an abandoned rail bed. MCTA also addressed the desire to re-purpose many other abandoned railbeds in Mercer County as future rails-trails, including the West Middlesex Borough rail line.

Bicycle Route A, which connects Presque Isle in Erie County with West Virginia, runs north-south through the county following US 19 through Mercer County. This multimodal system is important for recreation, tourism, and providing mode choice for travel.

Existing paved trail facilities in Mercer County include the 2.4 mile long Trout Island Trail starting near Sharpsville (planned to become a 13 mile rail-trail upon completion) and the 12.3 mile John C. Oliver Multi-purpose Loop Trail at Maurice K. Goddard State Park ***(Exhibit 25)***. The Kidds Mill Trail is a historic tow path trail which is not paved and follows the Upper Shenango River Water Trail.

## Exhibit 25 - Bicycle and Pedestrian Trail Facilities



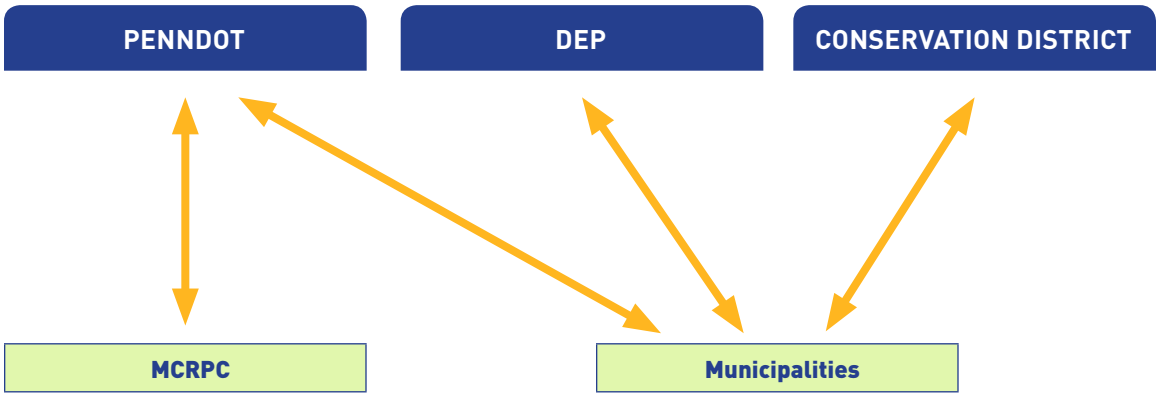
*Site of Potential Sandy Lake to Stoneboro Multi-Use Trail*

### Stormwater

Stormwater is one of the two new Federal planning factors introduced by the FAST Act. Stormwater management and infrastructure maintenance are key components of a reliable and safe transportation system, and due to Mercer County's proximity to its streams, tributaries, the Shenango River watershed, and floodplains, it has a vested interest in stormwater management.

Outreach with municipalities revealed important gaps in stormwater management and maintenance. On state highways, PennDOT maintains the surface features of the drainage system while the municipality maintains the subsurface elements such as pipes and inlets. One major concern noted was that new construction permitting requires coordination between each of the municipalities and PennDOT, the Department of Environmental Protection (DEP), the Mercer County Conservation District, and MCRPC, which can be difficult to coordinate efficiently and uniformly ***(Exhibit 26)***. It is recommended that training be performed yearly to introduce parties to one another and inform them of the proper channels of communication to address stormwater management concerns. As maintenance and new construction occurs throughout the region it is important to communicate current stormwater issues early and often so that they can be remediated. Stormwater coordination is addressed as a policy recommendation in later chapters of this plan.

**Exhibit 26 - Stormwater Process (Current)**





*Vehicle Driving through SR 518 at N 6th Street in Downtown Sharpsville after a Storm*
*Flood Warning Signage on SR 845 near Stoneboro*
*Source Left Image: Sharpsville Borough*

### Transportation Safety & Security

Transportation safety and security are Federal planning factors. Mercer County last completed its County Hazard Mitigation Plan in 2011; this plan was reviewed and representatives from the Mercer County Emergency Management Agency (EMA) were interviewed as part of the stakeholder engagement process to determine problem areas and potential transportation investments that would improve transportation safety, security, and emergency management.


*Flooding due to Storms at The Original Quaker Steak & Lube in Sharon, PA in August 2016*
*Source: WFMJ*

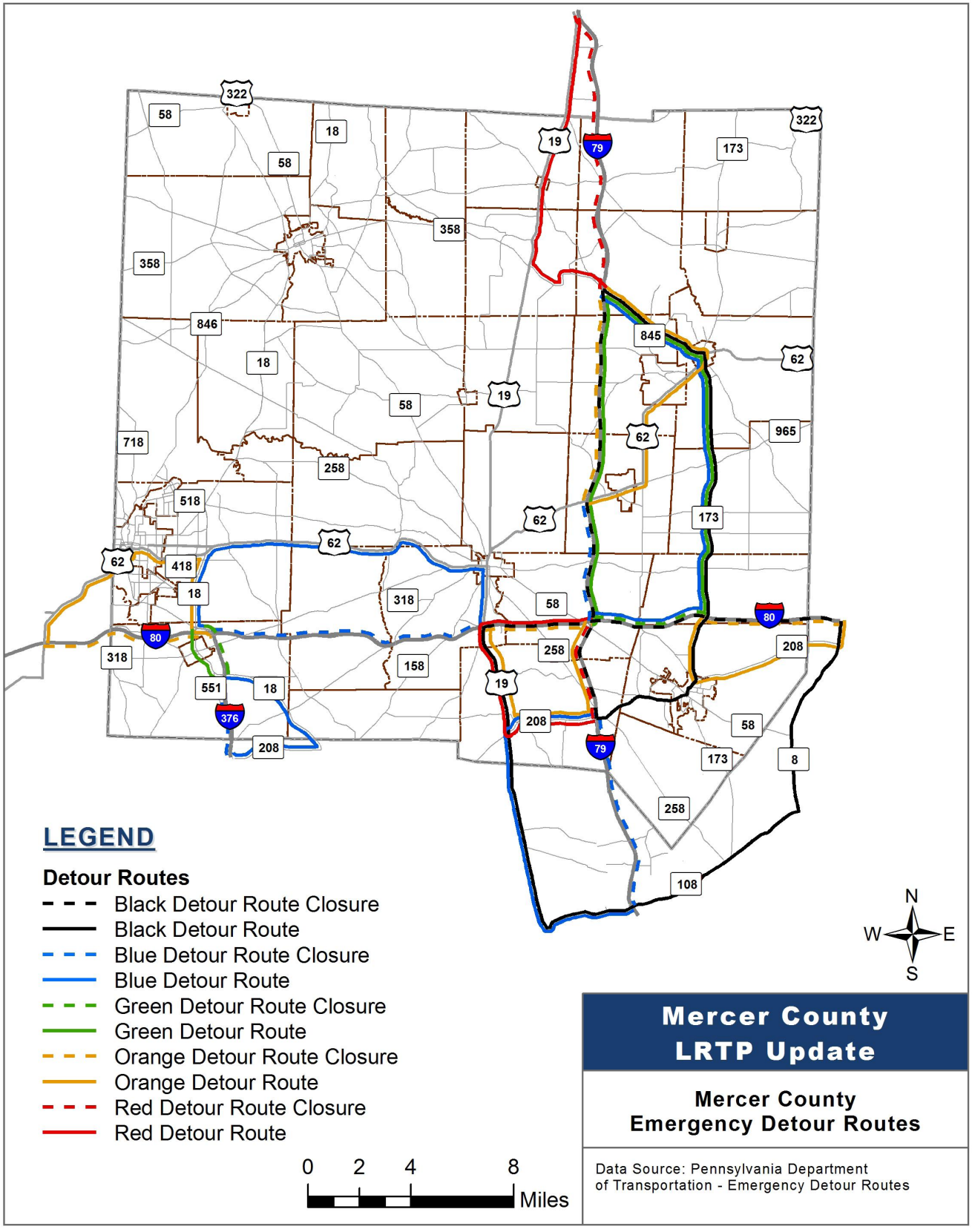
Various natural and manmade hazards can affect the security of the transportation system. According to the Hazard Mitigation Plan, the history of previous disaster declarations in Mercer County were due to tropical storms, flooding, high winds, and tornadoes. Natural hazards can include floods, winter storms, tornadoes, hurricanes, windstorms, droughts and water supply emergencies, subsidence and landslides, earthquakes, and pandemic. Human-made hazards include dam failures, hazardous material release, fire hazards, traffic accidents, energy emergencies, fixed nuclear facilities, terrorism, nuclear attack, and civil disorder.

*Loading salt into a PennDOT plow truck on a snowy day in Mercer County*

While all hazards have some possibility of occurring, the most frequent and probable hazard that residents of Mercer County experience during the warmer weather months is flooding due to the abundance of streams, lakes, dams, and the Shenango River.

During colder weather months, residents of Mercer County are likely to experience winter weather hazards such as snow, ice, blizzards, and extreme cold. Snow is a common hazard to the transportation system, as Mercer County experiences on average 5 major snow storms per year and receives an average of 39 inches of total snowfall over 1,765 lane miles of snow, as reported by PennDOT's Annual Report Card. An important discussion topic during the interview with EMA was weather-related traffic accidents on Interstate 80 from the Ohio state line to Exit 15, that frequently lead to pile-ups on the interstate and full closures that divert traffic onto emergency detour routes ***(Exhibit 27)***. EMA pointed to potential causes of the accidents as heavy snow, drifting snow, and limited visibility. Snow maintenance issues along I-80 were also raised by members of the public. Other corridors of concern noted were US 62 from Sharon to Mercer, and SR 58 from Mercer to Greenville. These were addressed in later chapters of the report as potential traffic safety studies.

## Exhibit 27 - Emergency Detour Routes

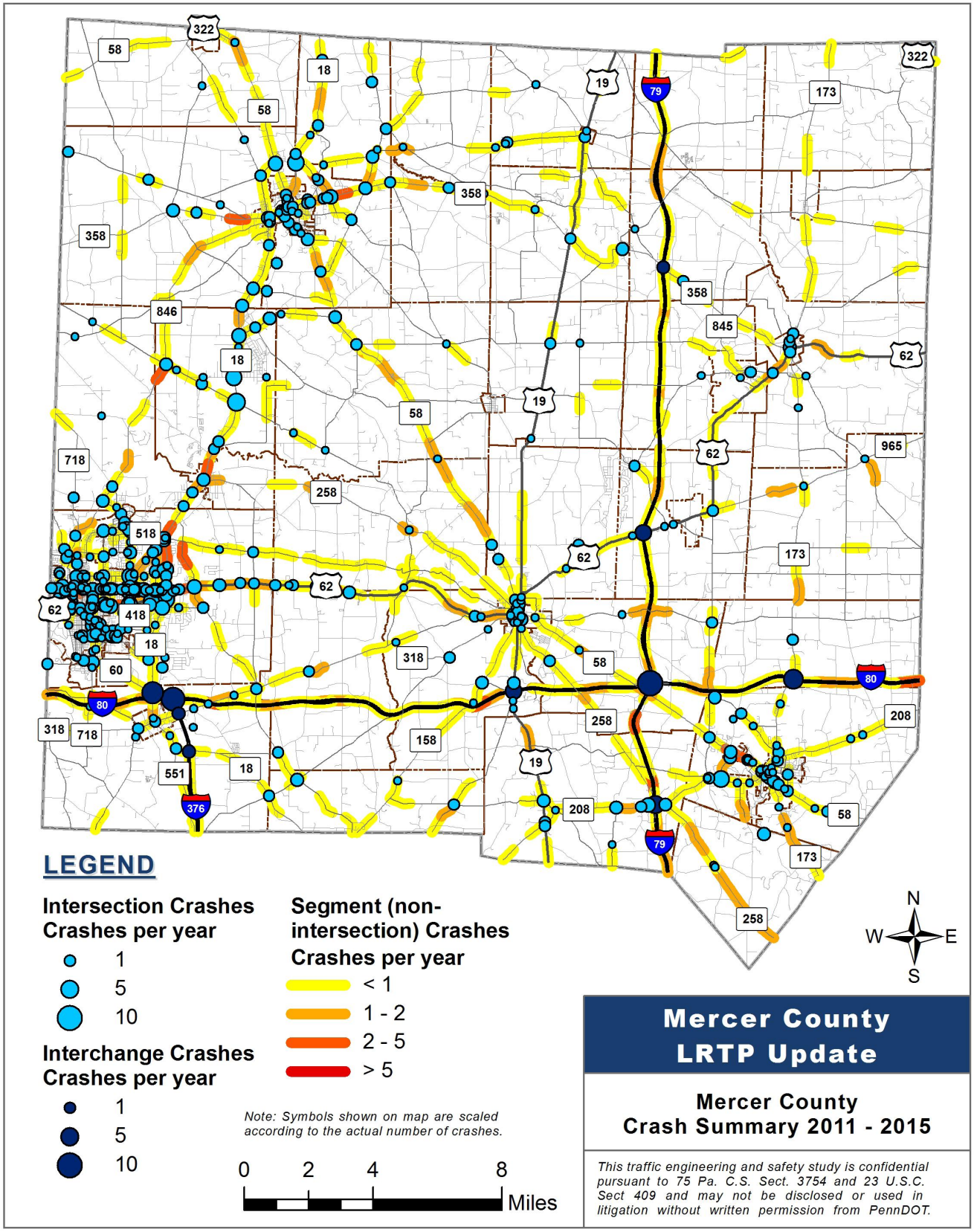


### Crash Data

Historical crash data for Mercer County was obtained from PennDOT's crash database for the five-year period spanning 2011 through 2015 and included individual crash latitude and longitude and crash severity. This crash data was converted into a GIS shapefile using the latitude/longitude. Using the Mercer County roadway network, crashes were classified as interchange (occurred on/between interchange ramps or at intersections with interchange ramps), intersection (occurred within 100 feet of an intersection), or roadway segment (all remaining crashes).

Once the crashes were classified, the average number of crashes during the five year period for each interchange, intersection, and roadway segment was determined and mapped ***(Exhibit 28)***. The crash data, along with PennDOT Crash reports, was used to identify and confirm high crash rates as reported by the public, municipalities, and stakeholders.

## Exhibit 28 - Crash Data



# TRANSPORTATION PLAN

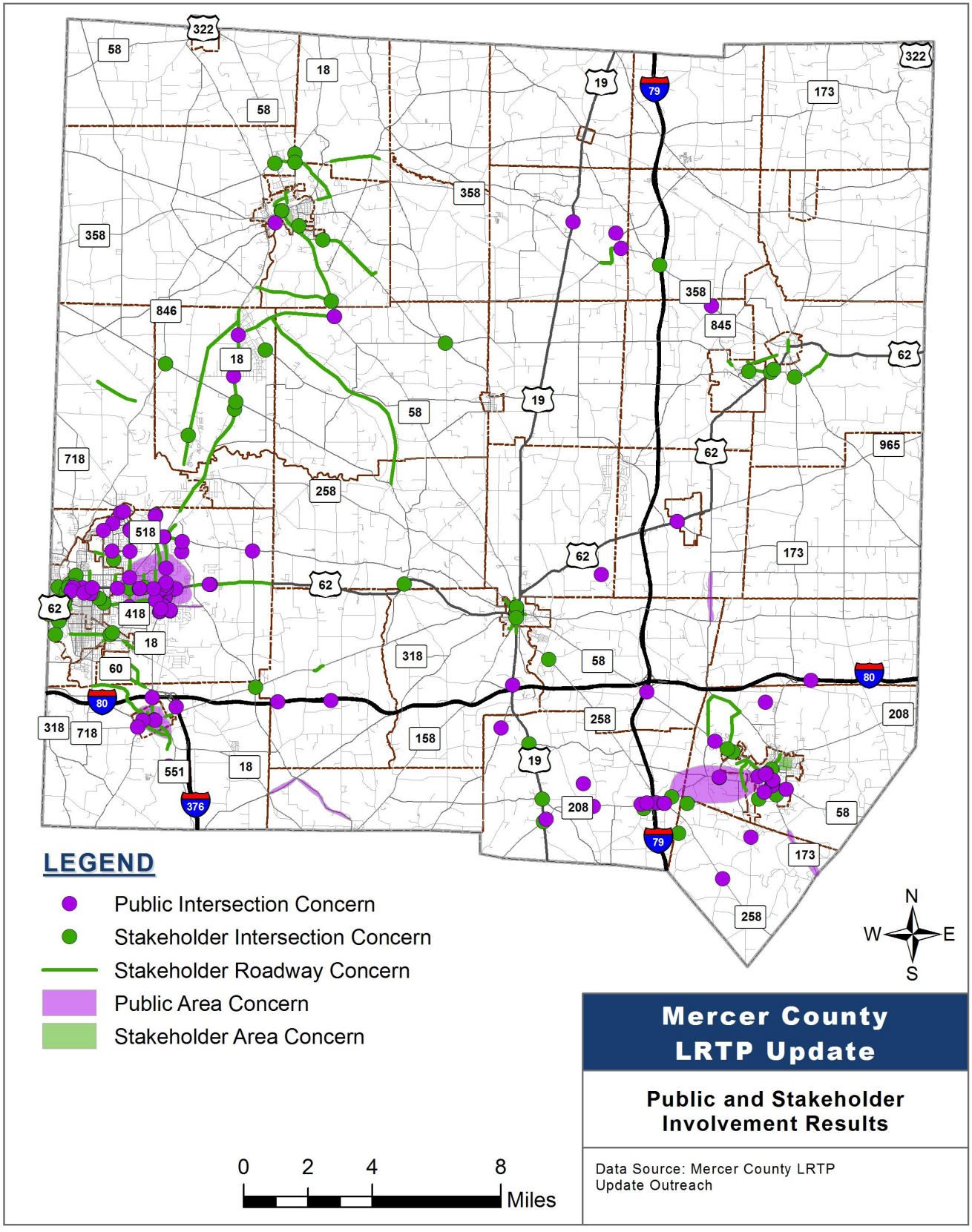
### Municipal, Stakeholder, and Public Comments

The intersection and roadway areas of concern and potential project locations identified through the engagement of municipalities, stakeholders, and the public could be summarized into the following themes: safety improvements at spot locations, bicycle and pedestrian facilities to improve the quality of life for residents, and trail facilities to improve Mercer's position as a tourist destination to improve the local economy. Other recurrent themes noted were stormwater drainage and roadway maintenance issues.

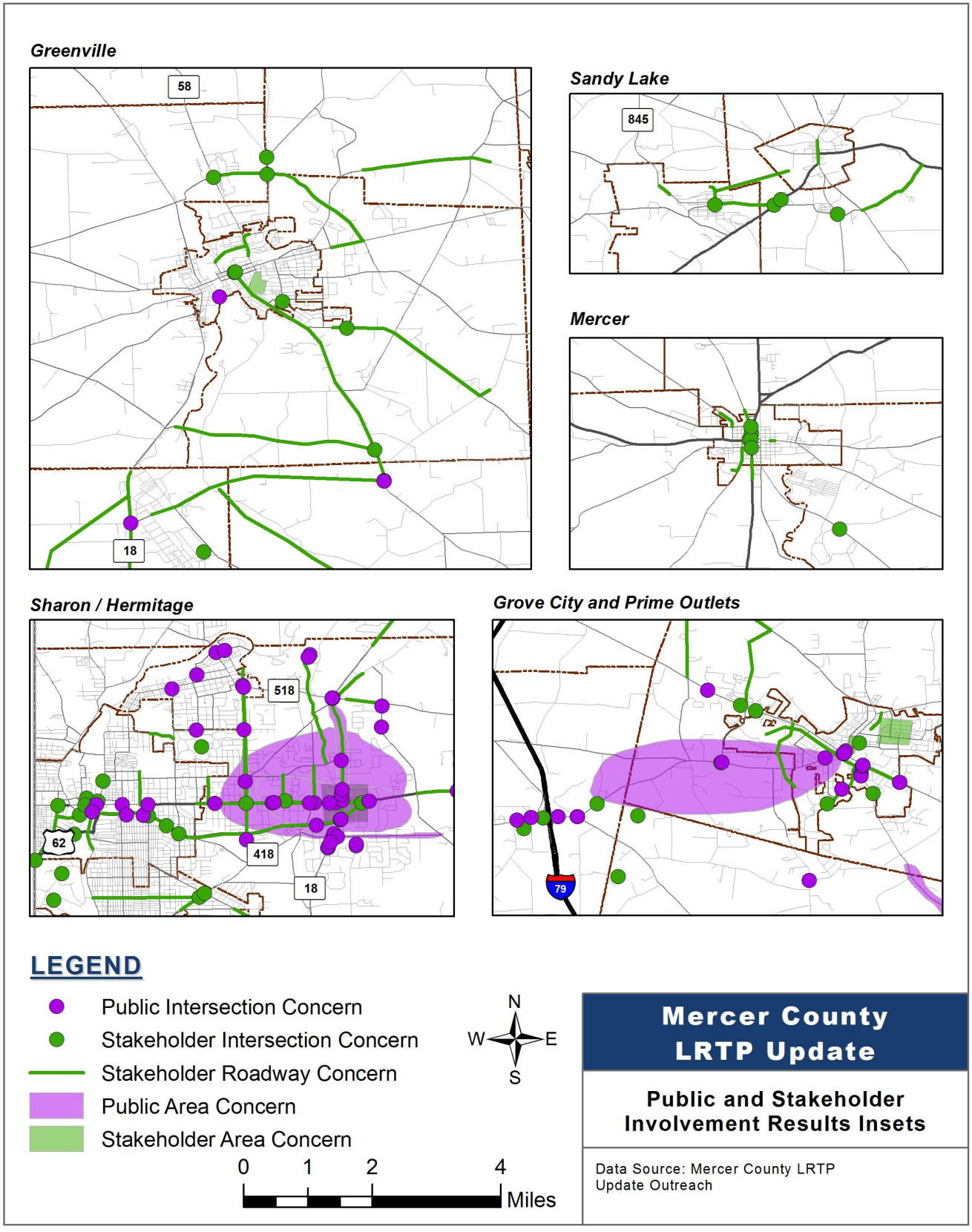
Upon conclusion of the listening tour, the areas of concern were mapped so that they could be clearly identified and analyzed to result in actionable projects ***(Exhibit 29)***. From the outreach, there were 165 intersection areas of concern, 17 area concerns, and 64 roadway segment concerns noted.

- Public Survey Intersection Concern - 95
- Public Survey Area Concern - 13
- Stakeholder & Municipality Intersection Concern - 70
- Stakeholder & Municipality Roadway Concern - 64
- Stakeholder & Municipality Area Concern - 4

## Exhibit 29 - Public and Stakeholder Involvement



## Exhibit 29 - Public and Stakeholder Involvement (Insets)



### Project Groupings

Potential projects were identified through municipal, stakeholder, and public engagement and document review. The potential projects were grouped by project type: highway project, bicycle and pedestrian project, study, maintenance/quick hit, local projects, and policies. These categories are discussed in further detail in the "Implementation and Evaluation" section of the report.

### Project Prioritization

Once the projects were grouped and categorized, they were prioritized for programming and funding. PennDOT provides the Decision Lens Model to MPOs to assist in providing an equitable and objective ranking scheme. The ranking criteria from the 2011 LRTP Update were reviewed and modified to better reflect the two new Federal planning factors (tourism, and stormwater & reliability), statewide guidance, and the local goals and objectives established during the listening tour. Some criteria were adjusted to rely more on available data, such as being listed in the Highway Safety Plan top 25 lists for the safety component. The Decision Lens model was used, which ranks each project based upon categories customized for the LRTP, including safety & security, infrastructure condition, economic vitality, accessibility & mobility, traffic congestion, feasibility, and environmental impacts.

**Mercer County LRTP Project Ranking Criteria**

- **Safety & Security –** this category considers safety for motorists, pedestrians, and cyclists.
- **Infrastructure Condition –** this category considers the condition of the existing infrastructure
- **Economic Vitality –** this category considers economic competitiveness, access to markets, and local and regional tourism.
- **Accessibility & Mobility –** this category considers mobility and interconnectivity of transportation modes including trucks/freight, automobiles, pedestrians, bicycles, transit, and airports.
- **Traffic Congestion –** this category considers traffic volume, truck volume, and congestion.
- **Feasibility –** this category considers project readiness, right of way and utility impacts, and consistency with local, state, and federal planning guidelines.
- **Environmental Impacts –** this category considers impacts on environmental justice populations and environmental resources.

The ranking criteria categories were provided to the SVATS MPO Coordinating Committee and weighted via a pair-based survey administered by PennDOT Central Office. 17 of the 25 municipalities represented on the committee participated in the re-weighting. The SVATS MPO Coordinating Committee carried a motion to accept the new criteria at the MPO Special Meeting on September 21, 2016, and reviewed the initial project prioritization list. The new criteria appear in Appendix A. Bicycle and pedestrian projects were programmed according to their position in the planning process, evidence of public support, ease of construction, and available funding sources. Studies were prioritized based on when funds may become available; these are discretionary and may change according to local priorities and support. It is important to note that a highly ranked project may either be funded by others such as railroad or developer-generated funds for access management issues, so it may not show up first in the project programming.

### Fiscal Constraint

In order to ensure that the list of recommended LTRP projects can be financially implemented over the life of the plan, a fiscal constraint was applied using an assumption of yearly funds to be available to Mercer County over the life of the plan.

Cost estimates were prepared for each Highway and Bike/Ped project at a planning level using unit prices and estimates of construction quantities, such as total square yardage of total roadway reconstruction, with a percentage of construction cost set aside for preliminary engineering (P), final design (F), right-of-way (R), and utilities (U). Rates were applied to the construction cost to determine cost for Maintenance & Protection of Traffic, Mobilization, Contingencies, and Construction Inspection. Preliminary engineering and final design were assumed at 7.5% of construction cost, with right-of-way and utilities at 5% of construction cost. A contingency of 40% was added to the construction cost to account for unknown or unforeseen costs. All planning-level forecasts should be carefully reviewed before moving a project forward to account for new project area information and fluctuations in unit costs.

The programming accounts for steady funding levels after 2020 and Year of Expenditure (YOE) project costs. Accounting for inflation over future years results in the decreased buying power of the dollars over the life of the plan since the funding remains consistent while construction costs increase with inflation. According to guidance from PennDOT's Center for Program Development and Management, inflation was assumed to be 3% per year compounded over the life of the plan.

The fiscal constraint groups projects into project-delivery phases in which they are likely to have a funding source: Current, Mid-Range, and Long-Range. The "Current" phase represents the Transportation Improvement Program (TIP) which has dedicated funding for four-years from 2017 to 2020, plus two non-TIP years covering 2021 and 2022; the "Mid-Range" phase represents the remainder of the Twelve Year Plan (TYP), which covers the years 2023 to 2028; the "Long-Range" phase represents the remaining time between the end of the current TYP and the next TYP from 2029 to 2042, which extends beyond the minimum required 20-year planning horizon year of 2036 ***(Exhibit 30)***.

**Exhibit 30 - Project Delivery Phases**

| Phase | Years | Additional Information |
|---|---|---|
| Current | 2017-2020, 2021-2022 (years 1-4, 5-6) | This phase is the current TIP + 2 years. Projects on this list are occurring at the present time, may have already occurred, or are planned to begin over the next few years. Some studies fall into this category to kick off a list of projects that could be included and resolved in the next LRTP update. |
| Mid-Range | 2023-2028 (years 7-12) | These are the higher priority projects that will ideally advance to the TIP within the next dozen years. Some projects in this phase are split-funded between this phase and the long-range phase. |
| Long-Range | 2029-2040 (years 13-25) | Projects in this phase are supported but will not likely occur within the next 12 years for a variety of reasons including funding, cost, and lower priority through Decision Lens ranking. |

Projects move from concepts to physical construction after they are programmed through a few different avenues. Each project must be vetted first, have funding sources dedicated, and each phase of the project including study, preliminary engineering, final engineering, right-of-way, utilities, and construction will be programmed in the Transportation Improvement Program (TIP). The TIP details which projects happen in a 4-year cycle. The Twelve Year Plan details longer range projects that are planned to happen over a 12-year cycle, and include the TIP projects (Appendix D).

Detailed information on federal, state, and local match percentages and eligible activities for the above funding sources can be found in Appendix B. Alternative funding sources that could be pursued but are not assumed to be available are Recreational Trails Program (RTP) funding under Section 206 of Title 23, and Safe Routes to School (SRTS) projects within 2 miles of a school for K-8. Public Private Partnerships (P3) are also encouraged to be pursued through cooperation between municipalities and developers or advocacy groups to fund projects that mutually benefit both parties. The prioritized list of projects was financed in order of priority according to the availability of potential funding (Appendix D). Many other funding mechanisms exist to advance projects, and as project phases are removed from the listing because they are funded from external sources, the next highest priority project should move ahead and be programmed sooner.

Standard funding categories are listed below with their descriptions:

**Federal Funding Categories**

- **NHPP** - National Highway Performance Program funds - - this category of funds can be used on any eligible facility, which includes only those facilities located on the National Highway System (NHS), as defined in 23 U.S.C. 103, Highway: Federal-Aid System, except as specified in the statute. Because very few local facilities are on the NHS, it is not often that NHPP funding would apply to a local project.
- **STP** - Surface Transportation Program (with the FAST Act, STP becomes STBG, Surface Transportation Block Grant) - this category of funds can be used on projects that preserve and improve the conditions and performance on any Federal-Aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.
- **HSIP** - Highway Safety Improvement Program - this is a core Federal-Aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads, including local public roads. The HSIP is highly data driven and, as such, highway safety improvements projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means. These projects MUST be listed on the Strategic Highway Safety Program (SHSP).
- **CMAQ** - Congestion Mitigation and Air Quality - this category of funds may be used for transportation projects and programs that help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for areas that were out of compliance but have now met the standards (maintenance areas).
- **TAP** - Transportation Alternatives Program - this category provides funding for programs and projects defined as transportation alternatives, including pedestrian and bicycle facilities, enhancements to public transportation access, community

improvements, environmental mitigation, recreational trails, safe routes to school, sidewalks and streetscape elements, overlooks, viewing areas, and historic preservation activities.

- **STU** - Surface Transportation Program Urban – this category of funds is similar to STP or STBG but can only be used in regions with a population of at least 200,000.
- **NHFP** - National Highway Freight Program – funds may be obligated for projects that contribute to the efficient movement of freight on the National Highway Freight Network (NHFN), and are consistent with the planning requirements of sections 134 and 135 of title 23, United States Code.

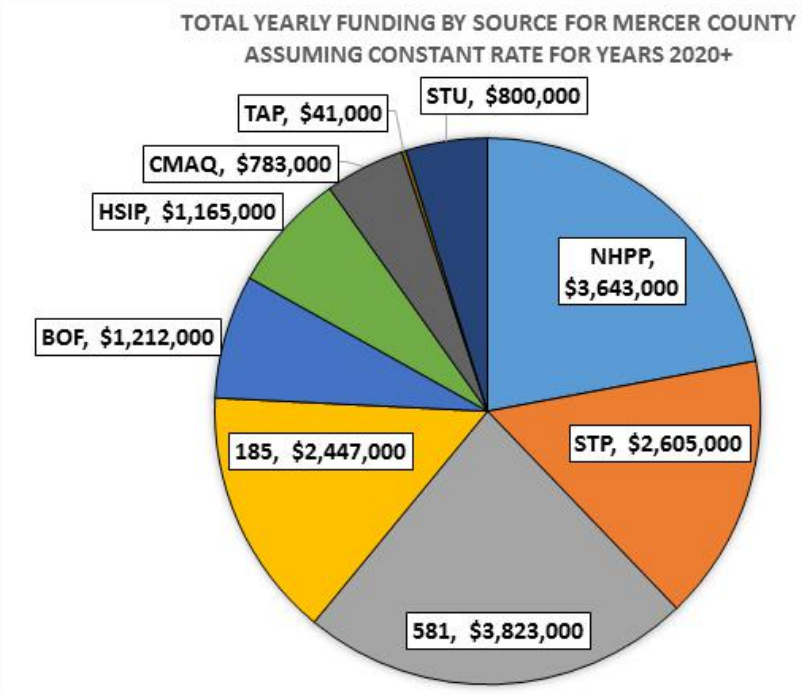
**State Funding Categories**

- **Appropriation 185** - state funding that can be applied to state bridge projects.
- **Appropriation 183** – state funding that can be applied to local bridge projects.
- **Appropriation 581** - state funding that can be applied to highway or bridge projects on the state highway system.
- **BOF** - this category of funds may be used for off system bridges that are defined with a functional class of 08, 09, or 19 only.
- **409 funding program** – state funding made available by Act 89 and distributed directly to PennDOT County Maintenance to be used for maintenance contracts, which may include mill and overlay paving projects with minimal other improvements included.

The current Transportation Improvement Program (TIP) covers the years 2017 through 2022, which has committed funding to a list of vetted projects which may have come from studies and previous LRTP efforts. After these TIP projects are completed, funding will start to become available to program the LRTP projects. The highest ranked LRTP projects with available funding were assumed to begin their kickoff phases such as studies and preliminary engineering in 2021. Flat funding was assumed for the post-TIP components of the plan using PennDOT's year 2020 financial forecasting ***(Exhibit 31)***.

Due to the current fiscal constraint, a fix it first approach was assumed for project programming. This approach focuses on maintaining the current transportation system first and foremost, with system expansion and improvements taking a secondary role. With this in mind, maintenance set-asides were subtracted from each funding category and total available funds for Mercer County were projected for each programming phase according to PennDOT guidance ***(Exhibit 32)***. These dollar values are based on the assumption that, for example, 10% of the total budget for the NHPP funds may be available for Mercer County to use for projects after PennDOT maintains their assets. These were the constrained finances that were used for project programming. To reflect the diminishing value of the dollar over time, cost estimates for highway and bicycle and pedestrian LRTP projects were grown to their Year of Expenditure.

## Exhibit 31 - Total Yearly Funding by Source for Mercer County 2020+ ($)




## Exhibit 32 - Funds by Year Group Available to Mercer County ($)

| | | NHPP | STP | 581 | 185 | BOF | HSIP | CMAQ | TAP | STU |
|---|---|---|---|---|---|---|---|---|---|---|
| Current | 2017 | $ 329,000 | $ 248,700 | $ 144,425 | $ 200,000 | $ 800,000 | $ 877,600 | $ 582,400 | $ 40,000 | $ 710,000 |
| | 2018 | $ 339,900 | $ 252,700 | $ 148,150 | $ 200,000 | $ 800,000 | $ 895,200 | $ 596,800 | $ 41,000 | $ 739,000 |
| | 2019 | $ 351,900 | $ 255,900 | $ 151,950 | $ 200,000 | $ 800,000 | $ 912,000 | $ 610,400 | $ 41,000 | $ 767,000 |
| | 2020 | $ 364,300 | $ 260,500 | $ 156,200 | $ 200,000 | $ 800,000 | $ 932,000 | $ 626,400 | $ 41,000 | $ 800,000 |
| | 2021 | $ 728,600 | $ 521,000 | $ 312,400 | $ 400,000 | $ 1,600,000 | $ 1,864,000 | $1,252,800 | $ 82,000 | $ 1,600,000 |
| | 2022 | | | | | | | | | |
| Mid Range | 2023 | $2,185,800 | $1,563,000 | $ 937,200 | $1,200,000 | $ 4,800,000 | $ 5,592,000 | $3,758,400 | $246,000 | $ 4,800,000 |
| | 2024 | | | | | | | | | |
| | 2025 | | | | | | | | | |
| | 2026 | | | | | | | | | |
| | 2027 | | | | | | | | | |
| | 2028 | | | | | | | | | |
| Long Range | 2029 | $5,100,200 | $3,647,000 | $2,186,800 | $2,800,000 | $11,200,000 | $13,048,000 | $8,769,600 | $574,000 | $11,200,000 |
| | 2030 | | | | | | | | | |
| | 2031 | | | | | | | | | |
| | 2032 | | | | | | | | | |
| | 2033 | | | | | | | | | |
| | 2034 | | | | | | | | | |
| | 2035 | | | | | | | | | |
| | 2036 | | | | | | | | | |
| | 2037 | | | | | | | | | |
| | 2038 | | | | | | | | | |
| | 2039 | | | | | | | | | |
| | 2040 | | | | | | | | | |
| | 2041 | | | | | | | | | |
| | 2042 | | | | | | | | | |

# IMPLEMENTATION AND EVALUATION

## LRTP Project Listing

To address all modes of transportation, the project team consulted with airport, district, and local bridge engineers, and transit officials to get their prioritized project listing to complete the list of projects for the LRTP. The LRTP list of projects were a result of stakeholder outreach such as Highway, Bicycle and Pedestrian Projects, Betterments, Studies, Quick Hit-Maintenance projects, policies, and local projects ***(Exhibit 33)***.

PennDOT's Bureau of Aviation (BOA) compiled and updated the project listing for Mercer County's two airports. The BOA develops their own long term planning document which contains a list of projects for eight years into the future.

District 1-0's Bridge Engineer and the Mercer County Bridge Engineer provided the MPO with their prioritized bridge lists based on bridge conditions and deficiency ratings, and also provided costs for upgrades.

The Mercer County Regional Council of Governments (MCRCOG) oversees the transit operations within the county. MCRCOG staff was asked to provide an updated look at their project priorities. As was the case during the 2011 update, Mercer County's transit agencies do not plan projects past the current phase of their TIP. Most projects are operational costs or minor equipment purchases, which makes projecting several years into the future challenging.

It should be noted that the Airport, Transit, and Bridge projects are in current year dollars, while the LRTP projects are in Year of Expenditure dollars.

The prioritized project listing with funding sources and full descriptions can be found in Appendix D.

## Exhibit 33 - All LRTP Categories

| Category | Description |
|---|---|
| Highway projects | Projects primarily affecting personal automobile and freight travel that are clearly defined and well developed; many of these projects were recommendations from earlier studies or were a clear solution to an identified concern. These projects aim to improve accessibility, mobility, safety, congestion, and aesthetics. |
| Bicycle & Pedestrian Projects | Projects primarily affecting bicycles and pedestrians that are clearly defined and well developed; many of these projects were recommendations from earlier studies or were a clear solution to an identified concern. These projects aim to address equity, mobility, recreation, and improve health and expand tourism. |
| Key Bike & Pedestrian Routes | Critical gaps in pedestrian and bicycle infrastructure as well as preferred walking/biking routes were identified by stakeholders and the public. These were grouped into a map showing the areas where pedestrian and bicycling facilities are desired. These projects can be considered during future roadway improvement or maintenance projects when they occur along the identified routes. |
| Study | Studies are recommended when groups of comments focus on a particular area, but there is insufficient information to develop a specific project to address the expressed needs of the public and stakeholders. |
| Quick hit/ Maintenance | Many comments received from the stakeholders and public will be able to be quickly resolved through a traffic engineering (TE) study, maintenance by PennDOT or the municipality to remove sight distance issues such as brush and trees, or to upgrade deteriorated signs. These types of projects were not included in the project prioritization or fiscal constraint as they can be resolved much more quickly through communication between PennDOT and municipal officials. |
| Policy | Policy statements are more general recommendations for land use, municipal coordination, and improved procedures. For example, one challenge noted was the communication and understanding of the stormwater management regulations and procedures. A policy statement was included to recommend conducting stormwater management and highway occupancy permit training for municipal officials. |
| Local Projects | These projects were identified by stakeholders and the public along non-PennDOT roadways. These projects were mapped and included in the plan so that they can be incorporated into future municipal planning and project development efforts. |

### Highway Projects

Highway projects recommended by the LRTP are projects primarily affecting personal automobile and freight travel that are clearly defined and well developed; many of these projects were recommendations from earlier studies or were a clear solution to an identified concern ***(Exhibit 34)***. The prioritized project listing with funding sources and full descriptions can be found in Appendix D.

For highway projects that are the result of safety concerns, FHWA recommends that Roadway Safety Audits should be performed to pinpoint exact improvements to be made to the intersection. A Roadway Safety Audit (RSA) should be performed by a multi-disciplinary team independent of the project to consider all road users and account for road user capabilities and limitations, culminating in a formal RSA report. Frequently these reports lead to recommended improvements that a traditional safety review may not discover, and these low-cost improvements may show successful reductions in crash frequency and severity. Some DOTs report that performing a RSA in the conceptual or preliminary design phases of a planned project brings about the most benefit. As projects are selected for implementation, the project sponsor should consider pursuing a formal RSA to ensure appropriate safety measures are completed.

***Roadway Safety Audit – Before (left image) intersection in Grand Rapids Michigan with 1 visible signal head and shared left-through traffic. After (right image) same intersection with multiple signal heads visible, dedicated left turn lane, and crosswalk striping.***
***Source: FHWA***

## Exhibit 34 - Highway Project Listing

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 1 | Broadway Ave (SR 0760) Phase 4 Truck Improvements | Truck/freight-related intersection and roadway improvements along Broadway Boulevard from approximately Industrial Road through Kirila Boulevard to the interstate ramps |
| 2 | Intercity Bus Pull Off | Transit bus pull off and associated roadway construction to provide bus pull off and/or shelter in Mercer County for intercity travel |
| 3 | Christy Road Traffic Calming with Bicycle and Pedestrian Elements | Traffic calming and bicycle and pedestrian elements along Christy Road for safety and accessibility between neighborhoods and Linden Pointe Trail |
| 4 | Clarksville at Dutch Lane (SR 3035) Intersection Reconfiguration | Reconfiguration of the Clarksville Road at Dutch Lane intersection to reduce skew and improve sight distance for safety |
| 5 | E State St (SR 3008) at Buhl Farm Dr (SR 3025) | Roadway and geometry improvements to make the intersection more accessible to all modes |
| 6 | Grove City Signal Upgrades (SR 0173, SR 0058) | Signal upgrades and retiming to improve traffic flow and travel time reliability in Grove City |
| 7 | Hazen Rd (SR 3016) at Buhl Farm Dr (SR 3025) Intersection Improvements | Improvements to Hazen Road and Buhl Farm drive intersection for congestion, including pedestrian elements connecting the sidewalks on the east side of Hazen Road in Hermitage to new sidewalks along the west side of Hazen Road in Sharpsville |
| 8 | Kidds Mill Rd (SR 4012) Truck Climbing Lane | Truck climbing lane on Kidds Mill Road as the east-west corridor that leads to the Greenville Reynolds Industrial Park from points east along Rt 58 |
| 9 | Lamor Road (SR 3020) Reconstruction Continuation | Continuation of Lamor Road reconstruction east of the Joy Cone facility |
| 10 | Mercer Ave (SR 418) at Morefield Rd Intersection Geometry | Realign intersection approaches to provide a conventional four-way + intersection to improve sight distance |
| 11 | Mercer Ave (SR 418) at Roemer Blvd (SR 3006) and Sharon New Castle Rd (SR 518) Redesign with Pedestrian Enhancements | Signal upgrades and intersection geometry adjustments, to improve safety for vehicles and add pedestrian and bicycle elements for neighboring Farrell Elementary school |
| 12 | Mercer Streetscaping Improvements (North side of the Diamond) | Downtown Mercer streetscaping improvements along the north side of the Diamond near the Mercer County Courthouse |

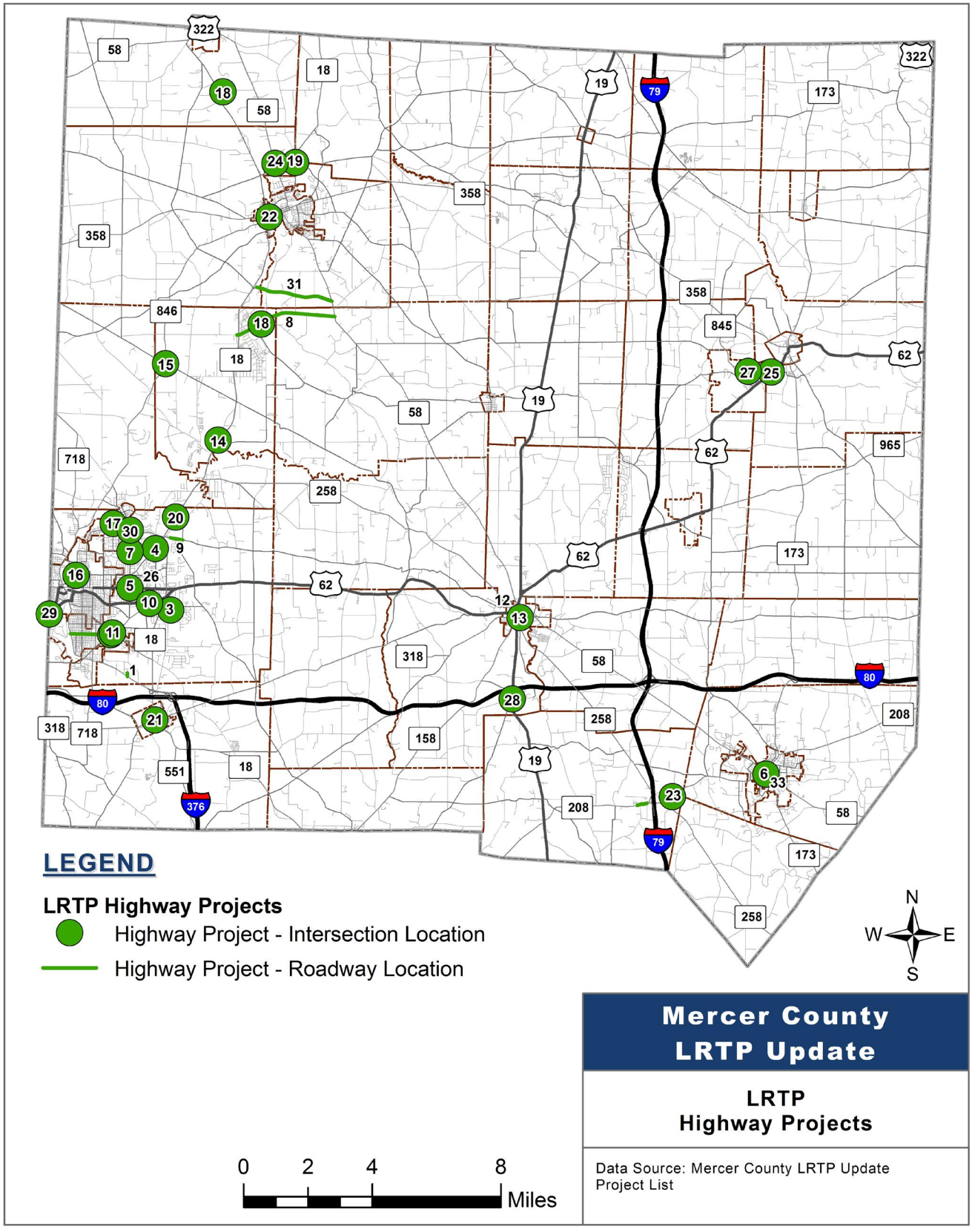
## Exhibit 34 - Highway Project Listing

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 13 | Mercer Truck Route Improvements (SR 2008, SR 2011) | Truck route improvements such as intersection geometry for ease of diverting trucks eastbound around downtown Mercer through SR 258 at SR 2008 (Butler and S Pitt St) and Pitt St/SR 258 at Market St/SR 58 |
| 14 | SR 18 Trailer Pull Off Enhancements | Improvements to sight distance and acceleration lanes for trailers pulling into and out of the Shenango Reservoir |
| 15 | SR 846 & Rutledge Rd (SR 3022) Intersection Realignment | Intersection realignment to eliminate offset intersection and improve sight distance |
| 16 | Sharpsville Ave (SR 518) at Meek St Intersection Reconfiguration | Intersection reconfiguration to provide additional turning radius and sight distance for northbound right turning vehicles |
| 17 | Sharpsville North 6th St (SR 518) Streetscape and Drainage Improvements | Improvements to streetscape, curb ramps, sidewalks, and drainage infrastructure |
| 18 | Shenango River Boat Launch Parking Lots | Paved parking lots and put-in points to the Shenango River at Kidds Mill Road (improved lot) and Halfway Road (new lot) |
| 19 | SR 18 at Williamson Rd (SR 4006) Intersection Realignment | Realignment of intersection to eliminate offset, improve sight distance and safety |
| 20 | SR 18 Connection from Joy Cone / Valley View Rd Improvement | Explore options for access road between SR 18 and Joy Cone Facility; new connection extending SR 3011 to SR 18 for freight access from Joy Cone facility to access points north and/or improvement of Valley Road Road to correct the unfavorable geometry of the signalized intersection at SR 18 at Lamor Road |
| 21 | SR 18 at SR 318 Signal Upgrades and Intersection Improvements | Improvements to signal timings and potential southbound left-turn lane addition |
| 22 | SR 18 at SR 4005 Signal Upgrades and Intersection Improvements | Improvements to signal equipment, timings, and lane configurations to reduce congestion and improve safety |
| 23 | SR 208 Two-Way Left Turn Lane with Realignment of Pine Rd and Multimodal Trail | Widening for a two-way left turn lane along SR 208 as development occurs; realignment of the intersection of SR 208 at Pine Road to provide more favorable sight distance; multimodal bicycle and pedestrian trail parallel to SR 208 between the hotels and the Grove City Outlets, eventually leading to Grove City Borough |

## Exhibit 34 - Highway Project Listing

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 24 | Jamestown Rd (SR 58) & Porter Rd (SR 4006) Roadway Reconstruction | Reconstruction of roadway along Porter Road to bring up to similar grade with SR 58 to reduce vertical sight distance issue and improve the intersection for safety |
| 25 | SR 845 at SR 1004 Intersection Reconfiguration, Signal Improvements & Pedestrian Improvements | Improvement of traffic signal and geometry at intersection, along with pedestrian amenities for school students to cross safely between points west to the east |
| 26 | E State St (SR 3008) at Hermitage Rd (SR 18) Intersection Reconfiguration | Reconfiguration of intersection to be more accessible to bicycles and pedestrians, including smaller crossing areas, refuges, and streetscape elements such as landscaped medians |
| 27 | Stoneboro Streetscaping (SR 845) | Streetscape elements in downtown Stoneboro including lighting, curbs, sidewalks, benches, planters, etc. |
| 28 | US 19 at Old Mercer Rd Reconstruction | Reconstruction of US 19 to eliminate vertical crest sight distance issues and improve safety for side streets on Old Mercer Road |
| 29 | US 62 & Addison Ave (SR 3008) Intersection Improvements & Gateway Treatment | Intersection geometry & signal improvements, beautification, pedestrian and bicycle elements, and gateway treatment from Ohio to Pennsylvania |
| 30 | Walnut St (SR 518) at Mercer Ave (SR 3025) Signal Upgrades and Intersection Improvements | Intersection improvements including potential changes to signal operations and left-turn lanes |
| 31 | Wasser Bridge Rd (SR 4003) Reconstruction | Full depth reconstruction and widening of Wasser Bridge Road to improve freight access to Greenville Reynolds Industrial Park |
| 32 | US 62 Railroad Tunnel Reconstruction | Reconstruction of US 62 railroad tunnel to current specifications and realignment of US 62 to provide better sight distance through tunnel |
| 33 | SR 173 Reconstruction | Reconstruction of SR 173 to improve stormwater infrastructure, sidewalks, crosswalks |

## Exhibit 35 - Highway Projects



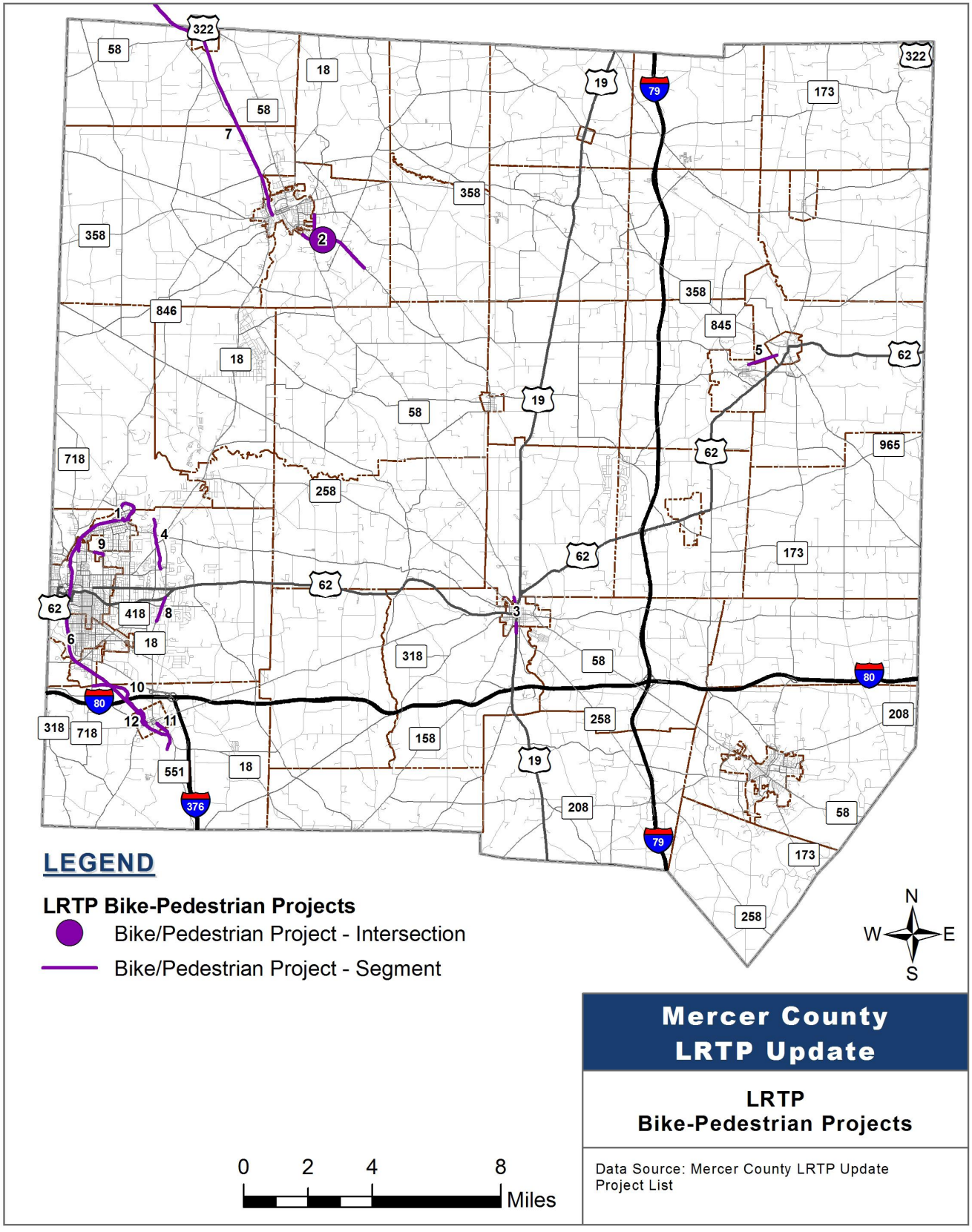
### Bicycle and Pedestrian Projects

This list of projects primarily affects bicycles and pedestrians that are clearly defined and well developed; many of these projects were recommendations from earlier studies or were a clear solution to an identified concern ***(Exhibit 36)***. Other bicycle and pedestrian comments went into the Betterment map discussed in the next section or into a Study. The prioritized project listing with funding sources and full descriptions can be found in Appendix D.

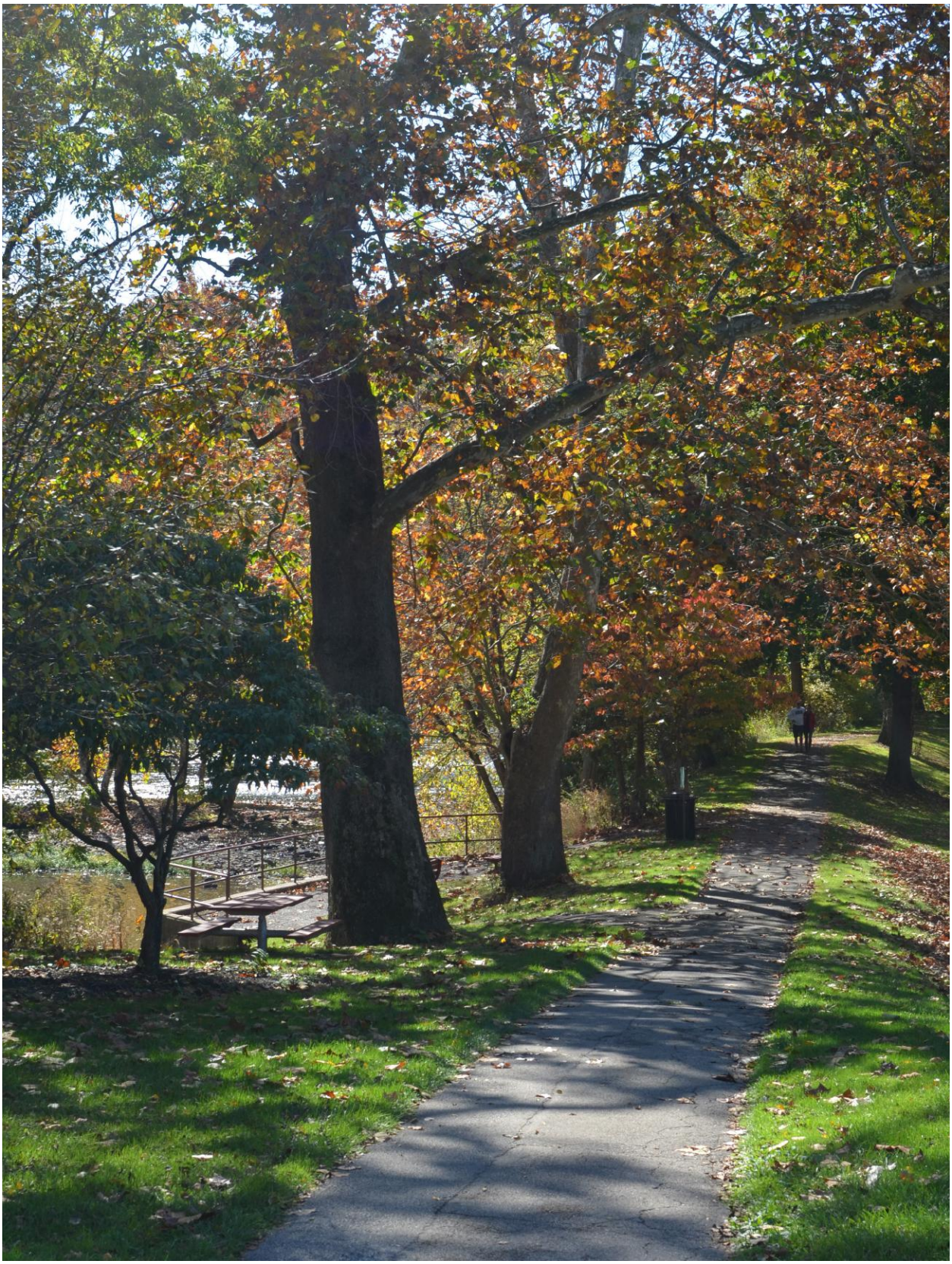
**Exhibit 36 - Bicycle and Pedestrian Project Listing**

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 1 | Erie Tow Path and Canal Park Trail Extension | Trail extension connecting the existing ~700 foot length tow path that extends from the parking lot of the Sharpsville Area Recreation Park to the historic Erie Extension Canal Lock #10 around the Shenango River north of Sharpsville along borough-owned land, making a connection to the existing Trout Island Trail which extends approximately 2.5 miles north from the trailhead along the Shenango River |
| 2 | Hempfield Twp Elementary School Bike/Ped Connections | Sidewalk connection between the Hempfield Township elementary and high schools, as well as from residential area to the west, to the park in the southeast |
| 3 | Mercer Sidewalks | Sidewalk connection to the grocery store and to Dairy Queen |
| 4 | Pine Hollow Run Trail | Trail connecting to the Trout Island Trail along Pine Hollow Run in Hermitage |
| 5 | Sandy Lake to Stoneboro Trail | Trail connecting Stoneboro and Sandy Lake parks |
| 6 | Sharpsville to Sharon Hike/Bike Trail | Trail connecting Sharpsville at Trout Island Trail down to Sharon at Thornton Avenue using abandoned rail bed or on-street means |
| 7 | Shenango Trail | Shenango trail construction within the Mercer County portion of the trail from Greenville to Jamestown, Stone Arch to Depot Street section |
| 8 | SR 18 Hermitage Sidewalk Extension to Linden Pointe | Sidewalk connection along US 18 south to Linden Pointe which is used like a trail system |
| 9 | Thornton Ave Bicycle Lane | Dedicated bicycle lanes, pavement markings, and signage on Thornton Avenue to connect to Buhl Farm Golf Course |
| 10 | West Middlesex River Trail | River trail from West Middlesex along abandoned rail corridor |
| 11 | West Middlesex School District SR 18 Sidewalks to School | Sidewalk connection between residential area and school along US 18 |
| 12 | West Middlesex Trail by Water Treatment Plant | River trail from West Middlesex starting near the water treatment plant on the east side of the river |

## Exhibit 37 - Bicycle and Pedestrian Projects



*The Trout Island Trail*



*The Erie Canal Lock Trail as it exists 2016*

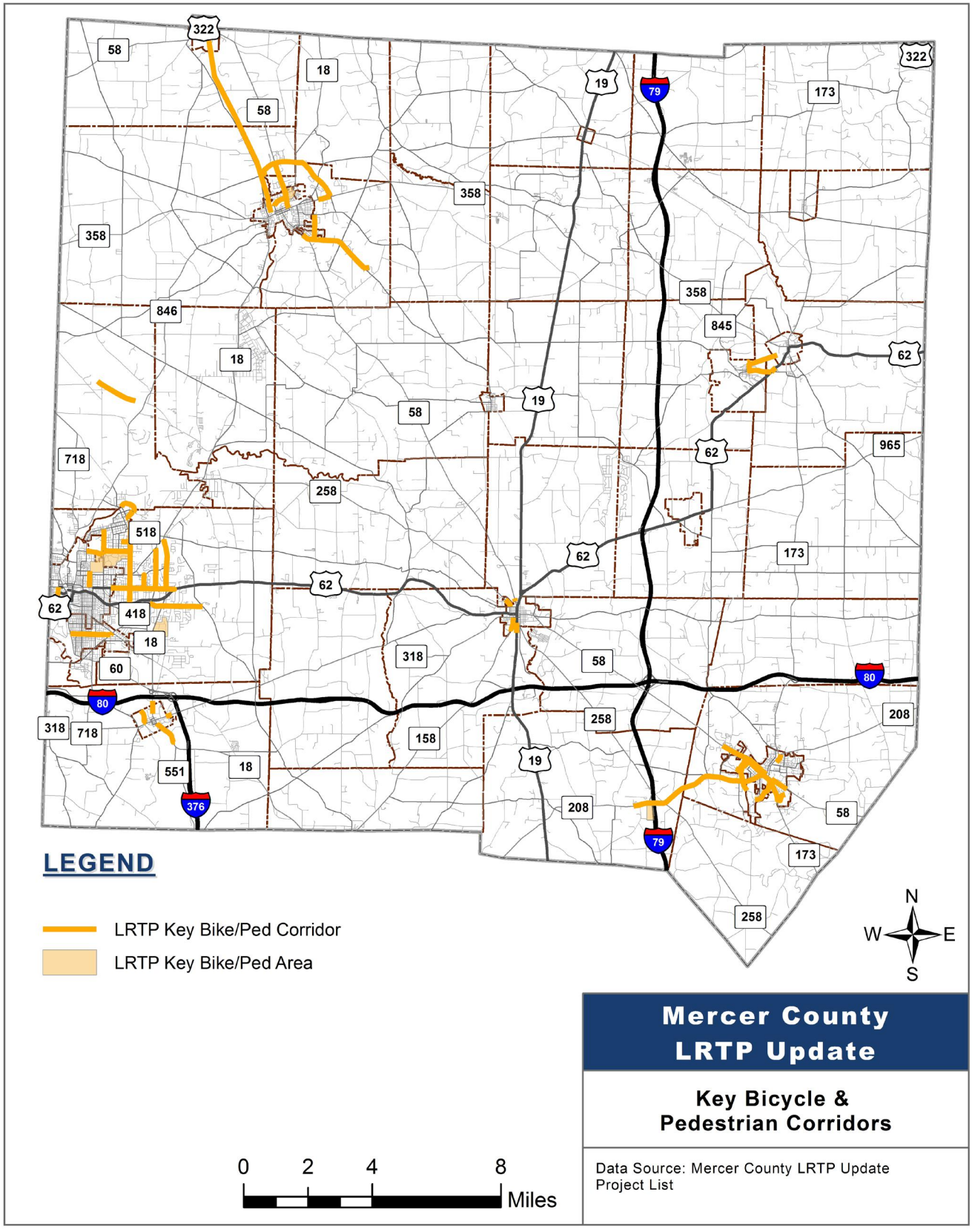
**Betterment**

A roadway betterment consists of surface treatments or corrections to the existing roadway, preferably within the existing right-of-way, to maintain and bring the infrastructure to the current design standards for that classification of highway. This may involve full-depth base repair, shoulder widening, increased lane widths, correction of super-elevation, as well as drainage improvements, guide rail updates, and sidewalks. PennDOT gathers data and assesses pavement condition yearly and endeavors to apply these roadway treatments on a cyclical basis to maintain the roadway surface and underlying base.

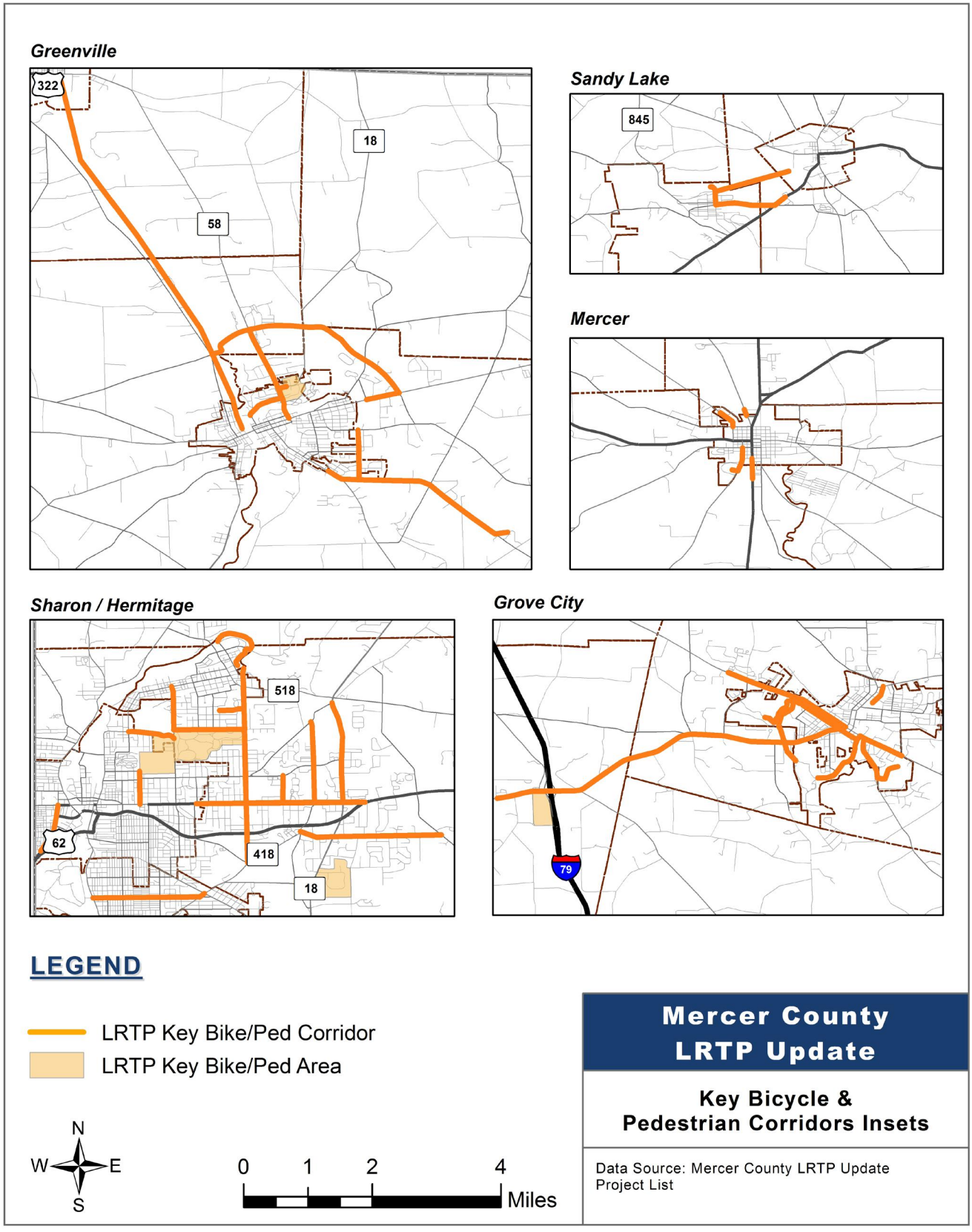
While betterments are typically done to improve pavement and subgrade quality, they can also be used to bring bicycle and pedestrian facilities up to standards. During the listening tour for the LRTP update, critical gaps in pedestrian and bicycle infrastructure as well as preferred walking and biking routes were identified by stakeholders and the public. For general comments that did not result directly in a project or study, these areas were grouped and displayed on a “Key Bicycle & Pedestrian Corridor” map. The purpose of this map is to highlight critical bicycle and pedestrian routes so that amenities can be considered for upgrades or new construction when scoping future roadway betterments along the identified routes ***(Exhibit 38***). The routes eligible for betterments would be those along State Routes. Other key corridors are shown in the map that are not along State Routes; these would have to be addressed using local funds or alternative funding sources if they were determined to be a priority by the municipality and the public.

In general, when doing betterments, there is often a lack of information available when scoping a betterment project to determine if there is a desired pedestrian or bicycle amenity on the route. This map should serve to inform planning decisions so facilities can be included in the scoping of a project. The map is not intended to be an exhaustive list of all important bicycle and pedestrian routes; consultation with municipalities and the public should still be performed prior to projects according to the procedures set forth by PennDOT.

## Exhibit 38 - Key Bicycle & Pedestrian Corridors



## Exhibit 38 - Key Bicycle & Pedestrian Corridors (Insets)



### Studies

Planning studies are recommended when groups of comments focused on a particular area, but there was insufficient information to develop a specific project or set of projects to address the needs ***(Exhibit 39)***. For instance, accidents and safety issues were reported along SR 58. To ensure that the LRTP is providing the correct treatment to address the larger issue, a safety study is recommended along the corridor to identify targeted solutions. For this reason, the "SR 58 Safety Study" was added to the plan so that safety improvements can be programmed in the near term and future years. Improvement line items were added to the Mid-Range and Long-Range sections of the plan to set aside funds to implement projects resulting from these studies.

Cost estimates for studies were developed using similarly scoped projects for comparison. While cost estimates were developed in 2016 dollars and rounded to even $1,000 increments, the Year of Expenditure forecasting grows the costs out to their future year estimates at 3% compounded yearly. Studies were prioritized by when funding would be available for both the study and the improvements recommended through the studies. These studies were fiscally constrained using funds available at the Federal and State level; if studies are able to be financed through other avenues such as the Unified Planning Work Program (UPWP), the studies and their recommended projects may move more quickly through the implementation schedule and the remaining line items and studies may be shifted forward.

**Exhibit 39 - Recommended Studies**

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 1 | I-80 Safety Study | Safety study along I-80 from (at a minimum) the Ohio State Line to the interchange at US 19 with respect to inclement weather accidents, as well as the interchanges of SR 760 / I-376 / and I-80. Recommendations of the study should include safety improvements in specific locations and could include treatments such as retroreflective pavement markers, modifications to ramps and acceleration and deceleration lanes, Intelligent Transportation Systems (ITS) signs, winter maintenance scheduling changes, and interchange reconfigurations. |
| 2 | SR 58 Safety Study | Safety study along SR 58 from Mercer Borough to Greenville Borough to identify roadway hazards, sight distance issues, and other causes of traffic accidents. Result of this study will be a prioritized list of projects to implement to improve safety at intersections and along the corridor. |
| 3 | US 62 Safety Study | Safety study along US 62 from the PA State Line to Mercer, PA to identify roadway hazards, sight distance issues, and other causes of traffic accidents. Result of this study will be a prioritized list of projects to implement to improve safety at intersections and along the corridor. |
| 4 | US 19 at SR 208 Safety Study | Study at US 19 and SR 208 intersections (northern and southern) to determine a way to ease congestion and driver confusion in this area, as well as handling detour traffic when I-79 is detoured; alternatives may include signal warrant study or roundabout analysis. Study should recommend alternative solutions with cost estimates. |

## Exhibit 39 - Recommended Studies

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 5 | US 62 Bessemer RR Tunnel | Study to determine alternatives for US 62 Bessemer RR tunnel northeast of Mercer, PA; study should consider the surrounding transportation network and grade-separated crossings of the railroad, determine the remaining lifespan of the structures, and analyze alternatives from a system preservation perspective. Alternatives may include a new tunnel, detour, bridge, realignment of existing US 62 centerline; all alternatives should include cost estimates. |
| 6 | Greenville Pedestrian Circulation Study | Pedestrian circulation study to inventory pedestrian amenities and gaps in infrastructure in the vicinity of downtown Greenville and Thiel College, connecting the college and residential neighborhoods to local amenities, including access to the planned Shenango Trail. |
| 7 | Greenville Area Truck Circulation Study | Truck circulation study for the Greenville area, including Reynolds Industrial Park, Wasser Bridge Road, Kidds Mills Road, as well as northeast of Greenville Borough, the Werner Ladder plant and Hodge Foundry, Clarks Mills S-Curves and access to the interstate. At a minimum, specific recommendations from this study should include intersection and roadway improvements and programs to enhance truck and freight mobility and access to industry in the area. |
| 8 | Grove City Bike/Ped Circulation Study | A study to determine the priority bicycle and pedestrian routes in Grove City Borough and Springfield Township, connecting major parks, colleges, schools, and places of employment. Recommendations should include a clearly defined list of projects to enhance safety and accessibility in the short- and long-term; one special consideration would be the best connection to a future SR 208 trail toward the Grove City Premium Outlets. |
| 9 | Grove City Middle School Circulation Access Study | A study to determine the best access management for the Grove City Middle School, including impacts on Liberty Road and nearby neighborhoods. |
| 10 | Grove City Downtown Study | A study to determine the traffic circulation pattern in the downtown Grove City area. Specific recommendations from this study should include intersection improvements, improvements for parking and loading, investigation of an official truck route detour, and one-way street conversions. |
| 11 | Bridge System Redundancy Study | A study for Mercer County that considers aspects of the transportation system using bridges including bridge redundancy, life cycles, maintenance needs, functionally obsolete and structurally deficient bridges, current roadway and bridge clearance standards, as well as closure scenarios and user costs; the findings of this study will assist PennDOT with bridge asset management planning |

### Quick Hit / Maintenance

Many comments received from the stakeholders and public should be able to be quickly resolved through maintenance or quick action quick hit type projects; resolutions to this list might include a traffic engineering study, maintenance by PennDOT or the municipality to remove sight distance issues such as brush and trees, or to upgrade deteriorated signs. These types of projects were not included in the project prioritization or fiscal constraint as they can be resolved much more quickly through communication between PennDOT and municipal officials ***(Exhibit 40)***. Any questions or reports of new maintenance needs can be initiated by contacting PennDOT's District Office and/or MCRPC.

### MCRPC

Matthew Stewart, Senior Planner at MCRPC - at 724-981-2412, x3206.

### PennDOT Engineering District 1-0

Lyndsie DeVito, Multimodal Manager - 814-678-7174


*Clockwise from top left: QH #18, SR 318 - Add Curve Warning Speed Reduction Signs Curves; QH #2, Columbia Avenue Extension & Hamburg Road - Affix Stop Sign to Post Rather than Building; QH #7 - Lamor Road & Neshannock Road - Add "Cross Traffic Does Not Stop" Sign*
*Source: Google Earth*

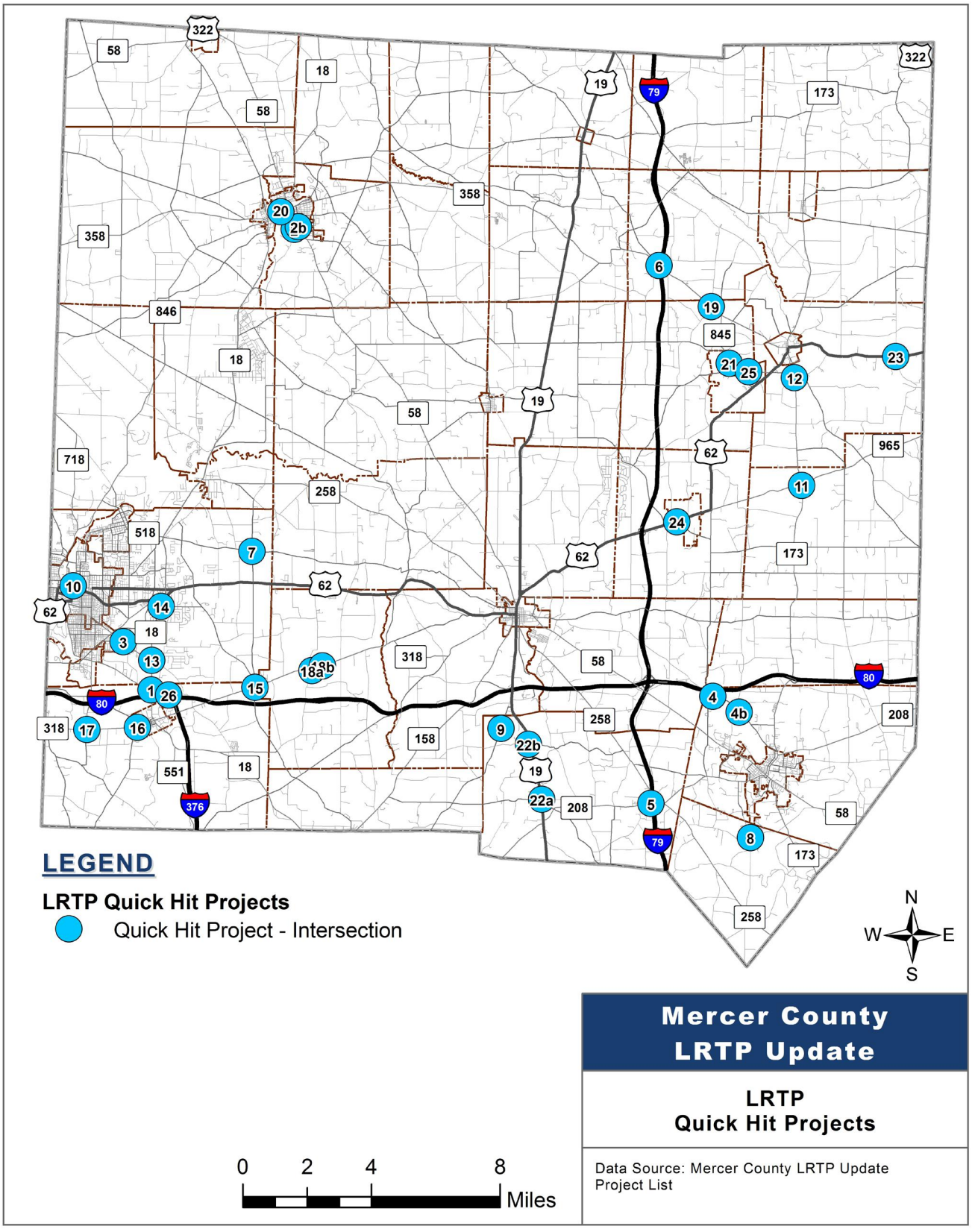
## Exhibit 40 - Maintenance/Quick Hit Project Listing

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 1 | I-376 Exit Ramp Signage | I-376 Exit yield and stop signs should be inspected and placed appropriately |
| 2 | Columbia Ave Extension & Hamburg Rd Stop Sign | Affix stop sign to a breakaway post rather than the building |
| 3 | Farrell SR 518 Hospital Sign | Check placement of hospital sign; ask hospital to relocate sign to allow for better sight distance of turning traffic from hospital entrance and Stafford Street |
| 4 | George Jr Rd / Irishtown Rd Truck Turning Radius | Check truck turning radius at George Jr Rd and Irishtown Rd at Cranberry Rd; check on truck ADT as well |
| 5 | I-79 Exit Ramp Brush Maintenance | Maintain brush at the I-79 exit ramps for traffic turning onto SR 208 |
| 6 | I-79 SR 358 Ramps Sight Distance Study | Sight distance study for southbound I-79 off ramps onto SR 358 to identify issues |
| 7 | Lamor Rd & Neshannock Rd Cross Traffic Does Not Stop Sign | Add “Cross Traffic Does Not Stop” sign to the stop-controlled approach to clarify to an unfamiliar driver that the main road does not stop |
| 8 | Liberty Rd & Airport Rd Signage | Check for the correct placement of stop sign on Airport Road |
| 9 | New Castle / Mercer Rd SR 2001 Maintenance | Maintenance to check the condition of the roadway along SR 2001; particularly with respect to drainage and pavement rutting |
| 10 | Sharon Pitt St & Sharpsville Ave AWSC Warrant | All way stop control warrant for the intersection of Pitt Street & Sharpsville Avenue; or restriping of lanes on Pitt Street to provide better sight distance around obstructions |
| 11 | SR 173 & SR 965 Cross Traffic Does Not Stop Signage | Add “Cross Traffic Does Not Stop” sign to the stop-controlled approach; it is not apparent for an unfamiliar driver that the main road does not stop |
| 12 | SR 173 and Yankee School Rd Cross Traffic Does Not Stop Signage | Sight distance study for eastbound School Road; potential short-term solution to add “Cross Traffic Does Not Stop” sign to the stop-controlled approach |
| 13 | SR 18 & Longview Rd Turn Arrow Warrant | Study to determine if left-turn arrow is warranted at the signal for left-turning traffic on any approach (exists on Northbound SR 18) |
| 14 | SR 18 at Morefield Rd Left Turn Warrant | Study to determine if left-turn arrow is warranted at the signal for left-turning traffic on any approach (exists on Southbound SR 18) |
| 15 | SR 318 & Keel Ridge Rd Maintenance | Maintain vegetation at a distance to ensure adequate sight-distance for turning vehicles |

## Exhibit 40 - Maintenance/Quick Hit Project Listing

| ID | PROJECT NAME | DESCRIPTION |
|---|---|---|
| 16 | SR 318 & Penn Ave TE Sight Distance Study | Traffic engineering sight distance study to determine sight distance obstructions; potential maintenance of vegetation in the right-of-way |
| 17 | SR 318 & SR 718 Lane Striping to Eliminate Confusion | Restripe roadway neck the intersection down to a standard T-intersection with striped shoulder areas to reduce driver confusion from current channelized striping, while maintaining the pavement to allow for truck traffic to use the striped shoulder area |
| 18 | SR 318 Curve Warning Signage | Add curve warning speed reduction signs to SR 318 approaching sharp curves between Greenfield Road and Bend Road |
| 19 | SR 358 & Boyd Rd Signage Improvements | Replace or improve road name signs to current standards |
| 20 | SR 58 & Main Street Stop Bar Striping | Investigate ways to relocate the stop bar on the intersection's north leg to allow truck traffic turning WBR adequate turning radius |
| 21 | SR 845 No Passing Zone | Restripe SR 845 to remove passing zone around blind curve; improve warning signage for curves and flooding; investigate guiderail placement on SR 845 as a means to improve safety |
| 22 | US 19 Side Street Signage Enhancements & Maintenace | Improve signage for minor approaches to US 19, particularly at Leesburg Station Road/Falls Road and Cannery Road; "Cross Traffic Does Not Stop;" also investigate sight distance issues and maintenance of vegatation to provide adequate sight distance |
| 23 | US 62 & Booher Rd Sight Distance and Maintenance | Sight distance study, particularly for southbound Booher Road turning left, due to vertical grade on US 62. Maintain vegetation within the right of way to provide adequate sight distance for turning vehicles |
| 24 | US 62 & Bradley Rd Drainage | Investigate drainage issues and regrade pavement to correct issue and redirect water to the inlet at the southeast corner of the intersection; winter ice concern |
| 25 | Walnut St & Franklin St AWSC Warrant | All-way stop control warrant; short-term solution to add "Cross Traffic Does Not Stop" signs to the minor street approach stop signs |
| 26 | I-80 and I-376 Ramps near SR 318 Exit | Investigate and place appropriate signage to convey that there is a "MERGE AREA" within the stretch of roadway where weaving traffic between I-80, I-376, and SR 318 come together |

## Exhibit 40 - Maintenance/Quick Hit Project Listing (Inset)



### Policies

Policy statements are general recommendations for land use, municipal coordination, and improved procedures ***(Exhibit 41)***. For example, one challenge noted was the communication and understanding of the stormwater management regulations and procedures. A policy statement was included to recommend conducting stormwater management and highway occupancy permit training for municipal officials annually.

**Exhibit 41 - Recommended Policies**

| ID | Responsible Party | Recommended Policy |
|---|---|---|
| 1 | City of Hermitage, PennDOT | Coordinate future development along the divided portion of SR 18 with PennDOT to include modifications to access management, allowing appropriate development while maintaining safety |
| 2 | SVSS and MCCT, PennDOT | Improve coordination between PennDOT and transit agencies so drivers can be aware of roadway construction and planned detours |
| 3 | Hotels, Grove City Premium Outlets, Springfield Township, MCRPC | Determine potential solutions for a private, cooperative shuttle service between Springfield Township near the Grove City Outlets and Grove City Borough, as well as regional destinations like the Pittsburgh International Airport and downtown Pittsburgh. Private shuttle is preferred over a public transportation service due to limitations on the public transportation services competing with private entities operating in this area. Another policy would be to develop an official parking procedure for routing and parking tour buses. |
| 4 | Pine Township, Grove City Borough, PennDOT, MCRPC | Improve truck routing through Grove City and Pine Township to reduce congestion through downtown Grove City |
| 5 | Greenville Borough, Hempfield Township, MCRPC | Implement the Hadley Rd (SR 358) / Williamson Rd (SR 4006) access management plan through developer funding to ensure safe and efficient traffic operations as development occurs |
| 6 | City of Hermitage | Pursue a complete streets policy at the Hermitage Town Center to improve bicycle and pedestrian accessibility and safety, particularly encouraging developers to align their sidewalks so that pedestrians can continue along a straight path. |
| 7 | East Lackawannock Township | Upgrade the ramps and roadway infrastructure when appropriate when I-80 Exit 15 area is developed |
| 8 | Shenango Township | Private hotels to pursue posting a billboard on their property visible from I-80 that which exit drivers should use to access their hotels |
| 9 | Multi-Municipal, MCRPC | Develop a highway/rail crossing plan to eliminate crossing hazards |
| 10 | Jamestown Borough | Work with trail groups, bicycle groups, and Borough officials to develop a Jamestown Trail Town marketing strategy to bring economic benefits of tourism |
| 11 | Multi-Municipal, MCRPC | Improve coordination between MCRPC, municipalities, and PennDOT for municipal comprehensive plans, the LRTP, and the statewide transportation plan |
| 12 | Multi-Municipal, MCRPC, PennDOT, DEP, Conservation District | Conduct annual municipal officials training for stormwater management and Highway Occupancy Permits to clarify the process, introduce appropriate points of contact, and improve cooperation between entities |

## Exhibit 41 - Recommended Policies

| ID | Responsible Party | Recommended Policy |
|---|---|---|
| 13 | MCRPC, SVSS, MCCT | Develop a plan for bus pull-offs and shelters, consulting with populations who use transit frequently to determine appropriate locations; consider public private partnership for establishments such as Walmart to provide shelters on their property |
| 14 | MCRPC, PennDOT, Multi-Municipal | Encourage development of escrow accounts for maintaining HOP installed infrastructure such as inlets and traffic signals to alleviate unforeseen cost impacts of maintenance |
| 15 | City of Sharon | Pursue economic development along Dock Street through business incentives and freight upgrades |
| 16 | Multi-Municipal, MCRPC, PennDOT | Develop a process to improve communication of potential maintenance and quick-hit projects between municipalities, MCRPC, and PennDOT to eliminate transportation concerns |
| 17 | SVSS | Transit to consider coordinating their daily routes to provide a regularly scheduled route that passes by schools in Sharon and Farrell so they can serve students who rely on the bus service during 2-hour delays; currently public transit is allowed to pick up students on a regularly scheduled route but cannot pick them up with a special route during a 2-hour delay |
| 18 | Springfield Township, Pine Township, Grove City Borough | Implement access management plan along SR 208 corridor as development occurs through developer funding sources, public private partnership to alleviate congestion and improve circulation and safety in the vicinity of the I-79 / SR 208 interchange |
| 19 | SVSS and MCCT | Pursue an advertising campaign for SVSS and MCCT to make residents aware of services that are being offered |
| 20 | MCRPC, PennDOT | Locate a public place that is willing to host a bus stop and re-establish a regional intercity bus station to bring intercity bus travel back to Mercer County. Potential candidate locations for this would be near the interchange of I-79 and I-80 due to its proximity to easy highway access, or somewhere along the existing intercity bus routes along US 19 in Mercer Borough or Interchange 15. |
| 21 | MCRPC, MCTA, PMHC | Develop a plan for prioritized trail segments and coordinate with the Pennsylvania Museum and Historical Commission to repurpose decommissioned bridges into multimodal bicycle and pedestrian bridges or parks |
| 22 | MCRPC, PennDOT | Re-examine major routes in the transportation system for eligibility as National Highway System (NHS) routes; the current NHS designations were established many years ago and may not reflect current trends in transportation and interstate connectivity. Redesignation would increase the flexibility and availability of funding for upgrades to these routes. |
| 23 | SVSS, MCCT, MCRPC | Pursue recommendations set forth in the Updated Coordinated Public Transit - Human Services Transportation Plan including regionalization, centralization of information, investments in technology, service maintenance and expansion, continued service to elderly and disabled, and progress monitoring |

### Local Projects

Local projects were identified by stakeholders and the public along non state-owned roadways. These projects were included in the plan so that they can be incorporated into future municipal planning and project development efforts ***(Exhibit 42)***.

Appended to the local project list are the leftover Highway and Bicycle & Pedestrian projects that were unable to be funded by the year 2042 given the fiscal constraint due to their cost, ranking, and available funding sources; if these projects are desired to be moved forward, reprioritization can take place to examine updated data, and funding could be pursued locally or with innovative partnerships.

**Exhibit 42 - Local Project Listing**

| ID | MUNICIPALITY | LOCAL PROJECT DESCRIPTION |
|---|---|---|
| 1 | West Middlesex Borough | West Middlesex Borough Sidewalks |
| 2 | City of Sharon | Budd Street Truck Circulation |
| 3 | City of Sharon | US 62 & Spencer Ave Access |
| 4 | Grove City Borough; Hempfield Township | Grove City Parking Lot Access Management Plan |
| 5 | City of Sharon | Sharon Signals Retiming / Green Light Go |
| **ID** | **MUNICIPALITY** | **HIGHWAY PROJECT DESCRIPTION** |
| 3 | City of Hermitage | Christy Road Bike/Ped Traffic Calming |
| 9 | City of Hermitage | Lamor Road (SR 3020) Reconstruction Continuation |
| 18 | Greene Township; Pymatuning Township | Shenango River Boat Launch Parking Lots |
| 31 | Hempfield Township; West Salem Township | Wasser Bridge Rd (SR 4003) Reconstruction |
| 32 | Coolspring Township | US 62 Railroad Tunnel |
| 33 | SR 173 Reconstruction | Reconstruction of SR 173 to improve stormwater infrastructure, sidewalks, crosswalks |
| **ID** | **MUNICIPALITY** | **BICYCLE & PEDESTRIAN PROJECT DESCRIPTION** |
| 2 | Sharpsville Borough; City of Hermitage; City of Sharon | Sharpsville to Sharon Hike/Bike Trail |
| 8 | Shenango Township; West Middlesex Borough | West Middlesex River Trail |
| 10 | Greenville Borough; Hempfield Township | Hempfield Twp Elementary School Bike/Ped Connections |
| 11 | City of Hermitage | Pine Hollow Run Trail |

### Environmental Mitigation

Environmental mitigation strategies were discussed at the September 28, 2016 Agency Coordination Meeting with PennDOT. The strategies discussed to mitigate potential environmental impacts from the LRTP involve early identification of potential impacts to the environment and communities, tracking threatened and endangered species, coordinating with agencies early on project locations, providing multimodal access, and implementing stormwater and erosion control measures throughout the county.

Specifically, PennDOT's Linking Planning & NEPA (LPN) system will be used to identify potential impacts of projects early in the conceptual design process so that agencies can be contacted to review and comment on strategies to reduce negative impacts.

Threatened and endangered species impacts will be identified and mitigated as deemed appropriate by the Pennsylvania Fish and Boat Commission (PFBC) and Department of Conservation and Natural Resources (DCNR). Wetland banking for each watershed will be explored in the Shenango River watershed.

The project sponsor will work with Pennsylvania Museum and Historical Commission (PMHC) to identify key cultural and historic resources, as well as archaeological sites, and implement advanced mitigation strategies. Additional consideration will be given to decommissioned historical bridges for re-purposing to parks and bicycle and pedestrian trails.

Stormwater and erosion will be addressed by coordination with the Conservation District, maintaining erosion control on construction sites, maintaining the existing stormwater systems, training municipalities and providing communication between involved agencies, and preserving open space in floodplains.

Multimodal connectivity will be improved to bring awareness of environmental issues to the public eye, to reduce vehicular emissions and noise, and to minimize the impact of climate change by meeting EPA emissions budgets through the travel demand forecasting and air quality conformity process.

There are no projects on the LRTP project listing that will likely be burdensome to EJ populations. The projects that did affect EJ populations were generally positive in nature. A main need heard in the outreach was to enhance non-motorized travel and access for populations that do not have access to private vehicles. MCTA and SVSS are currently undertaking their Coordinated Human Services plan; recommendations from the plan were not available to be programmed into this LRTP update, though general policy considerations were made, and further projects should be considered for programming during the next LRTP update.

### Implementation Evaluation

MAP-21 formalized the requirement for performance measurement, which is consistent with the overall performance based planning approach used throughout the LRTP. The plan's goals and objectives, which provide a local focus to the Federal and Statewide planning requirements, were used in the project prioritization process to determine which projects will help meet the plan's goals and objectives. The performance measures developed for the plan take the next step and will act as a report card to determine if implementing the plan has helped the county meet its goals and objectives. These performance measures should be checked as an annual report card, to be coordinated through PennDOT and the MPO, and found in Appendix C:

# APPENDIX A – PROJECT RANKING CRITERIA

| Criteria | Definition | Weight |
|---|---|---|
| **Safety & Security (20.31% of total)** | | |
| **Existing crashes - will project improve safety on a route listed in the top-25 high crash locations in Mercer County (HSIP, ISIP, RDIP) or local crash history? (41.72% of group)** | | |
| | No | 0 |
| | Yes | 1 |
| **Multimodal safety - will project improve safety for pedestrians or cyclists? (20.01% of group)** | | |
| | No | 0 |
| | Yes | 1 |
| **Safety - how many of the following issues are likely to be addressed by the project? (38.27% of group)** | | |
| Hazardous road conditions; | None will be addressed | 0 |
| Roadway and shoulder width; sight distance; | One will be addressed | 0.5 |
| Emergency detour route | Two+ will be addressed | 1 |
| **Accessibility / Mobility (14.34% of total)** | | |
| **Mode interconnectivity - how many of the following modes are affected by the project? (64.67% of group)** | | |
| Auto, Truck & Bus, Bicycle & Pedestrian, Rail or Air | One will be affected | 0 |
| | Two will be affected | 0.5 |
| | Three+ will be affected | 1 |
| **Recreational access - does project provide access to or provide additional recreational opportunities? (35.33% of group)** | | |
| | No | 0 |
| | Yes | 1 |
| **Traffic Congestion (13.06% of total)** | | |
| **Traffic volume - what is the average annual daily traffic (AADT)? (28.87% of group)** | | |
| | AADT < 4,000 | 0 |
| | AADT > 4,000 to 8,000 | 0.25 |
| | AADT > 8,000 to 12,000 | 0.5 |
| | AADT > 12,000 | 1 |
| **Percent trucks - what is the overall percentage of medium/heavy duty commercial trucks? (25.53% of group)** | | |
| | 0-5% | 0 |
| | 5-10% | 0.5 |
| | 10% or higher | 1 |
| **Congestion - does project improve congestion on a corridor included on the MPO'S Congestion Management Processes (CMP)? (45.6% of group)** | | |
| | No | 0 |
| | Yes | 1 |
| **Economic Vitality (14.96% of total)** | | |
| **Economic competitiveness - where does project provide access to markets for people and goods? (69.54% of group)** | | |
| | Local | 0.5 |
| | Regional (within 1 mile of NHS route) | 0.75 |
| | National (within 1 mile of Interstate or rail terminal) | 1 |
| **Tourism - how does project influence local and regional tourism? (30.46% of group)** | | |
| Connects local tourist destinations; improves downtown revitalization efforts; | None will be addressed | 0 |
| connects to regional destinations; provides reason to stay a 2nd day; | One will be addressed | 0.5 |
| | Two+ will be addressed | 1 |
| **Environmental Impacts (8.66% of total)** | | |
| **Environmental justice (EJ) - does project benefit any disadvantaged populations? (59.09% of group)** | | |
| | No impact/adverse impact | 0 |
| | Positive impact | 1 |
| **Environmental resource impacts - what is the level of environmental impact from this project? (40.91% of group)** | | |
| | Large impact | 0 |
| | Minor or no impact | 1 |
| **Feasibility (11.37% of total)** | | |
| **Project readiness - at what stage is the project in the planning process? (36.86% of group)** | | |
| | Project not started | 0 |
| | MPO approached about project | 0.25 |
| | Conceptual design | 0.5 |
| | Preliminary design | 0.75 |
| | Final design complete; PennDOT reviewing | 1 |
| **Right of way (ROW) and utility - is significant ROW, utility, or railroad coordination anticipated? (20.58% of group)** | | |
| | Significant coordination | 0 |
| | Minor coordination | 0.5 |
| | No coordination | 1 |
| **Planning consistency - is the project consistent with the local comprehensive plan, completed transportation plan, and federal / state planning direction? (42.56% of group)** | | |
| | Supports goals of plan | 0.5 |
| | Specifically listed in plan | 1 |
| **Condition (17.3% of total)** | | |
| **Infrastructure condition - how many of the following conditions exist: (100% of group)** | | |
| Poor pavement condition; Poor intersection operations; | Good conditon/none exist | 0 |
| Pedestrian/bicycle facilities or ADA ramps deteriorated; Poor drainage; | One condition exists | 0.5 |
| Bridge is eligible for rehab/replacement; Poor facility access | Two+ condition exists | 1 |

# APPENDIX B – FUNDING SOURCES

## *FUNDING SOURCES*

**SURFACE TRANSPORTATION PROGRAM (STP):** This category of funds can be used on projects that preserve and improve the conditions and performance on any Federal-Aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals.

In general, STP projects may not be used on roads with a functional class of local or rural minor collectors. However, there are a number of exceptions to this requirement. A State may use up to 15% of its rural sub-allocation on minor collectors. Other exceptions include, but are not limited to: bridge (20 feet or greater in span length, only) replacement and rehabilitation, new construction, bridge inspection, bike/pedestrian walkways, safety infrastructure, Transportation Alternatives, “recreational trails,” port terminal modifications, and minor collectors in NHS corridors.

Eligible projects include:

1. Construction, reconstruction, rehabilitation, resurfacing, restoration, preservation, or operational improvements for highways, including construction of designated routes of the Appalachian Development Highway System and local access roads.
2. Replacement (including replacement with fill material), rehabilitation, preservation, protection (including painting, scour countermeasures, seismic retrofits, impact protection measures, security countermeasures, and protection against extreme events) and application of calcium magnesium acetate, sodium acetate/formate, or other environmentally acceptable, minimally corrosive anti-icing and deicing compositions for bridges (and approaches to bridges and other elevated structures) and tunnels on public roads of all functional classifications, including any such construction or reconstruction necessary to accommodate other transportation modes.
3. Construction of a new bridge or tunnel at a new location on a federal-aid highway.
4. Inspection and evaluation of bridges and tunnels and training of bridge and tunnel inspectors, and inspection and evaluation of other highway assets. This includes, but is not limited to, signs, retaining walls, and drainage structures.
5. Capital costs for transit projects eligible for assistance under chapter 53 of title 49; which includes vehicles and facilities (publicly or privately owned) that are used to provide intercity passenger bus service.
6. Carpool projects, fringe and corridor parking facilities and programs, including electric vehicle and natural gas vehicle infrastructure, bicycle transportation and pedestrian walkways, and the modification of public sidewalks to comply with the Americans with Disabilities Act of 1990.
7. Highway and transit safety infrastructure improvements and programs, installation of safety barriers and nets on bridges, hazard eliminations, projects to mitigate hazards caused by wildlife, and railway-highway grade crossings.
8. Highway and transit research and development and technology transfer programs.
9. Capital and operating costs for traffic monitoring, management, and control facilities and programs, including advanced truck stop electrification systems.

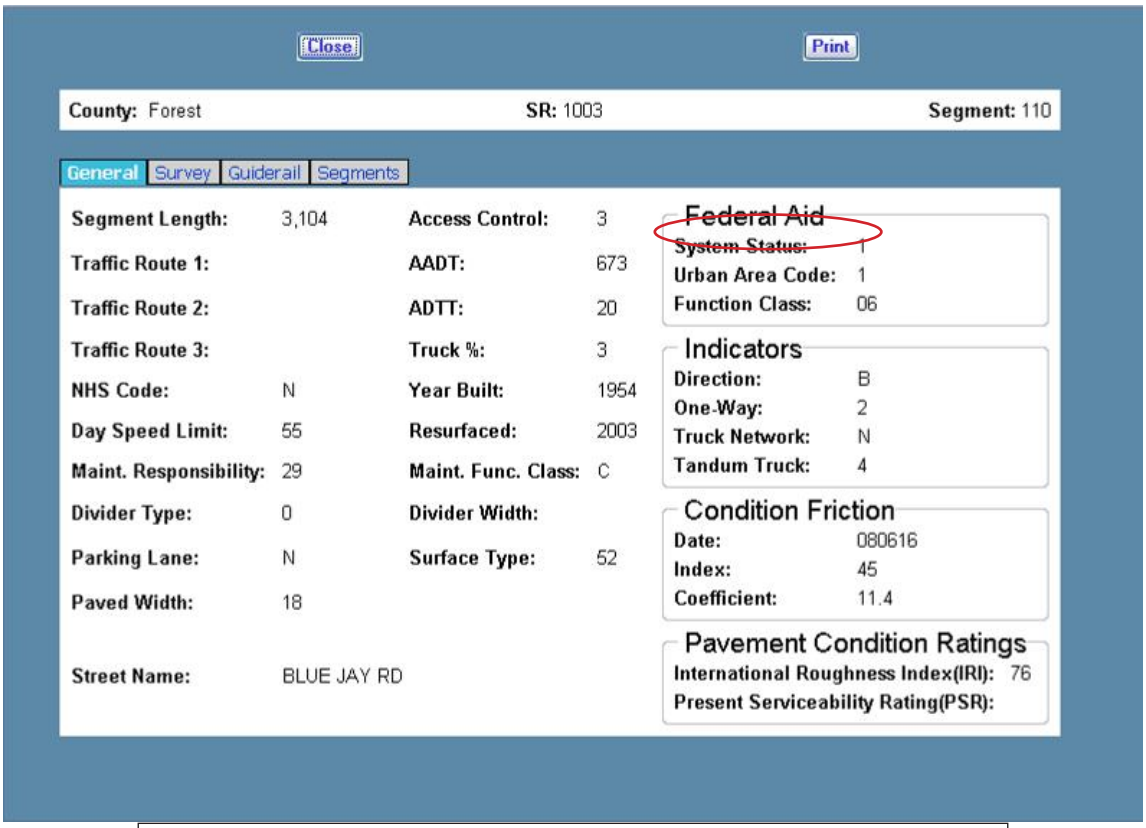
10. Surface transportation planning programs.
11. Transportation alternatives.
12. Transportation control measures.
13. Development and establishment of management systems.
14. Environmental mitigation efforts.
15. Projects relating to intersections that have –
    a. Disproportionately high accident rates;
    b. High levels of congestion, as evidenced by interrupted traffic flow at the intersection and a level of service rating of “F” during peak travel hours, calculated in accordance with the Highway Capacity Manual; and
    c. Are located on a Federal-aid highway.
16. Infrastructure-based intelligent transportation systems capital improvements.
17. Environmental restoration and pollution abatement.
18. Control of noxious weeds and aquatic noxious weeds and establishment of native species.
19. Projects and strategies designed to support congestion pricing, including electric toll collection and travel demand management strategies and programs.
20. Recreational trails projects.
21. Construction of ferry boats and ferry terminal facilities. Approach roadways for these terminals are eligible as projects to accommodate other transportation modes and as a project that provides access into and out of the port.
22. Border infrastructure projects.
23. Truck parking facilities.
24. Development and implementation of a State asset management plan for the National highway System, including data collection, maintenance, and integration and the costs associated with obtaining, updating, and licensing software and equipment required for risk based asset management and performance based management, and for similar activities related to the development and implementation of a performance based management program for other public roads.
25. A project that, if located within the boundaries of a port terminal, includes only such surface transportation infrastructure modifications as are necessary to facilitate direct intermodal interchange, transfer, can access into and out of the port.
26. Construction and operational improvements for any minor collector if –
    a. The minor collector and the project to be carries out are in the same corridor and in proximity to a National Highway System route;
    b. The construction or improvements will enhance the level of service on the National Highway System route and improve regional traffic flow; and
    c. The construction or improvements are more cost-effective, as determined by a benefit-cost analysis, then an improvement to the National Highway System route.
27. Workforce development, training, and education activities.

The project should be programmed 90% federal, 10% state for projects on the Interstate System, or 80% federal, 20% state (or local) unless it is eligible for 100%. (See Attachment A for safety items eligible for 100% participation). The federal share for workforce development, training, and education activities is 100%. The federal share for projects located on toll roads is 80% federal and 20% state.

The Surface Transportation has several sub-categories, mainly based on population:

**STP – URBAN (STU):** This category of funds are used in regions with a population of at least 200,000. Allocation of these funds is made by federal formula. Urban areas are: Philadelphia, Allentown/Bethlehem/Easton, Reading, Lancaster, Mercer, Harrisburg, Scranton/Wilkes Barre, Pittsburgh, and Reading only) – use MPMS code "STU" as negotiated with your planning partner. The project should be programmed 80% federal, 20% state (or local) unless it is eligible for 100%. See Attachment A for safety items eligible for 100% participation).

Urban Area Code can be found under *Hwy & Br – Project - Location – RMS Tab, hit View – Look at Urban Area Code.*




**Urban Area Code Table**

1 = R – Rural

2 = U1 – Small Urban (Pop 5,000 – 49,999)

3 = U2 – Urbanized (Pop 50,000 – 199,999)

4 = U3 – Urbanized (Pop 200,000 – or More)

**STP – (STN):** This category of funds may only be used in areas with greater than 5,000 population and less than 200,000 population. Eligible activities are the same as under STP flexible category. These projects should be programmed 80% federal, 20% state (or local) unless it is eligible for 100%. See Attachment A for safety items eligible for 100% participation.)

**STP – RURAL (STR):** This category of funds may only be used in areas with less than 5,000 population. These projects should be programmed 80% federal, 20% state (or local) unless it is eligible for 100%. (See Attachment A for safety items eligible for 100% participation.)

**TRANSPORTATION ALTERNATIVES PROGRAM (TAP):** This category provides funding for programs and projects defined as transportation alternatives, including:

- On-and off-road pedestrian/bicycle facilities,
- Infrastructure projects for improving non-driver access to public transportation and enhanced mobility,
- Community improvement activities,
- Environmental mitigation,
- Recreational trails,
- Safe routes to school,
- Sidewalk improvements, planters, benches, street lighting, pedestrian crossings, transit bus shelters, traffic calming, bicycle amenities, kiosks, signage, and other visual elements,
- Construction of turnouts, overlooks, and viewing areas; and bicycle and pedestrian facilities along a National or Pennsylvania Scenic Byway,
- Historic preservation and rehabilitation of historic transportation facilities related to a byway,
- Projects for planning, design and/or construction of boulevards and other roadways largely in the right-of-way of former Interstate system routes or other divided highways.

TAP funds can only be obligated for projects submitted by certain entities, including local governments; regional transportation authorities; transit agencies; nature resource or public land agencies; school districts, local education agencies, or schools; tribal governments; and other local/regional governmental entity with responsibility for oversight of transportation or recreational trails (other than an MPO or state agency) that the state determines to be eligible for TAP.

There is no requirement for the TAP projects to be located along Federal-aid highways. SRTS projects must be within approximately two (2) miles of a school for kindergarten through eighth grade.

Eligible TAP projects/activities include:

1. Construction, planning and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.

2. Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.

3. Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users.

4. Construction of turnouts, overlooks, and viewing areas.

5. Community improvement activities, including – inventory, control, or removal of outdoor advertising; historic preservation and rehabilitation of historic transportation facilities; vegetation management practices in transportation rights-of-way to improve roadway safety, prevent against invasive species, and provide erosion control; and archaeological activities relating to impacts from implementation of a transportation project eligible under title 23.

6. Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation to – address stormwater management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff, including activities described in sections 133(b)(11), 328(a), and 329 of title 23; or reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats.

7. Planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes and other divided highways.

Eligible RTP projects/activities include: the recreational trails program under section 206 of title 23.

Eligible SRTS projects/activities include:

1. Infrastructure-related projects – planning, design, and construction of infrastructure-related projects on any public road or any bicycle or pedestrian pathway or trail in the vicinity of schools that will substantially improve the ability of students to walk and bicycle to school, including sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, secure bicycle parking facilities, and traffic diversion improvements in the vicinity of schools.

2. Non-infrastructure related activities to encourage walking and bicycling to school, including public awareness campaigns and outreach to press and community leaders, traffic education and enforcement in the vicinity of schools, student sessions on bicycle and pedestrian safety, health, and environment, and funding for training, volunteers, and managers of safe routes to school programs.

3. Safe Routes to School coordinator.

For most TAP projects, including the SRTS, the project should be programmed 80% federal, 20% state (or local). However, if the sponsor funds the pre-construction phases, the federal share is 100% for the construction phase.

**CONGESTION MITIGATION AND AIR QUALITY (CAQ):** This category of funds may be used for transportation projects and programs that help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide, or particulate matter – nonattainment areas- and for areas that were out of compliance but have now met the standards – maintenance areas.

Eligible projects include:

1. Acquisition of diesel retrofits, including tailpipe emissions control devices, and the provision of diesel-related outreach activities.
2. Intermodal equipment and facility projects that target diesel freight emissions through direct exhaust control from vehicles or indirect emissions reductions through improvements in freight network logistics.
3. Alternative fuel projects including participation in vehicle acquisitions, engine conversions, and refueling facilities.
4. Establishment or operation of a traffic monitoring, management, and control facility, including the installation if advanced truck stop electrification systems.
5. Projects that improve traffic flow, including efforts to provide signal systemization, construct HOV lanes, streamline intersections, add turning lanes, improve transportation systems management and operations that mitigate congestion and improve air quality, and implement ITS and other CMAQ-eligible projects, including efforts to improve incident and emergency response or improve mobility, such as through real time traffic, transit and multi-modal traveler information.
6. Projects or programs that shift travel demand to nonpeak hours or other transportation modes, increase vehicle occupancy rates, or otherwise reduce demand through initiatives, such as tele-working, ridesharing, pricing, and others.
7. Transit investment, including transit vehicle acquisitions and construction of new facilities or improvements to facilities that increase transit capacity.
8. Non-recreational bicycle transportation and pedestrian improvements that provide a reduction in single-occupant vehicle travel.
9. Education and outreach.
10. Vehicle inspection and maintenance programs.

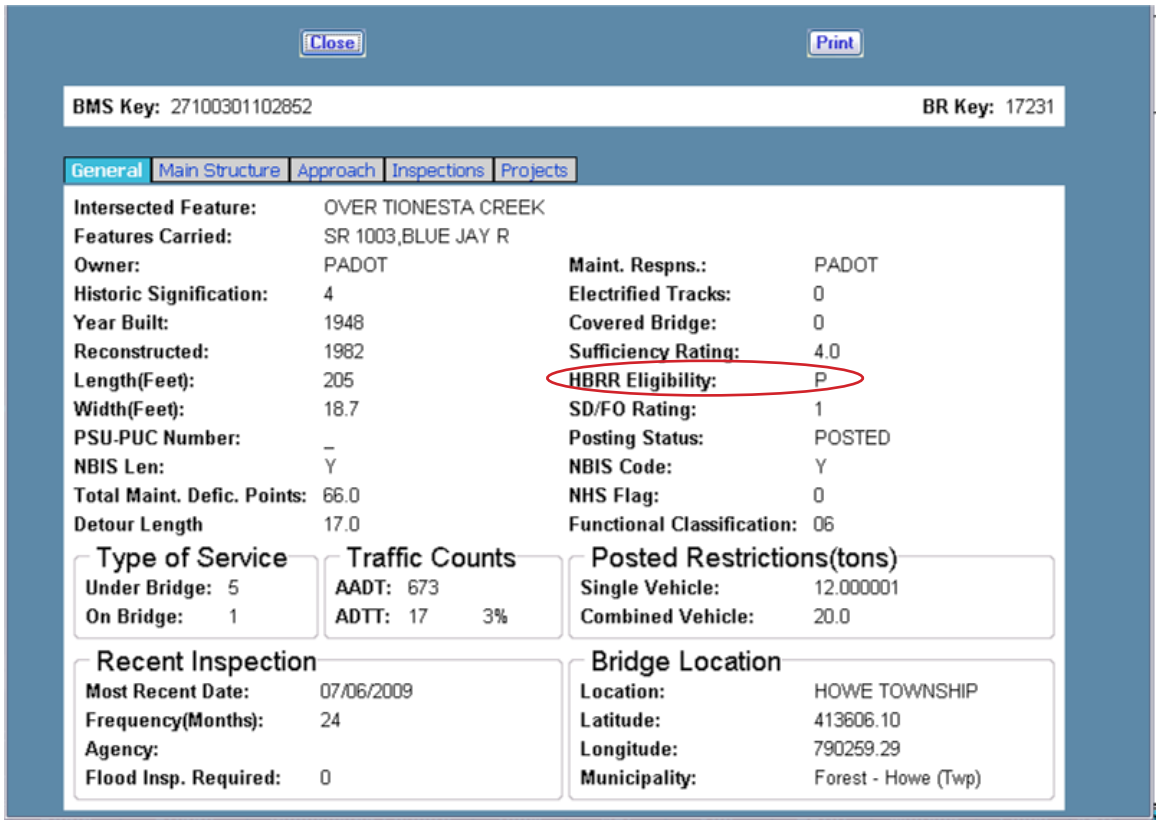
The project should use MPMS code “CAQ”. The project should be programmed 80% federal, 20% state (or local) unless it is eligible for 100%. (See Attachment A for safety items eligible for 100% participation). ** Only those counties that are in non-attainment or maintenance of the Federal 8 Hour Ozone Standard are eligible for CMAQ funds.

**BRIDGE** project – determine if bridge is eligible Federal Critical Bridge funds. If so, the bridge will be no longer than or equal to 21 feet. If this criterion is met and the bridge has a sufficiency rating below 50.0, the bridge will have an HBRR code of ‘P’ and thus is eligible for replacement or rehabilitation. If the bridge is longer than or equal to 21 feet and has a sufficiency rating between 50.0 and 80.0 the bridge will have an HBR code of

'H' and is eligible for rehabilitation. If there is no HBRR code and the bridge is longer than 21 feet, the bridge is eligible for 'bridge preservation' work. If the bridge is not eligible for the type of work that is intended (i.e.., replacing a bridge with a sufficiency rating of 60), you will have the opportunity of programming with STP (if the bridge is longer than 21 feet) or state bridge funds. Remember also, to use these funds, the replaced or rehabilitated bridge must conform to current federal standards. Thus you cannot use these funds to build a covered bridge or anything else that is functionally obsolete.

If the project is eligible for Federal Critical Bridge funds, you should use MPMS code "BOF" if the bridge is not on the federal aid system.

"Off System (**BOF**)" bridges are those defined with a functional class of 08, 09, or 19 ONLY. The project should be programmed 80% federal, 20% state for state owned bridges and 80% federal, 15% state, 5% local for locally owned bridges and 90% federal, 10% state for bridges on the Interstate System.




**HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP):** This is a core Federal-Aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads, including local public roads.

The HSIP is highly data driven and, as such, highway safety improvements projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means. These projects MUST be listed on the Strategic Highway Safety Program (SHSP).

Eligibility of specific projects, strategies, and activities generally are based on:

- Consistency with a state's SHSP,
- Crash experience, crash potential, crash rate, or other data-supported means,
- Compliance with Title 23, CFR, Highways, requirements,
- State's strategic or performance based safety goals to reduce fatalities and serious injuries on all public roads.

This category of funds may only be used for safety improvement projects such as the elimination of curves, intersection improvements, elimination of sight distance deficiencies, etc. on any public road.

You should use MPMS Code "HSIP". These projects should be programmed 90% federal, 10% state unless it is eligible for 100%. (See Attachment A for safety items eligible for 100% participation).

**RAIL/HIGHWAY CROSSING PROGRAM (RRX):** These funds may only be used to improve rail/highway crossings through the installation or replacement of protective devices (gates/light) or improvement of the crossing surface on any public roadway – should use MPMS code RRX. Please note that the work to the crossing surface cannot be more than 20% of the total project cost. These projects are 90% federal, 10% state though are eligible for use of toll credits.

**NATIONAL HIGHWAY PERFORMANCE PROGRAM (NHPP):** The purposes of this program are 1) to provide support for the condition and performance of the National Highway System (NHS); 2) to provide support for the construction of new facilities on the NHS; and 3) to ensure that investments of the Federal-Aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.

NHPP funds may be obligated only for a project on an "eligible facility." Under the NHPP, and "eligible facility" includes only those facilities located on the National Highway System (NHS), as defined in 23 U.S.C. 103, Highway: Federal-Aid System, except as specified in the statute. Because very few local facilities are on the NHS, it is not often that NHPP funding would apply to a local project.

Eligible projects include:

1. Construction, reconstruction, resurfacing, restoration, rehabilitation, preservation or operational improvement of segments of the NHS.
2. Construction, replacement (including replacement with fill material), rehabilitation, preservation, and protection (including scour countermeasures, seismic retrofits, impact protection measures, security countermeasures, and protection against extreme events) of bridges on the NHS.
3. Construction, replacement (including replacement with fill material), rehabilitation, preservation, and protection (including impact protection measures, security countermeasures, and protection against extreme events) of tunnels on the NHS.
4. Inspection and evaluation of bridges and tunnels on the NHS, and inspection and evaluation of other highway infrastructure assets on the NHS. This includes but is not limited to, signs, retaining walls, and drainage structures.
5. Training of bridge and tunnels inspectors.

6. Construction, rehabilitation, or replacement of existing ferry boats and ferry boat facilities, including approaches that connect road segments of the NHS.
7. Construction, reconstruction, resurfacing, restoration, rehabilitation, and preservation of, and operational improvements for, a Federal-aid highway not on the NHS, and construction of a transit project eligible for assistance under chapter 53 of title 49, if –
    a. The highway project or transit project is in the same corridor as, and in proximity to, a fully access controlled highway on the NHS;
    b. The construction or improvements will reduce delays or produce travel time savings on the fully access-controlled highway described in clause (a) and improve regional traffic flow; and
    c. The construction or improvements are more cost-effective, as determined by benefit-cost analysis, than an improvement to the fully access-controlled highway on the NHS.
8. Bicycle transportation and pedestrian walkways in accordance with section 217. The project or activity must be associated with an NHS facility.
9. Highway safety improvements for segments of the NHS.
10. Capital and operating costs for traffic and traveler information monitoring, management, and control facilities and programs. The project activity must be associated with an NHS facility.
11. Development and implementation of a State asset management plan for the NHS in accordance with this section, including data collection, maintenance, and integration and cost associated with obtaining, updating, and licensing software and equipment required for risk-based asset management and performance-based management.
12. Infrastructure- based intelligent transportation systems capital improvements. The project or activity must be associated with an NHS facility.
13. Environmental restoration and pollution abatement in accordance with section 328. The project or activity must be associated with an NHS facility.
14. Control of noxious weeds and aquatic noxious weeds and establishment of native species in accordance with section 329. The project or activity must be associated with an NHS facility.
15. Environmental mitigation efforts related to projects funded under this section as described in subsection Environmental Mitigation. The project or activity must be associated with an NHS facility.
16. Construction of publicly owned intra-city or intercity bus terminals servicing the NHS.

The following activities are made eligible by other provisions:

- Workforce development, training, education activities that are in accordance with 23 U.S.C. 504(e).
- Fringe and corridor parking as provided for in 23 U.S.C. 137. The project or activity must be associated with an NHS facility.

The project should be programmed 80% federal, 20 percent state for projects on the NHS or 90% federal, 10% state for project on the Interstate system, or 100% federal if it's eligible (See Attachment A for safety items eligible for 100% participation). The federal share for workforce development, training, and education activities is 100%, except projects funded by the Local Technical Assistance program (LTAP). Projects that demonstrate an improvement to the efficient movement of freight and are identified in a State freight plan are eligible for a federal share of 95% for projects on the Interstate System and up to 90% for all other project.

## ATTACHMENT A

**Safety Projects Eligible for 100% Federal Participating Costs**

**Federal Funds may be utilized at 100% of the project costs for the following:**

1. Traffic Control Signalization
2. Maintaining minimum levels of retro reflectivity of highway signs or pavement markings
3. Traffic Circles/Roundabouts
4. Safety Rest Areas
5. Pavement Marking
6. Shoulder and Centerline Rumble Strips and Stripes
7. Commuter Carpooling and Vanpooling
8. Rail-Highway Crossing Closure
9. Installation of Traffic Signs, Traffic Lights, Guardrails, Impact Attenuators, Concrete Barrier End treatments, Breakaway Utility Poles, or Priority Control Systems for Emergency Vehicles or Transit Vehicles at Signalizes Intersections

## ATTACHMENT C

**Guidelines for use of Toll credit Funding**

**Toll Credits may be used as a match to any federal fund except Emergency Relief**

**The PMC Policy for the use of Toll Credits is as follows:**

1. Any betterment project (Appropriation 582) at the discretion of the District.
2. Construction phase on any Transportation Alternative project where the locals/ sponsor have paid for all pre-construction costs.
3. Rail-Highway Grade Crossing Projects.
4. Any exception to the above require PMC approval.

**National Highway Freight Program (NHFP) Funding**

FUNDING

Authorization Levels Under the FAST Act: Section 1101 of the FAST Act authorizes appropriations for the Federal-aid Highway Program, including the NHFP. FAST Act, section 1104(b)(6), amends 23 U.S.C. 104(b) and provides for the apportionment of funds for the NHFP in the following amounts for FY 2016, FY 2017, FY 2018, FY 2019, and FY 2020: $1.15B, $1.1B, $1.2B, $1.35B, and $1.5B, respectively.

The estimated amounts below represent the net amount available after a portion of the authorized amount is set aside for the Metropolitan Planning Program per the freight formula under section 1104(b)(6) of the FAST Act.

The estimated amounts of NHFP are as follows:

FY 2016 $1,140,250,003

FY 2017 $1,090,673,914

FY 2018 $1,189,826,092

FY 2019 $1,338,554,353

FY 2020 $1,487,282,615

TOTAL $6,246,586,977

The Program Codes for these NHFP funds are as follows:

Program Code

Program Description

Statutory Reference

Z460 National Highway Freight Program (NHFP) Section 1101(a)(1)

Z470 NHFP - Freight Intermodal or Freight Rail Project 23 U.S.C.167(i)(5)(B)

All references relate to the FAST Act (Public Law 114-94) unless otherwise noted.

1. Period of Availability: NHFP funds are available for obligation for up to 4 years (three years after the last day of the fiscal year for which the funds are authorized). 23 U.S.C. 118.
2. Obligation Limitation: NHFP obligations are reimbursed from the Highway Account of the Highway Trust Fund. NHFP funds come with contract authority and are subject to the annual obligation limitation imposed on the Federal-aid Highway Program.
3. Federal Share: The Federal share for NHFP funds is governed by 23 U.S.C. 120. The Federal share is generally 80 percent, subject to the upward sliding scale adjustment for States containing public lands. The Federal share for projects on the Interstate system (except projects that add lanes that are not high-occupancy-vehicle or auxiliary lanes) is 90 percent, subject to the upward sliding scale adjustment. For projects that add single occupancy vehicle capacity, that portion of the project that increases single occupancy vehicle capacity will revert to the 80 percent Federal share participation level. 23 U.S.C. 120.

Certain types of improvements (predominantly safety improvements) as listed in 23 U.S.C. 120(c)(1) may have a Federal share of 100 percent. This provision is limited to 10 percent of the total funds apportioned to a State under 23 U.S.C. 104.

Projects incorporating Innovative Project Delivery methods as described in 23 U.S.C. 120(c)(3) may have an increased Federal share. This provision will be the subject of further guidance.

The Federal share for projects that are located on toll roads, and subject to the provisions of 23 U.S.C. 129, is limited to 80 percent.

States may choose to use a lower Federal share on Federal-aid projects as provided in 23 U.S.C. 120.

4. Transferability of NHFP Funds: A State may transfer up to 50 percent of the NHFP amount apportioned for the fiscal year to any other 23 U.S.C. 104(b) apportionment for the State. 23 U.S.C. 126.

D. NATIONAL HIGHWAY FREIGHT NETWORK

1. National Highway Freight Network (NHFN): The FAST Act requires the FHWA Administrator to establish a NHFN to strategically direct Federal resources and policies toward improved performance of the Network. Section 1103 of the FAST Act amends 23 U.S.C. 101(a)(15) to include a definition of the NHFN established under 23 U.S.C. 167. The NHFN includes the following subsystem of roadways:
    a. 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 initial designation of the PHFS is the 41,518 centerline mile network identified as a comprehensive network during the development of the highway-only Primary Freight Network (PFN) under 23 U.S.C. 167(d). The comprehensive network includes 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads. Note: This network differs from the PFN that was designated to satisfy the MAP-21 requirement in October 2015. For further information on those distinctions, see the Federal Register Notice of October 23, 2015. [need link]

        The FHWA Administrator is required to re-designate the PHFS every 5 years. Each re-designation is limited to a maximum 3 percent increase in the total mileage of the system. 23 U.S.C. 167(d). Further guidance on input and factors for re-designation of the PHFS will be issued in the future.

    b. Interstate Routes not on the PHFS - These highways consist of the remaining portion of Interstate roads not designated as part of the PHFS. These routes provide important continuity and access to freight transportation facilities. Nationwide, these portions of Interstate amount to approximately 9,511 centerline miles of Interstate (actual mileage subject to additions and deletions from the Interstate Highway System).

    c. Critical Rural Freight Corridors (CRFC) - These are public roads not in an urbanized area which provide access and connection to the PHFS and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities. States are responsible for designating public roads in their state as CRFCs. In accordance with 23 U.S.C. 167(e), a State

may designate a public road within the borders of the State as a CRFC if the public road is not in an urbanized area, and meets one or more of the following seven elements:

1. is a rural principal arterial roadway and has a minimum of 25 percent of the annual average daily traffic of the road measured in passenger vehicle equivalent units from trucks (FHWA vehicle class 8 to 13);
2. provides access to energy exploration, development, installation, or production areas;
3. connects the PHFS or the Interstate System to facilities that handle more than- i.50,000 20-foot equivalent units per year; or ii.500,000 tons per year of bulk commodities;
4. provides access to-
    i. a grain elevator;
    ii. an agricultural facility;
    iii. a mining facility;
    iv. a forestry facility; or
    v. an intermodal facility;
5. connects to an international port of entry;
6. provides access to significant air, rail, water, or other freight facilities in the State; or
7. is determined by the State to be vital to improving the efficient movement of freight of importance to the economy of the State.

The designation of the CRFC is limited to a maximum of 150 miles of highway or 20 percent of the PHFS mileage in the State, whichever is greater.

d. Critical Urban Freight Corridors (CUFC) - These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities. In an urbanized area with a population of 500,000 or more, the metropolitan planning organization (MPO), in consultation with the State, is responsible for designating the CUFCs. In an urbanized area with a population of less than 500,000, the State, in consultation with the MPO, is responsible for designating the CUFCs. Regardless of population, a public road may be designated as a CUFC if it is in an urbanized area, and meets one or more of the following four elements:

    1. connects an intermodal facility to; i.the PHFS ii. the Interstate System; or iii. an intermodal freight facility;
    2. is located within a corridor of a route on the PHFS and provides an alternative highway option important to goods movement;
    3. serves a major freight generator, logistic center, or manufacturing and warehouse industrial land; or
    4. is important to the movement of freight within the region, as determined by the MPO or the State.

The designation in limited to a maximum of 75 miles of highway or 10 percent of the PHFS mileage in the State, whichever is greater. 23 U.S.C. 167(f).

States with PHFS mileage greater than or equal to 2 percent, calculated based on the proportion of total designated PHFS mileage in the State to the total mileage of the PHFS in all States, are considered high mileage States with respect to the PHFS and may obligate funds for projects on the PHFS, the CRFC, and the CUFC. States with PHFS mileage of less than 2 percent are considered low mileage States with respect to the PHFS and may obligate funds for projects on all portions of the NHFN (the PHFS, the CRFC, the CUFC, and the rest of the Interstate System in their State). 23 U.S.C. 167(i)(3).

As of October 1, 2015, the NHFN consists of the PHFS and other Interstate portions not on the PHFS, for a total of approximately 51,029 centerline miles. The NHFN is expected to increase with the designation of CRFCs and CUFCs and will fluctuate with additions and deletions to the Interstate Highway System. States and MPOs are allowed to designate these Corridors on a rolling basis, and must certify to the FHWA Administrator that the designated corridors meet the requirements of the applicable provision (CRFCs and CUFCs). 23 U.S.C. 167(g). Further guidance will be developed on the process for identification, designation, and certification of the CRFCs and CUFCs.

The NHFN will be the highway component of the National Multimodal Freight Network (NMFN). An interim NMFN must be established within 180 days after enactment of the FAST Act. 49 U.S.C. 70103(b).

2. Highway Freight Transportation Conditions and Performance Reports: Not later than 2 years after the date of enactment of the FAST Act, and biennially thereafter, the FHWA Administrator shall prepare and submit to Congress a report that describes the conditions and performance of the NHFN in the United States. 23 U.S.C. 167(h). Note that MAP-21 included a similar provision for reporting on the conditions and performance on the National Freight Network.

E. ELIGIBILITY

1. General: NHFP funds may be obligated for projects that contribute to the efficient movement of freight on the National Highway Freight Network (NHFN), and are consistent with the planning requirements of sections 134 and 135 of title 23, United States Code. Beginning 2 years after the date of enactment of the FAST Act, a State may not obligate NHFP funds apportioned to the State unless the State has developed a State Freight Plan (SFP) in accordance with 49 U.S.C. 70202, except that the multimodal components of the SFP may be incomplete. Projects must be identified in the Statewide Transportation Improvement Program (STIP)/Transportation Improvement Program (TIP) and consistent with the Long-Range Statewide Transportation Plan and the Metropolitan Transportation Plan(s). 23 U.S.C. 167(i)(7).

2. State Freight Plan and State Freight Advisory Committee: Freight planning is an important component of Statewide and metropolitan transportation planning processes. MAP-21 encouraged States to develop a freight plan under 23 U.S.C. 167. State freight planning is covered under the FAST Act in a different provision of law: Section 8001 of the FAST Act adds section 70202 of title 49, United States Code, requiring each State that receives NHFP funding to develop a comprehensive freight plan that

provides for the immediate and long-range planning activities and investments of the State with respect to freight. The SFP may be developed separately from or incorporated into the Statewide strategic long-range transportation plan required by 23 U.S.C. 135. Among the factors that must be included in the SFP is a description of how the funds under 23 U.S.C. 167 would be invested and matched. In addition, an investment plan component must include a list of priority projects with the stipulation that the investment plan must show how funding for completion of the project or an identified phase of a project in the investment plan can reasonably be anticipated to be available for the project within the time period identified in the freight investment plan. Interim SFP guidance was developed under section 1118 of MAP-21. This guidance will be updated to reflect FAST Act changes.

Section 8001 of the FAST Act also encourages each State to establish a freight advisory committee consisting of a representative cross-section of public and private sector freight stakeholders, including representatives of ports, freight railroads, shippers, carriers, freight-related associations, third-party logistics providers, the freight industry workforce, the transportation department of the State, and local governments. Under Section 8001, a State freight advisory committee, if applicable, must participate in the development of the SFP. Under Section 1116, the Administrator must provide an opportunity for State freight advisory committees, as applicable, to submit additional miles for consideration during the redesignation of the PHFS. State advisory committee guidance was developed under MAP-21 section 1117 and released as part of the Interim State Freight Plan guidance. This guidance will be updated to reflect FAST Act changes.

3. Eligible Projects: Eligible projects shall contribute to the efficient movement of freight on the NHFN, and be identified in a freight investment plan included in a SFP (required in FY 2018 and beyond). NHFP funds may be obligated for one or more of the following:

    1. Development phase activities including planning, feasibility analysis, revenue forecasting, environmental review, preliminary engineering and design work, and other preconstruction activities.

    2. Construction, reconstruction, rehabilitation, acquisition of real property (including land relating to the project and improvements to land), construction contingencies, acquisition of equipment, and operational improvements directly relating to improving system performance.

    3. Intelligent transportation systems and other technology to improve the flow of freight, including intelligent freight transportation systems.

    4. Efforts to reduce the environmental impacts of freight movement.

    5. Environmental and community mitigation for freight movement.

    6. Railway-highway grade separation.

    7. Geometric improvements to interchanges and ramps.

    8. Truck-only lanes.

9. Climbing and runaway truck lanes.
10. Adding or widening of shoulders.
11. Truck parking facilities eligible for funding under section 1401 of MAP-21
12. Real-time traffic, truck parking, roadway condition, and multimodal transportation information systems.
13. Electronic screening and credentialing systems for vehicles, including weigh-in-motion truck inspection technologies.
14. Traffic signal optimization, including synchronized and adaptive signals.
15. Work zone management and information systems.
16. Highway ramp metering.
17. Electronic cargo and border security technologies that improve truck freight movement.
18. Intelligent transportation systems that would increase truck freight efficiencies inside the boundaries of intermodal facilities.
19. Additional road capacity to address highway freight bottlenecks.
20. Physical separation of passenger vehicles from commercial motor freight.
21. Enhancement of the resiliency of critical highway infrastructure, including highway infrastructure that supports national energy security, to improve the flow of freight.
22. A highway or bridge project to improve the flow of freight on the NHFN.

In addition, any surface transportation project to improve the flow of freight into and out of a freight intermodal or freight rail facility is an eligible project. 23 U.S.C. 167(i)(5)(C). In accordance with 23 U.S.C. 167 (i)(5)(B), there is a cap on the use of NHFP apportioned funding for these freight intermodal or freight rail projects: For each fiscal year, a State may obligate not more than 10 percent of the total State apportionment under NHFP for these types of projects. These projects include those within the boundaries of public or private freight rail or water facilities (including ports), and that provide surface transportation infrastructure necessary to facilitate direct intermodal interchange, transfer, and access into or out of the facility.

In addition to the eligible projects identified above, a State may use apportioned funds for carrying out diesel retrofit or alternative fuel projects under section 149 for class 8 vehicles; and for the necessary costs of conducting analyses and data collection related to the NHFP, developing and updating freight performance targets, and reporting to the FHWA Administrator to comply with the freight performance targets established pursuant to 23 U.S.C. 150.

The FAST Act introduces a category of project eligible for NHFP funding, known as “intelligent freight transportation systems.” This is defined as “innovative or intelligent technological transportation systems, infrastructure, or facilities, including elevated

freight transportation facilities in proximity to, or within, an existing right of way on a Federal-aid highway, or that connect land ports-of entry to existing Federal-aid highways; or communications or information processing systems that improve the efficiency, security, or safety of freight movements on the Federal-aid highway system, including to improve the conveyance of freight on dedicated intelligent freight lanes." The law directs the FHWA Administrator to determine whether there is a need for establishing operating standards for intelligent freight transportation systems. 23 U.S.C. 167(k). Further guidance for this provision may be developed as necessary.

# APPENDIX C – LRTP REPORT CARD

| SVATS MPO LRTP REPORT CARD - MONITORING PERFORMANCE | | Current (2017-2022) | | Mid-Term (2023-2028) | | Long Term (2029-2042) | |
|---|---|---|---|---|---|---|---|
| | | Actual | Goal | Actual | Goal | Actual | Goal |
| **Quality of Life** | | | | | | | |
| Safety and Security | Number of HSIP-funding applications or safety improvement projects implemented, number of Roadway Safety Audits | | 5 | | 10 | | 10 |
| | Total crash rate, fatality, or serious injury accidents reduced where enhancements were made | | Yes | | Yes | | Yes |
| Improve Mode Choice and Inter-Governmental Cooperation | Number of roadway betterment and new construction projects that include sidewalks and bicycle amenities shown on the betterment maps | | 5 | | 5 | | 5 |
| Access to Natural Resources, Improving Mode Choice, Recreational Opportunities, and Vibrant Spaces | Number of TAP, STU, and Multimodal Transportation Fund applications that directly impact mode choice, recreational opportunities, and revitalization | | 5 | | 5 | | 5 |
| Environmental Stewardship | Percent of planning projects with Linking Planning to NEPA (LPN) forms completed | | 90% | | 90% | | 90% |
| | Number of projects with coordination between mutiple agencies (MCRPC, PFBC, PMHC, DEP, DCNR, PACD, etc.) | | 5 | | 5 | | 5 |
| **Economic Vitality** | | | | | | | |
| Travel Time Reliabity and Access to Local, Regional, and National Markets | Congestion Management Processes plan to monitor travel time along congested roadways to maintain/improve travel time reliability and congestion updated quadrennialy | | 1x | | 1-2x | | 2-3x |
| Improving Mode Choice to Regional Travel | Plan developed and projects implemented to improve non-automobile access to intercity travel options (i.e. Coordinated Plan, re-establishment of intercity bus stop) | | Yes | | Yes | | Yes |
| Access to local, regional, and national markets | Number of plans or projects related to freight movement completed | | 2 | | 2 | | 2 |
| Improving Recreational Opportunities and Connecting Tourist Destinations | Prioritization scheme developed for regional land and water trail system | | Yes | | Yes | | Yes |
| | Number of recreational trail funding applications | | 2 | | 4 | | 6 |
| **System Preservation and Enhancement** | | | | | | | |
| Project Delivery and Intergovernmental Cooperation | Annual Stormwater Management and Highway Occupancy Permit (HOP) Training for municipal officials conducted | | Yes | | Yes | | Yes |
| Pavement Quality | Percent of systemwide Good or Excellent IRI Values improving | | Yes | | Yes | | Yes |
| Bridge Maintenance | Percent of Structurally Deficient bridges improving | | Yes | | Yes | | Yes |
| Project Delivery | Number of LRTP projects completed | | 5 | | 20 | | 10 |
| Intergovernmental Cooperation | Number of issues addressed on the Maintenance / Quick Hit project listing | | 20 | | 5 | | 0 |

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# APPENDIX D – PROJECT PROGRAMMING SCHEDULE

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| HIGHWAY (LRTP Projects) | | | | | | | | | | | | |
| | ID | Rank | | | | | | | | | | |
| LRTP | 1 | 19 | Broadway Ave (SR 0760) Phase 4 Improvements | City of Hermitage | Highway Project | | $ - | PFRUC | $ 1,876,000 | | $ - | $ 1,876,000 |
| LRTP | 2 | 12 | Intercity Bus Pull Off | Multi-Municipal | Highway Project | PF | $ 87,000 | RUC | $ 366,000 | | $ - | $ 453,000 |
| LRTP | 3 | 25 | Christy Road Bike/Ped Traffic Calming * | City of Hermitage | Highway Project | | $ - | | $ - | | $ - | $ - |
| LRTP | 4 | 31 | Clarksville at Dutch Lane (SR 3035) Intersection Reconfiguration | City of Hermitage | Highway Project | | $ - | | $ - | PFRUC | $ 1,127,000 | $ 1,127,000 |
| LRTP | 5 | 4 | E State St (SR 3008) at Buhl Farm Dr (SR 3025) | City of Hermitage | Highway Project | PFRU | $ 41,000 | C | $ 172,000 | | $ - | $ 213,000 |
| LRTP | 6 | 20 | Grove City Signal Upgrades (SR 0173, SR 0058) | Grove City Borough; Pine Township | Highway Project | PFRUC | $ 736,000 | | $ - | | $ - | $ 736,000 |
| LRTP | 7 | 7 | Hazen Rd (SR 3016) at Buhl Farm Dr (SR 3025) Intersection Improvements | City of Hermitage; Sharpsville | Highway Project | | $ - | PFRU | $ 1,496,000 | C | $ 1,248,000 | $ 2,744,000 |
| LRTP | 8 | 15 | Kidds Mill Rd (SR 4012) Truck Climbing Lane | Delaware Township; Pymatuning Township | Highway Project | | $ - | | $ - | PFRUC | $ 7,724,000 | $ 7,724,000 |
| LRTP | 9 | 30 | Lamor Road (SR 3020) Reconstruction Continuation * | City of Hermitage | Highway Project | | $ - | | $ - | | $ - | $ - |
| LRTP | 10 | 26 | Mercer Ave (SR 418) at Morefield Rd Intersection Geometry | City of Hermitage | Highway Project | | $ - | PFRUC | $ 812,000 | | $ - | $ 812,000 |
| LRTP | 11 | 2 | Mercer Ave (SR 418) at Roemer Blvd (SR 3006) and SR 518 Redesign w Ped Enhancements | City of Farrell | Highway Project | PF | $ 194,000 | RUC | $ 1,573,000 | | $ - | $ 1,767,000 |
| LRTP | 12 | 13 | Mercer Streetscaping Improvements (North side of the Diamond) | Mercer Borough | Highway Project | PFRU | $ 1,092,000 | C | $ 738,000 | | $ - | $ 1,830,000 |
| LRTP | 13 | 17 | Mercer Truck Route Improvements (SR 2008, SR 2011?) | Mercer Borough | Highway Project | PFRUC | $ 308,000 | | $ - | | $ - | $ 308,000 |
| LRTP | 14 | 27 | SR 18 Trailer Pull Off Enhancements | Pymatuning Township | Highway Project | | $ - | PFR | $ 190,000 | UC | $ 1,094,000 | $ 1,284,000 |
| LRTP | 15 | 21 | SR 846 & Rutledge Rd (SR 3022) Realignment | Pymatuning Township | Highway Project | PF | $ 175,000 | RUC | $ 911,000 | | $ - | $ 1,086,000 |
| LRTP | 16 | 32 | Sharpsville Ave (SR 518) at Meek St Intersection Reconfiguration | City of Sharon | Highway Project | PF | $ 188,000 | RC | $ 307,000 | | $ - | $ 495,000 |
| LRTP | 17 | 8 | Sharpsville N 6th St (SR 518) Improvements | Sharpsville Borough | Highway Project | PF | $ 118,000 | RUC | $ 695,000 | | $ - | $ 813,000 |
| LRTP | 18 | 28 | Shenango River Boat Launch Parking Lots * | Greene Township; Pymatuning Township | Highway Project | | $ - | | $ - | | $ - | $ - |
| LRTP | 19 | 22 | SR 18 at Williamson Rd (SR 4006) Intersection Realignment | Hempfield Township; Sugar Grove Township; West Salem Township | Highway Project | PF | $ 150,000 | RUC | $ 350,000 | | $ - | $ 500,000 |
| LRTP | 20 | 6 | SR 18 Connection from Joy Cone / Valley View Road Improvement | City of Hermitage | Highway Project | | $ - | PFR | $ 367,000 | UC | $ 2,236,000 | $ 2,603,000 |
| LRTP | 21 | 11 | SR 18 at SR 318 Signal Improvements | West Middlesex Borough | Highway Project | PFRUC | $ 179,000 | | $ - | | $ - | $ 179,000 |
| LRTP | 22 | 14 | SR 18 at SR 4005 Signal Improvements | Greenville Borough | Highway Project | PFRUC | $ 348,000 | | $ - | | $ - | $ 348,000 |
| LRTP | 23 | 1 | SR 208 Two-Way Left Turn Lane with Realignment of Pine Road and Multimodal Trail *this project is not fully funded, would need additional financing as development occurs, funding cooperation through P3 | Springfield Township | Highway Project | PF | $ 568,000 | | $ - | | $ - | $ 568,000 |
| LRTP | 24 | 16 | Jamestown Rd (SR 58) & Porter Rd (SR 4006) Reconstruction | West Salem Township | Highway Project | | $ - | PFR | $ 88,000 | UC | $ 508,000 | $ 596,000 |
| LRTP | 25 | 9 | SR 845 at SR 1004 Intersection & Ped Improvements | Sandy Lake Township; Stoneboro Borough | Highway Project | PFR | $ 67,000 | UC | $ 283,000 | | $ - | $ 350,000 |
| LRTP | 26 | 5 | E State St (SR 3008) at Hermitage Road (SR 18) Intersection Reconfiguration | City of Hermitage | Highway Project | PF | $ 28,000 | RUC | $ 229,000 | | $ - | $ 257,000 |
| LRTP | 27 | 23 | Stoneboro Streetscaping (SR 845) | Stoneboro Borough | Highway Project | | $ - | | $ - | PFRUC | $ 1,805,000 | $ 1,805,000 |
| LRTP | 28 | 29 | US 19 at Old Mercer Rd Reconstruction | East Lackawannock Township | Highway Project | | $ - | | $ - | PFRUC | $ 4,692,000 | $ 4,692,000 |
| LRTP | 29 | 3 | US 62 & Addison Ave (SR 3008) Intersection Improvements & Gateway | City of Sharon; City of Farrell; | Highway Project | PF | $ 155,000 | RUC | $ 1,258,000 | | $ - | $ 1,413,000 |
| LRTP | 30 | 18 | Walnut St (SR 518) at Mercer Ave (SR 3025) Intersection Improvements | Sharpsville Borough | Highway Project | PFRUC | $ 214,000 | | $ - | | $ - | $ 214,000 |
| LRTP | 31 | 24 | Wasser Bridge Rd (SR 4003) Reconstruction * | Hempfield Township; West Salem Township | Highway Project | | $ - | | $ - | | $ - | $ - |
| LRTP | 32 | 10 | US 62 Railroad Tunnel *this project is not currently programmed due to the need to explore options for the tunnel and cooperation with the railroad | Coolspring Township | Highway Project | | $ - | | $ - | | $ - | $ - |
| LRTP | 33 | 10* | SR 173 Reconstruction *project scope and cost estimate to be determined | Grove City Borough | Highway Project | | $ - | | $ - | | $ - | $ - |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **BICYCLE AND PEDESTRIAN (LRTP Projects)** | | | | | | | | | | | | |
| LRTP | | 1 | Erie Tow Path and Canal Park Trail | Sharpsville Borough | Bicyle/Pedestrian | | $ - | | $ - | PFRUC | $ 926,000 | $ 926,000 |
| LRTP | | 2 | Hempfield Twp Elementary School Bike/Ped Connections * | Greenville Borough; Hempfield Township | Bicyle/Pedestrian | | $ - | | $ - | | $ - | $ - |
| LRTP | | 3 | Mercer Sidewalks | Mercer Borough; Coolspring Township; East Lackawannock Township | Bicyle/Pedestrian | | $ - | PFRUC | $ 217,000 | | $ - | $ 217,000 |
| LRTP | | 4 | Pine Hollow Run Trail * | City of Hermitage | Bicyle/Pedestrian | | $ - | | $ - | | $ - | $ - |
| LRTP | | 5 | Sandy Lake to Stoneboro Trail | Stoneboro Borough; Sandy Lake Township; Sandy Lake Borough | Bicyle/Pedestrian | | $ - | PFRUC | $ 495,000 | | $ - | $ 495,000 |
| LRTP | | 6 | Sharpsville to Sharon Hike/Bike Trail * | Sharpsville Borough; City of Hermitage; City of Sharon | Bicyle/Pedestrian | | $ - | | $ - | | $ - | $ - |
| LRTP | | 7 | Shenango Trail Section 3 | Hempfield Township | Bicyle/Pedestrian | | $ - | | $ - | PFRUC | $ 1,407,000 | $ 1,407,000 |
| LRTP | | 8 | SR 18 Hermitage Sidewalk Extension to Linden Pointe | City of Hermitage | Bicyle/Pedestrian | P | $ 18,000 | FRUC | $ 313,000 | | $ - | $ 331,000 |
| LRTP | | 9 | Thornton Ave Bicycle Lane | City of Hermitage; City of Sharon | Bicyle/Pedestrian | PF | $ 57,000 | RUC | $ 44,000 | | $ - | $ 101,000 |
| LRTP | | 10 | West Middlesex River Trail * | Shenango Township; West Middlesex Borough | Bicyle/Pedestrian | | $ - | | $ - | | $ - | $ - |
| LRTP | | 11 | West Middlesex School District SR 18 Sidewalks to School | Shenango Township; West Middlesex Borough | Bicyle/Pedestrian | | $ - | | $ - | PFRUC | $ 181,000 | $ 181,000 |
| LRTP | | 12 | West Middlesex Trail by Water Treatment Plant | West Middlesex Borough | Bicyle/Pedestrian | | $ - | P | $ 19,000 | FRUC | $ 331,000 | $ 350,000 |
| **PLANNING STUDIES AND RELATED PROJECTS (LRTP Projects)** | | | | | | | | | | | | |
| LRTP | | 1 | I-80 Safety Study | Multi-Municipal | Planning Study | S | $ 116,000 | | $ - | | $ - | $ 116,000 |
| LRTP | | 2 | SR 58 Safety Study | Multi-Municipal | Planning Study | S | $ 119,000 | | $ - | | $ - | $ 119,000 |
| LRTP | | 2b | LINE ITEM - SR 58 Safety Improvements | Multi-Municipal | Planning Study | | $ - | PFRUC | $ 275,000 | PFRUC | $ 600,000 | $ 875,000 |
| LRTP | | 3 | US 62 Safety Study | Multi-Municipal | Planning Study | | $ - | S | $ 123,000 | | $ - | $ 123,000 |
| LRTP | | 3b | LINE ITEM - US 62 Safety Improvements | Multi-Municipal | Planning Study | | $ - | | $ - | PFRUC | $ 875,000 | $ 875,000 |
| LRTP | | 4 | US 19 at SR 208 Safety Study | Multi-Municipal | Planning Study | S | $ 35,000 | | $ - | | $ - | $ 35,000 |
| LRTP | | 4b | LINE ITEM - US 19 Safety Improvements | Multi-Municipal | Planning Study | | $ - | | $ - | PFRUC | $ 825,000 | $ 825,000 |
| LRTP | | 5 | US 62 Bessemer RR Tunnel | Coolspring Township | Planning Study | S | $ 50,000 | | $ - | | $ - | $ 50,000 |
| LRTP | | 6 | Greenville Pedestrian Circulation Study | Multi-Municipal | Planning Study | | $ - | S | $ 67,000 | | $ - | $ 67,000 |
| LRTP | | 7 | Greenville Area Truck Circulation Study | Multi-Municipal | Planning Study | | $ - | S | $ 67,000 | | $ - | $ 67,000 |
| LRTP | | 7b | LINE ITEM - Greenville Area Improvements | Multi-Municipal | Planning Study | | $ - | | $ - | PFRUC | $ 875,000 | $ 875,000 |
| LRTP | | 8 | Grove City Bike/Ped Circulation Study | Multi-Municipal | Planning Study | S | $ 116,000 | | $ - | | $ - | $ 116,000 |
| LRTP | | 9 | Grove City Middle School Circulation Access Study | Multi-Municipal | Planning Study | S | $ 58,000 | | $ - | | $ - | $ 58,000 |
| LRTP | | 10 | Grove City Downtown Study | Multi-Municipal | Planning Study | S | $ 290,000 | | $ - | | $ - | $ 290,000 |
| LRTP | | 10b | LINE ITEM - Grove City Improvements | Multi-Municipal | Planning Study | | $ - | PFRUC | $ 950,000 | | $ - | $ 950,000 |
| LRTP | | 11 | Bridge System Redundancy Study | Multi-Municipal | Planning Study | S | $ 100,000 | | $ - | | $ - | $ 100,000 |

*due to fiscal constraint, available funding sources for this type of project, and project ranking, this project is not recommended to be programmed at this time

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **HIGHWAY / OTHER (Transportation Improvement Program TIP and Twelve Year Plan TYP Projects)** | | | | | | | | | | | | |
| TIP/TYP | | 106750 | Hamilton Ave Resurfacing | Farrell City | Highway/Other TYP | C | $ 73,000 | | $ - | | $ - | $ 73,000 |
| TIP/TYP | 18 | | SR 18/Edgewood Dr Intersection | | Highway/Other TYP | C | $ 133,000 | | $ - | | $ - | $ 133,000 |
| TIP/TYP | 208 | 104339 | Springfield Twp Trail | Springfield Township | Highway/Other TYP | C | $ 429,677 | | $ - | | $ - | $ 429,677 |
| TIP/TYP | 58 | | South Diamond St. Streetscape | Mercer Borough | Highway/Other TYP | C | $ 555,000 | | $ - | | $ - | $ 555,000 |
| TIP/TYP | 19 | 97047 | US 19 Retaining Wall | Perry Township | Highway/Other TYP | PRC | $ 560,000 | | $ - | | $ - | $ 560,000 |
| TIP/TYP | 518 | | Sharon Bike/Ped Improvements | City of Sharon | Highway/Other TYP | C | $ 658,000 | | $ - | | $ - | $ 658,000 |
| TIP/TYP | 718 | 97046 | PA 718 Retaining Wall | Sharon City | Highway/Other TYP | RC | $ 770,000 | | $ - | | $ - | $ 770,000 |
| TIP/TYP | 846 | 97667 | PA 846 Slide | South Pymatuming Township | Highway/Other TYP | RC | $ 920,000 | | $ - | | $ - | $ 920,000 |
| TIP/TYP | 3003 | 98390 | SR 3003: SR 4009-Sieg Hil | Shenango Township | Highway/Other TYP | C | $ 1,450,000 | | $ - | | $ - | $ 1,450,000 |
| TIP/TYP | 2005 | 98399 | SR 2005: PA 208 - SR 2007 | Pine Township | Highway/Other TYP | PC | $ 1,600,000 | | $ - | | $ - | $ 1,600,000 |
| TIP/TYP | 173 | 98397 | PA 173: Vath Rd-SR 1004 | Worth Township | Highway/Other TYP | PC | $ 1,650,000 | | $ - | | $ - | $ 1,650,000 |
| TIP/TYP | 3026 | 98391 | SR 3026: PA 318 to US 62 | East Lackawannock Township | Highway/Other TYP | PC | $ 1,650,000 | | $ - | | $ - | $ 1,650,000 |
| TIP/TYP | 3008 | 96362 | SR 3008: State St Stscp | Sharon City | Highway/Other TYP | C | $ 2,000,000 | | $ - | | $ - | $ 2,000,000 |
| TIP/TYP | 173 | 98393 | PA 173: Butler Co-Liberty | Liberty Township | Highway/Other TYP | PC | $ 2,070,000 | | $ - | | $ - | $ 2,070,000 |
| TIP/TYP | 208 | 98030 | PA 208 | Springfield Township | Highway/Other TYP | C | $ 2,500,000 | | $ - | | $ - | $ 2,500,000 |
| TIP/TYP | 62 | | US 62/State St Intersection | City of Hermitage | Highway/Other TYP | FURC | $ 3,900,000 | | $ - | | $ - | $ 3,900,000 |
| TIP/TYP | 3008 | 102554 | State St: Forker - PA 18 | Hermitage City | Highway/Other TYP | C | $ 4,800,000 | | $ - | | $ - | $ 4,800,000 |
| TIP/TYP | 718 | 104111 | Broadway Avenue - Ph 3 | Sharon City | Highway/Other TYP | C | $ 7,869,000 | | $ - | | $ - | $ 7,869,000 |
| TIP/TYP | | 98261 | Mercer Local Brdg Line | Multi-Municipal | Highway/Other TYP | C | $ 2,950,000 | | $ - | | $ - | $ 2,950,000 |
| TIP/TYP | | 98276 | Mercer STU Line Item | Multi-Municipal | Highway/Other TYP | C | $ 3,330,000 | C | $ 4,800,000 | | $ - | $ 8,130,000 |
| TIP/TYP | | | Mercer Betterment Line Item | Multi-Municipal | Highway/Other TYP | C | $ 16,700,000 | C | $ 16,900,000 | | $ - | $ 33,600,000 |
| TIP/TYP | | | Mercer Highway/Bridge Line Item | Multi-Municipal | Highway/Other TYP | C | $ 18,696,040 | C | $ 23,234,000 | | $ - | $ 41,930,040 |
| TIP/TYP | | 98278 | Mercer TA Line Item | Multi-Municipal | Highway/Other TYP | C | $ 245,000 | C | $ 246,000 | | $ - | $ 491,000 |
| TIP/TYP | | 106570 | Mercer 2017 AWPM | Multi-Municipal | Highway/Other TYP | C | $ 100,000 | | $ - | | $ - | $ 100,000 |
| TIP/TYP | | 106571 | Mercer 2018 AWPM | Multi-Municipal | Highway/Other TYP | C | $ 100,000 | | $ - | | $ - | $ 100,000 |
| TIP/TYP | | 106572 | Mercer 2019 AWPM | Multi-Municipal | Highway/Other TYP | C | $ 100,000 | | $ - | | $ - | $ 100,000 |
| TIP/TYP | | 106573 | Mercer 2020 AWPM | Multi-Municipal | Highway/Other TYP | C | $ 100,000 | | $ - | | $ - | $ 100,000 |
| TYP | 358 | 98405 | PA 358: US 19-Carpenter | Perry Township | Highway/Other TYP | C | $ 1,150,000 | | $ - | | $ - | $ 1,150,000 |
| TYP | 58 | 100030 | SR 58: Wal-Mart-Campbell | Pine Township | Highway/Other TYP | C | $ 1,300,000 | | $ - | | $ - | $ 1,300,000 |
| TYP | 62 | 98414 | US 62: US 19 - Airport Rd | Coolspring Township | Highway/Other TYP | C | $ 1,485,000 | | $ - | | $ - | $ 1,485,000 |
| TYP | 173 | | Bessemer & Lake Erie RR Corridor | Coolspring Township | Highway/Other TYP | C | $ 1,651,000 | C | $ 600,000 | | $ - | $ 2,251,000 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **HIGHWAY / OTHER (Transportation Improvement Program TIP and Twelve Year Plan TYP Projects)** | | | | | | | | | | | | |
| TYP | 760 | 98512 | Brdway Ave: PA 18-Council | Shenango Township | Highway/Other TYP | | $ - | PFURC | $ 8,800,000 | | $ - | $ 8,800,000 |
| TYP | 208 | 98387 | PA 173/208 Intersection | Grove City Borough | Highway/Other TYP | | $ - | C | $ 800,000 | | $ - | $ 800,000 |
| TYP | 18 | 98384 | PA 18 Corridor | South Pymatuming Township | Highway/Other TYP | | $ - | PFURC | $ 9,750,000 | | $ - | $ 9,750,000 |
| TYP | 18 | 98401 | PA 18: Main to Packard | Greenville Borough | Highway/Other TYP | | $ - | C | $ 800,000 | | $ - | $ 800,000 |
| TYP | 58 | 98440 | PA 58: OH Line-SR 322 | Greene Township | Highway/Other TYP | | $ - | C | $ 1,190,750 | | $ - | $ 1,190,750 |
| TYP | 1002 | 98511 | SR 19: SR 4025 - US 19 | Fredonia Borough | Highway/Other TYP | | $ - | C | $ 900,000 | | $ - | $ 900,000 |
| TYP | 2021 | 99871 | SR 2021: Sandy Lk-SR 965 | Worth Township | Highway/Other TYP | | $ - | C | $ 1,100,000 | | $ - | $ 1,100,000 |
| TYP | 208 | 97909 | SR 208 & George Jr Road | Pine Township | Highway/Other TYP | | $ - | C | $ 1,500,000 | | $ - | $ 1,500,000 |
| TYP | 258 | 99916 | SR 258: Mercer Co-SR 208 | Springfield Township | Highway/Other TYP | | $ - | C | $ 1,500,000 | | $ - | $ 1,500,000 |
| TYP | 3011 | 97913 | SR 3011: SR 318-Vly View | Shenango Township | Highway/Other TYP | | $ - | C | $ 1,600,000 | | $ - | $ 1,600,000 |
| TYP | 3020 | 98388 | SR 3020: Joy Cone-N. Keel | Hermitage City | Highway/Other TYP | | $ - | PFURC | $ 2,150,000 | | $ - | $ 2,150,000 |
| TYP | 358 | 99924 | SR 358 Resurfacing | New Vernon Township | Highway/Other TYP | | $ - | C | $ 1,100,000 | | $ - | $ 1,100,000 |
| TYP | 358 | 99873 | SR 358: Methodist-Bean | Hempfield Township | Highway/Other TYP | | $ - | C | $ 1,300,000 | | $ - | $ 1,300,000 |
| TYP | 846 | 97914 | SR 846:Water Ave-Clksvill | Hermitage City | Highway/Other TYP | | $ - | C | $ 5,000,000 | | $ - | $ 5,000,000 |
| TYP | 19 | 98431 | US 19: Sandy Ck- SR 1014 | Sandy Creek Township | Highway/Other TYP | | $ - | C | $ 811,250 | | $ - | $ 811,250 |
| **HIGHWAY / OTHER (Decade of Investment Projects)** | | | | | | | | | | | | |
| DOI | | 98389 | I-80: MP 15 to MP 21.5 | East Lackawannock Township | Highway/Other DOI | | $ - | C | $ 8,000,000 | | $ - | $ 8,000,000 |
| DOI | | 98385 | I-89 Welcome Ctr Parking | Shenango Township | Highway/Other DOI | | $ - | PFC | $ 6,000,000 | | $ - | $ 6,000,000 |
| DOI | | 97907 | SR 19 Corridor Safety Imp | Springfield Township | Highway/Other DOI | | $ - | PFRUC | $ 3,400,000 | | $ - | $ 3,400,000 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| DISTRICT BRIDGES (Transportation Improvement Program TIP and Twelve Year Plan TYP Projects) | | | | | | | | | | | | |
| TIP/TYP | 62 | 88486 | US 62 Br over Spring Ck | Coolspring Township | District Bridge TYP | R | $ 10,000 | C | $ 150,000 | | $ - | $ 160,000 |
| TIP/TYP | 18 | 78849 | SR 18 ov Hogback Run #1 | Shenango Township | District Bridge TYP | C | $ 200,000 | | $ - | | $ - | $ 200,000 |
| TIP/TYP | 19 | 97331 | US 19 Br/Otter Ck Trb #1 | Coolspring Township | District Bridge TYP | FRC | $ 210,000 | | $ - | | $ - | $ 210,000 |
| TIP/TYP | 318 | | PA 318/Nesh Ck West Branch | Lackawannock Township | District Bridge TYP | C | $ 300,000 | | $ - | | $ - | $ 300,000 |
| TIP/TYP | 18 | | PA 18 Br/Shenango River Trib | | District Bridge TYP | FC | $ 350,000 | | $ - | | $ - | $ 350,000 |
| TIP/TYP | 1001 | 78923 | SR 1001 Brdg/Lil Shen Riv | Perry Township | District Bridge TYP | FC | $ 350,000 | | $ - | | $ - | $ 350,000 |
| TIP/TYP | 62 | 90024 | SR 62/Magaree Run Trib | Jefferson Township | District Bridge TYP | C | $ 350,000 | | $ - | | $ - | $ 350,000 |
| TIP/TYP | 1018 | 97299 | SR 1018 Brdg/Lake Wilhelm | Deer Creek Township | District Bridge TYP | FRC | $ 510,000 | | $ - | | $ - | $ 510,000 |
| TIP/TYP | 2102 | 88482 | Clintvill Rd Br over I-79 | Findley Township | District Bridge TYP | FRC | $ 610,000 | | $ - | | $ - | $ 610,000 |
| TIP/TYP | 2102 | 88483 | Clntville Rd Br 2 ov I-79 | Findley Township | District Bridge TYP | FRC | $ 610,000 | | $ - | | $ - | $ 610,000 |
| TIP/TYP | 4012 | 74709 | SR 4012 over Shngo River | Pymatuning Township | District Bridge TYP | C | $ 650,000 | | $ - | | $ - | $ 650,000 |
| TIP/TYP | 208 | 90033 | PA 208 Br over Black Run | Springfield Township | District Bridge TYP | C | $ 680,000 | | $ - | | $ - | $ 680,000 |
| TIP/TYP | 2103 | 88480 | Millbrook Rd Br ov I-79 | Jackson Township | District Bridge TYP | FRC | $ 710,000 | | $ - | | $ - | $ 710,000 |
| TIP/TYP | 4002 | 97276 | SR 4002 Brdg/Booth Run | South Pymatuming Township | District Bridge TYP | RC | $ 760,000 | | $ - | | $ - | $ 760,000 |
| TIP/TYP | 1004 | 88481 | Fredonia Rd Br over I-79 | Lake Township | District Bridge TYP | FRC | $ 930,000 | | $ - | | $ - | $ 930,000 |
| TIP/TYP | 760 | | PA 760 Bridge over Bobby Run | City of Hermitage | District Bridge TYP | C | $ 1,000,000 | | $ - | | $ - | $ 1,000,000 |
| TIP/TYP | 19 | 97322 | US 19 Bridge/Munnel Run | Coolspring Township | District Bridge TYP | C | $ 1,100,000 | | $ - | | $ - | $ 1,100,000 |
| TIP/TYP | 258 | | PA 258 Bridge/Magargee Run | Clark Boro | District Bridge TYP | FRC | $ 1,310,000 | | $ - | | $ - | $ 1,310,000 |
| TIP/TYP | 3012 | 74712 | SR 3012 Brdg/Shngo River | Sharon City | District Bridge TYP | PFRC | $ 1,350,000 | | $ - | | $ - | $ 1,350,000 |
| TIP/TYP | 2002 | 58081 | SR 2002: Neshannock Ck Br | Springfield Township | District Bridge TYP | FRC | $ 1,750,000 | C | $ 500,000 | | $ - | $ 2,250,000 |
| TIP/TYP | 318 | 1923 | W. Middlesex Viaduct | West Middlesex Borough | District Bridge TYP | C | $ 11,500,000 | | $ - | | $ - | $ 11,500,000 |
| TYP | 19 | 97277 | SR 19 Br/Otter Ck Trib 3 | Fairview Township | District Bridge TYP | F | $ 50,000 | RC | $ 310,000 | | $ - | $ 360,000 |
| TYP | 3039 | 97332 | SR 3039/Lil Nesh Ck Tr #1 | East Lackawannock Township | District Bridge TYP | F | $ 50,000 | RC | $ 160,000 | | $ - | $ 210,000 |
| TYP | 358 | 97302 | SR 358 Brdg/Sankeys Run | Hempfield Township | District Bridge TYP | R | $ 60,000 | C | $ 200,000 | | $ - | $ 260,000 |
| TYP | 2104 | 78943 | SR 2104 Brdg over I-79+D147 | Jackson Township | District Bridge TYP | FR | $ 110,000 | C | $ 600,000 | | $ - | $ 710,000 |
| TYP | 1004 | 89120 | SR 1004/Lt Sheg Riv Trib | Lake Township | District Bridge TYP | FR | $ 160,000 | C | $ 500,000 | | $ - | $ 660,000 |
| TYP | 3007 | 97300 | SR 3007 Bridge/Risa Run | Shenango Township | District Bridge TYP | FR | $ 160,000 | C | $ 500,000 | | $ - | $ 660,000 |
| TYP | 846 | 97329 | SR 846 Brdg/Sheng. Rsvoir | South Pymatuning Township | District Bridge TYP | FR | $ 160,000 | C | $ 1,600,000 | | $ - | $ 1,760,000 |
| TYP | 4017 | 97324 | SR 4017 Brdg/Lil Sheng Rv | Sugar Grove Township | District Bridge TYP | F | $ 200,000 | RC | $ 950,000 | | $ - | $ 1,150,000 |
| TYP | 8004 | 97316 | SR 8004 Brdg/Hogback Run | Shenango Township | District Bridge TYP | FR | $ 250,000 | C | $ 1,200,000 | | $ - | $ 1,450,000 |
| TYP | 258 | 97318 | SR 258 Brdg/Lackwnk Ck | Jefferson Township | District Bridge TYP | C | $ 300,000 | | $ - | | $ - | $ 300,000 |
| TYP | 4022 | 98172 | SR 4022 Brdg/Sankeys Run | Sugar Grove Township | District Bridge TYP | C | $ 300,000 | | $ - | | $ - | $ 300,000 |
| TYP | 62 | 97323 | SR 62 Brdg/Yellow Creek | Jackson Township | District Bridge TYP | C | $ 500,000 | | $ - | | $ - | $ 500,000 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| DISTRICT BRIDGES (Transportation Improvement Program TIP and Twelve Year Plan TYP Projects) | | | | | | | | | | | | |
| TYP | 1002 | 88484 | SR 1002 Brdg/Otter Creek | Fairview Township | District Bridge TYP | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| TYP | 1013 | 97289 | SR 1013 Br/Sandy Ck Trib | Sandy Creek Township | District Bridge TYP | | $ - | FRC | $ 50,000 | | $ - | $ 50,000 |
| TYP | 1014 | 97290 | SR 1014 Br/Sandy Ck Trib | Deer Creek Township | District Bridge TYP | | $ - | FRC | $ 50,000 | | $ - | $ 50,000 |
| TYP | 1014 | 97291 | SR 1014 Brdg/Mill Creek | New Lebanon Borough | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 173 | 97308 | SR 173 Brdg/Black Run Trb | Pine Township | District Bridge TYP | | $ - | C | $ 100,000 | | $ - | $ 100,000 |
| TYP | 19 | 97303 | SR 19 Bridge/Beaver Run | East Lackawannock Township | District Bridge TYP | | $ - | C | $ 100,000 | | $ - | $ 100,000 |
| TYP | 19 | 84915 | SR 19 over Small Stream | Springfield Township | District Bridge TYP | | $ - | C | $ 100,000 | | $ - | $ 100,000 |
| TYP | 19 | 84916 | SR 19/Lil Shenango River | Perry Township | District Bridge TYP | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| TYP | 2014 | 78845 | SR 2014 over Wolf Ck #2 | Findley Township | District Bridge TYP | | $ - | FC | $ 60,000 | | $ - | $ 60,000 |
| TYP | 2022 | 78937 | SR 2022 Brdg/Wolf Creek | Worth Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 2025 | 58088 | SR 2025: Black Run Brdg | Liberty Township | District Bridge TYP | | $ - | PFRC | $ 2,500,000 | | $ - | $ 2,500,000 |
| TYP | 208 | 97330 | SR 208 Brdg/Wolf Creek | Grove City Borough | District Bridge TYP | | $ - | C | $ 80,000 | | $ - | $ 80,000 |
| TYP | 258 | 97287 | SR 258 Br/Sheng Riv Trib | Clark Borough | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 3007 | 97292 | SR 3007/W. Brch Nesh Ck | Wilmington Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 3032 | 97293 | SR 3032 Bridge/Pine Run | Sharon City | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 3039 | 74670 | SR 3039 Brdg/Lckwnk Ck | Jefferson Township | District Bridge TYP | | $ - | C | $ 60,000 | | $ - | $ 60,000 |
| TYP | 3039 | 78944 | SR 3039 ov Lackwnk Ck #1 | Jefferson Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 3039 | 97320 | SR 3039/Lil Nesh Ck Trib | East Lackawannock Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 318 | 1817 | SR 318 Brdg/Lil Nesh Ck | East Lackawannock Township | District Bridge TYP | | $ - | PFRC | $ 2,850,000 | | $ - | $ 2,850,000 |
| TYP | 4001 | 97268 | SR 4001/Sugar Run Trib 2 | Greene Township | District Bridge TYP | | $ - | C | $ 100,000 | | $ - | $ 100,000 |
| TYP | 4003 | 97294 | SR 4003 Br/Big Run Trib 2 | West Salem Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 4020 | 97295 | SR 4020 Brdg/Lil Shng Riv | Sugar Grove Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 4020 | 97296 | SR 4020 Brdg/Morrison Run | Sandy Creek Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 4021 | 58096 | SR 4021:Morrison Run Brdg | Perry Township | District Bridge TYP | | $ - | C | $ 1,000,000 | | $ - | $ 1,000,000 |
| TYP | 58 | 97307 | SR 58 Bridge/Faherty Run | Greene Township | District Bridge TYP | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| TYP | 58 | 97315 | SR 58 Bridge/Krem Run | Delaware Township | District Bridge TYP | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| TYP | 58 | 97305 | SR 58 Bridge/Mathay Run | Hempfield Township | District Bridge TYP | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| TYP | 58 | 97317 | SR 58 Bridge/Munnel Run | Coolspring Township | District Bridge TYP | | $ - | C | $ 190,000 | | $ - | $ 190,000 |
| TYP | 62 | 97306 | SR 62 Brdg/Lackwnck Ck | East Lackawannock Township | District Bridge TYP | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| TYP | 62 | 97327 | SR 62 Brdg/Sheng Riv Trib | Hermitage City | District Bridge TYP | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| TYP | 845 | 97298 | SR 845 Brdg/Sawmill Run | Stoneboro Borough | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |
| TYP | 846 | 89123 | SR 846 ov Big Run | West Salem Township | District Bridge TYP | | $ - | C | $ 60,000 | | $ - | $ 60,000 |
| TYP | 965 | 97319 | SR 965 Brdg/Yellow Creek | Jackson Township | District Bridge TYP | | $ - | C | $ 50,000 | | $ - | $ 50,000 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **DISTRICT BRIDGES (Decade of Investment Projects)** | | | | | | | | | | | | |
| DOI | | 1891 | Heasley Rd Br (T-303) | Shenango Township | District Bridge DOI | | $ - | PFRC | $ 510,000 | | $ - | $ 510,000 |
| DOI | | 97333 | I-80 EB Brdg over SR 318 | Shenango Township | District Bridge DOI | | $ - | FRC | $ 910,000 | | $ - | $ 910,000 |
| DOI | | 97280 | I-80 EB Brdg/Black Run | Wolf Creek Township | District Bridge DOI | | $ - | FC | $ 60,000 | | $ - | $ 60,000 |
| DOI | | 97313 | I-80 EB Brdg/Neshnck Ck | Shenango Township | District Bridge DOI | | $ - | FRC | $ 810,000 | | $ - | $ 810,000 |
| DOI | | 97282 | I-80 EB Brdg/SR 173 | Wolf Creek Township | District Bridge DOI | | $ - | FC | $ 60,000 | | $ - | $ 60,000 |
| DOI | | 97309 | I-80 EB Brdg/SR 718 | Shenango Township | District Bridge DOI | | $ - | FRC | $ 810,000 | | $ - | $ 810,000 |
| DOI | | 97285 | I-80 EB Brdg/Wolf Creek | Wolf Creek Township | District Bridge DOI | | $ - | FC | $ 60,000 | | $ - | $ 60,000 |
| DOI | | 97314 | I-80 WB Brdg/Neshnck Ck | Lackawannock Township | District Bridge DOI | | $ - | FRC | $ 810,000 | | $ - | $ 810,000 |
| DOI | | 97284 | I-80 WB Brdg/SR 173 | Wolf Creek Township | District Bridge DOI | | $ - | FC | $ 60,000 | | $ - | $ 60,000 |
| DOI | | 97334 | I-80 WB Brdg/SR 318 | Shenango Township | District Bridge DOI | | $ - | FRC | $ 910,000 | | $ - | $ 910,000 |
| DOI | | 97310 | I-80 WB Brdg/SR 718 | Shenango Township | District Bridge DOI | | $ - | FRC | $ 810,000 | | $ - | $ 810,000 |
| DOI | | 97281 | I-80 WB Brdg/Wolf Creek | Wolf Creek Township | District Bridge DOI | | $ - | FC | $ 120,000 | | $ - | $ 120,000 |
| DOI | | 97297 | I-80 WBBrdg/Centertown Rd | Wolf Creek Township | District Bridge DOI | | $ - | FC | $ 60,000 | | $ - | $ 60,000 |
| DOI | | 1671 | Kelly Rd Brs T-388 (Dual) | Hermitage City | District Bridge DOI | | $ - | PFRUC | $ 6,105,000 | | $ - | $ 6,105,000 |
| DOI | | 1692 | Mill Road Bridge T-740 | Perry Township | District Bridge DOI | | $ - | PFRUC | $ 2,670,000 | | $ - | $ 2,670,000 |
| DOI | | 1745 | Ohl Street Bridge | Greenville Borough | District Bridge DOI | | $ - | PFRUC | $ 3,310,000 | | $ - | $ 3,310,000 |
| DOI | | 1670 | Old Mercer Rd (T-401) Br | East Lackawannock Township | District Bridge DOI | | $ - | PFRC | $ 1,835,000 | | $ - | $ 1,835,000 |
| DOI | | 1884 | Service Avenue Bridge | Sharon City | District Bridge DOI | | $ - | PFRC | $ 770,000 | | $ - | $ 770,000 |
| DOI | | 85410 | South Foster Road Bridge | Mill Creek Township | District Bridge DOI | | $ - | PFC | $ 575,000 | | $ - | $ 575,000 |
| DOI | 1008 | 1463 | SR 1008 Brdg/Otter Ck | Delaware Township | District Bridge DOI | | $ - | FRC | $ 150,000 | | $ - | $ 150,000 |
| DOI | 1012 | 97288 | SR 1012 Brdg/Lil Sandy Ck | Mill Creek Township | District Bridge DOI | | $ - | FC | $ 60,000 | | $ - | $ 60,000 |
| DOI | 19 | 97304 | SR 19 Brdg/Nesh Ck Trib | East Lackawannock Township | District Bridge DOI | | $ - | FC | $ 110,000 | | $ - | $ 110,000 |
| DOI | 318 | 89116 | SR 318/Sheng River Trib | Shenango Township | District Bridge DOI | | $ - | PFRC | $ 319,000 | | $ - | $ 319,000 |
| DOI | 4002 | 1475 | SR 4002: Coal Hill Rd Br | West Salem Township | District Bridge DOI | | $ - | FRC | $ 200,000 | | $ - | $ 200,000 |
| DOI | 965 | 97275 | SR 965 Brdg/Wolf Ck Trib | Worth Township | District Bridge DOI | | $ - | FRC | $ 195,000 | | $ - | $ 195,000 |
| DOI | | 1669 | W. Co. Line Rd (T-301) Br | Greene Township | District Bridge DOI | | $ - | PFRC | $ 855,000 | | $ - | $ 855,000 |
| DOI | | 1890 | Wengler Ave Bridge | Sharon City | District Bridge DOI | | $ - | FRC | $ 1,159,000 | | $ - | $ 1,159,000 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| DISTRICT BRIDGES (Long Range Projects) | | | | | | | | | | | | |
| | 19 | 1725 | SR 19 Brdg/Sheng Riv Trib | Perry Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 1,000,000 | $ 1,000,000 |
| | 58 | 107659 | SR: 58 over Shenango River Trib #2 | Jamestown Boro | District Bridge Long-Term | | $ - | | $ - | PFC | $ 700,000 | $ 700,000 |
| | 58 | 58003 | SR 58: Wolf Creek Brdg | Grove City Boro | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 900,000 | $ 900,000 |
| | 62 | 97327 | SR 62 Brdg/Sheng Riv Trib | City Of Hermitage | District Bridge Long-Term | | $ - | | $ - | PRC | $ 180,000 | $ 180,000 |
| | 158 | 1687 | SR 158 Brdg/Brandy Run | E Lackawannock Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 650,000 | $ 650,000 |
| | 173 | 97308 | SR 173 Brdg/Black Run Trb | Pine Twp | District Bridge Long-Term | | $ - | | $ - | PRC | $ 110,000 | $ 110,000 |
| | 318 | 1817 | SR 318 Brdg/Lil Nesh Ck | E Lackawannock Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 1,250,000 | $ 1,250,000 |
| | 358 | 58073 | SR 358 Brdg/Lil Shng Trib | Otter Creek Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 550,000 | $ 550,000 |
| | 718 | 88479 | SR 718 ov Shenango River | Shenango Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 1,000,000 | $ 1,000,000 |
| | 846 | 89123 | SR 846 over BIG RUN TRIB | West Salem Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 600,000 | $ 600,000 |
| | 965 | 88487 | SR 965 Br over Sandy Ck | Worth Twp | District Bridge Long-Term | | $ - | | $ - | PC | $ 220,000 | $ 220,000 |
| | 1004 | 89120 | SR 1004/Lt Sheg Riv Trib | Lake Twp | District Bridge Long-Term | | $ - | | $ - | PC | $ 200,000 | $ 200,000 |
| | 2001 | 58080 | SR 2001: Indian Run Brdg | Wilmington Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 850,000 | $ 850,000 |
| | 2007 | 58082 | SR 2007: Mill Ck Brdg | Findley Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 650,000 | $ 650,000 |
| | 2025 | 58088 | SR 2025: Black Run Brdg | Liberty Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 1,200,000 | $ 1,200,000 |
| | 3019 | 1831 | SR 3019 Br/Twel Wrks Run | Hermitage | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 1,000,000 | $ 1,000,000 |
| | 4001 | 97007 | SR 4001 Brdg/Sugar Run Tr | Green Twp | District Bridge Long-Term | | $ - | | $ - | PC | $ 320,000 | $ 320,000 |
| | 4019 | 74571 | SR 4019 ov Shen Rivr Trib | Hempfield Twp | District Bridge Long-Term | | $ - | | $ - | PC | $ 420,000 | $ 420,000 |
| | 4021 | 58096 | SR 4021:Morrison Run Brdg | Perry Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 950,000 | $ 950,000 |
| | 4021 | 1730 | SR 4021 Brdg/McCain Run | Salem Twp | District Bridge Long-Term | | $ - | | $ - | PFRC | $ 400,000 | $ 400,000 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **LOCAL BRIDGES (SPAN LESS THAN 20 FEET)** | | | | | | | | | | | | |
| | - | | OLD ASH RD | Springfield Township | Bridge (Local <20 ft) | C | $ 114,400 | | $ - | | $ - | $ 114,400 |
| | - | | SAMPLE ROAD | City Of Hermitage | Bridge (Local <20 ft) | C | $ 500,000 | | $ - | | $ - | $ 500,000 |
| | - | | TOWER ROAD | Greene Township | Bridge (Local <20 ft) | C | $ 195,000 | | $ - | | $ - | $ 195,000 |
| | - | | REIBER RD | Lackawannock Township | Bridge (Local <20 ft) | C | $ 428,000 | | $ - | | $ - | $ 428,000 |
| | - | | E VALCOURT RD | Liberty Township | Bridge (Local <20 ft) | | $ - | FRC | $ 148,000 | | $ - | $ 148,000 |
| | - | | PERRINE RD | Sandy Creek Township | Bridge (Local <20 ft) | C | $ 416,000 | | $ - | | $ - | $ 416,000 |
| | - | | HALFWAY ROAD | Greene Township | Bridge (Local <20 ft) | | $ - | FRC | $ 329,750 | | $ - | $ 329,750 |
| | - | | N COTTAGE RD | Jackson Township | Bridge (Local <20 ft) | | $ - | | $ - | FRUC | $ 286,000 | $ 286,000 |
| | - | | KO ROAD | Sugar Grove Township | Bridge (Local <20 ft) | | $ - | | $ - | FRUC | $ 321,100 | $ 321,100 |
| | - | | TOWER RD | Springfield Township | Bridge (Local <20 ft) | | $ - | | $ - | FRUC | $ 334,750 | $ 334,750 |
| | - | | SMITH AVE | City Of Sharon | Bridge (Local <20 ft) | | $ - | FRUC | $ 897,000 | | $ - | $ 897,000 |
| | - | | WEST RIVER RD | Jefferson Township | Bridge (Local <20 ft) | | $ - | | $ - | FRC | $ 122,000 | $ 122,000 |
| | - | | W RIVER RD | Jefferson Township | Bridge (Local <20 ft) | | $ - | | $ - | FRC | $ 382,000 | $ 382,000 |
| | - | | CREEK ROAD | Worth Township | Bridge (Local <20 ft) | | $ - | | $ - | FRC | $ 278,920 | $ 278,920 |
| | - | | FURNACE RD (Replacement Option)* | Fairview Township | Bridge (Local <20 ft) | | $ - | | $ - | FC | $ 217,000 | $ 217,000 |
| | - | | FURNACE RD (Removal Option) | Fairview Township | Bridge (Local <20 ft) | | $ - | | $ - | Demo | $ 20,000 | $ 20,000 |
| | - | | CHERRY HILL (Replacement Option)* | Salem Township | Bridge (Local <20 ft) | | $ - | | $ - | FC | $ 241,750 | $ 241,750 |
| | - | | CHERRY HILL (Removal Option) | Salem Township | Bridge (Local <20 ft) | | $ - | | $ - | Demo | $ 22,000 | $ 22,000 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

*Bridges on the redundant bridge closure study would only be considered if development occurs that would warrant evaluating the need for the bridge crossing

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **LOCAL BRIDGES (SPAN GREATER THAN 20 FEET)** | | | | | | | | | | | | |
| | - | | N RACE ST | Greenville Borough | Bridge (Local Greater >20 ft) | C | $ 2,710,000 | | $ - | | $ - | $ 2,710,000 |
| | - | | KELLY ROAD* | City Of Hermitage | Bridge (Local Greater >20 ft) | C | $ 1,600,000 | | $ - | | $ - | $ 1,600,000 |
| | - | | KELLY ROAD* | City Of Hermitage | Bridge (Local Greater >20 ft) | FRUC | $ 1,840,000 | | $ - | | $ - | $ 1,840,000 |
| | - | | OHL ST | Greenville Borough | Bridge (Local Greater >20 ft) | FRUC | $ 2,995,000 | | $ - | | $ - | $ 2,995,000 |
| | - | | WALNUT ST | Sandy Lake Borough | Bridge (Local Greater >20 ft) | FRC | $ 502,000 | | $ - | | $ - | $ 502,000 |
| | - | | PARKER ROAD | Lake Township | Bridge (Local Greater >20 ft) | C | $ 478,000 | | $ - | | $ - | $ 478,000 |
| | - | | MILL ROAD | Perry Township | Bridge (Local Greater >20 ft) | FRUC | $ 1,415,000 | | $ - | | $ - | $ 1,415,000 |
| | - | | W KIDDS MILL | Pymatuning Township | Bridge (Local Greater >20 ft) | C | $ 160,000 | | $ - | | $ - | $ 160,000 |
| | - | | DAUGHERTY ROAD | Pine Township | Bridge (Local Greater >20 ft) | C | $ 85,000 | | $ - | | $ - | $ 85,000 |
| | - | | OLD MERCER RD | East Lackawannock Township | Bridge (Local Greater >20 ft) | | $ - | FRUC | $ 1,570,880 | | $ - | $ 1,570,880 |
| | - | | S ORANGEVILLE RD | S Pymmatuning Township | Bridge (Local Greater >20 ft) | | $ - | FC | $ 1,950,000 | | $ - | $ 1,950,000 |
| | - | | SERVICE AVE | City Of Sharon | Bridge (Local Greater >20 ft) | | $ - | FRUC | $ 910,000 | | $ - | $ 910,000 |
| | - | | BEND ROAD | Wilmington Township | Bridge (Local Greater >20 ft) | | $ - | FRUC | $ 1,246,250 | | $ - | $ 1,246,250 |
| | - | | HENRY RD | Otter Creek Township | Bridge (Local Greater >20 ft) | | $ - | FRUC | $ 1,057,000 | | $ - | $ 1,057,000 |
| | - | | HOSACK RD | Jackson Township | Bridge (Local Greater >20 ft) | | $ - | FRUC | $ 686,500 | | $ - | $ 686,500 |
| | - | | CREEK RD | French Creek Township | Bridge (Local Greater >20 ft) | | $ - | FRUC | $ 1,438,000 | | $ - | $ 1,438,000 |
| | - | | HEASLEY RD (Replacement Option)* | Shenango Township | Bridge (Local Greater >20 ft) | | $ - | FC | $ 359,600 | | $ - | $ 359,600 |
| | - | | HEASLEY RD (Removal Option) | Shenango Township | Bridge (Local Greater >20 ft) | | $ - | Demo | $ 30,000 | | $ - | $ 30,000 |
| | - | | W COUNTY LINE (Replacement Option)* | Greene Township | Bridge (Local Greater >20 ft) | | $ - | FC | $ 556,400 | | $ - | $ 556,400 |
| | - | | W COUNTY LINE (Removal Option)* | Greene Township | Bridge (Local Greater >20 ft) | | $ - | Demo | $ 50,000 | | $ - | $ 50,000 |
| | - | | WENGLER AVE (Replacement Option)* | City Of Sharon | Bridge (Local Greater >20 ft) | | $ - | FC | $ 874,750 | | $ - | $ 874,750 |
| | - | | WENGLER AVE (Removal Option) | City Of Sharon | Bridge (Local Greater >20 ft) | | $ - | Demo | $ 70,000 | | $ - | $ 70,000 |
| | - | | YEAGER RD (Replacement Option)* | Perry Township | Bridge (Local Greater >20 ft) | | $ - | FC | $ 639,600 | | $ - | $ 639,600 |
| | - | | YEAGER RD (Removal Option) | Perry Township | Bridge (Local Greater >20 ft) | | $ - | Demo | $ 50,000 | | $ - | $ 50,000 |
| | - | | MARSTELLAR RD | Fairview Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 1,352,525 | $ 1,352,525 |
| | - | | HARRISVILLE RD | Worth Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 749,845 | $ 749,845 |
| | - | | SHENANGO PK RD | Pymatuning Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 1,084,400 | $ 1,084,400 |
| | - | | SPENCER AVE | City Of Sharon | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 905,000 | $ 905,000 |
| | - | | DAUGHERTY ROAD | Pine Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 1,543,100 | $ 1,543,100 |
| | - | | RUNKLE LANE | Fairview Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 494,000 | $ 494,000 |
| | - | | LINCOLN AVE | Grove City Borough | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 2,758,525 | $ 2,758,525 |
| | - | | BUSH RD | Otter Creek Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FRUC | $ 692,480 | $ 692,480 |

S = Study, P = Preliminary Engineering, F = Final Engineering, R = Right-of-Way, U = Utilities, C = Construction

*Bridges on the redundant bridge closure study would only be considered if development occurs that would warrant evaluating the need for the bridge crossing

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **LOCAL BRIDGES (SPAN GREATER THAN 20 FEET)** | | | | | | | | | | | | |
| | - | | N SPRING RD (Replacement Option)* | Springfield Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 392,225 | $ 392,225 |
| | - | | N SPRING RD (Removal Option) | Springfield Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 35,000 | $ 35,000 |
| | - | | OVER BESSEMER RR (Replacement Option)* | Coolspring Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 2,228,360 | $ 2,228,360 |
| | - | | OVER BESSEMER RR (Removal Option) | Coolspring Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 150,000 | $ 150,000 |
| | - | | SCOTT RD (Replacement Option)* | Hempfield Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 615,870 | $ 615,870 |
| | - | | SCOTT RD (Removal Option) | Hempfield Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 55,000 | $ 55,000 |
| | - | | GARDNER HILL (Replacement Option)* | Sugar Grove Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 388,000 | $ 388,000 |
| | - | | GARDNER HILL (Removal Option) | Sugar Grove Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 35,000 | $ 35,000 |
| | - | | PINCHLONG RD (Replacement Option)* | Pine Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 383,450 | $ 383,450 |
| | - | | PINCHLONG RD (Removal Option) | Pine Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 35,000 | $ 35,000 |
| | - | | MURPHY ROAD (Replacement Option)* | Greene Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 279,200 | $ 279,200 |
| | - | | MURPHY ROAD (Removal Option) | Greene Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 25,000 | $ 25,000 |
| | - | | LACOCK ST (Replacement Option)* | Sandy Lake Borough | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 1,990,550 | $ 1,990,550 |
| | - | | LACOCK ST (Removal Option) | Sandy Lake Borough | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 125,000 | $ 125,000 |
| | - | | CROUSER SCHOOL (Replacement Option)* | Mill Creek Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 303,250 | $ 303,250 |
| | - | | CROUSER SCHOOL (Removal Option) | Mill Creek Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 25,000 | $ 25,000 |
| | - | | HUTCHISON RD (Replacement Option)* | Lake Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 585,000 | $ 585,000 |
| | - | | HUTCHISON RD (Removal Option) | Lake Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 50,000 | $ 50,000 |
| | - | | CRYSTAL SPRING (Replacement Option)* | Mill Creek Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 611,000 | $ 611,000 |
| | - | | CRYSTAL SPRING (Removal Option) | Mill Creek Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 50,000 | $ 50,000 |
| | - | | JACK ROAD (Replacement Option)* | Worth Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | FC | $ 464,500 | $ 464,500 |
| | - | | JACK ROAD (Removal Option) | Worth Township | Bridge (Local Greater >20 ft) | | $ - | | $ - | Demo | $ 40,000 | $ 40,000 |

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*Bridges on the redundant bridge closure study would only be considered if development occurs that would warrant evaluating the need for the bridge crossing

| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **TRANSIT (from SVSS TIP)** | | | | | | | | | | | | |
| TIP | - | 102636 | 2017-2018 Operating Assistance | City of Hermitage | Transit | C | $ 758,572 | | $ - | | $ - | $ 758,572 |
| TIP | - | 102637 | 2018-2019 Operating Assistance | City of Hermitage | Transit | C | $ 761,661 | | $ - | | $ - | $ 761,661 |
| TIP | - | 106705 | 2019-2020 Operating Assistance | City of Hermitage | Transit | C | $ 764,905 | | $ - | | $ - | $ 764,905 |
| TIP | - | 106706 | 2020-2021 Operating Assisance | City of Hermitage | Transit | C | $ 768,311 | | $ - | | $ - | $ 768,311 |
| TIP | - | 77148 | ADA Related Expenses | City of Hermitage | Transit | C | $ 317,164 | | $ - | | $ - | $ 317,164 |
| TIP | - | 83653 | Asset Maintenance Expenses | City of Hermitage | Transit | C | $ 800,000 | | $ - | | $ - | $ 800,000 |
| TIP | - | 95413 | Office & Garage | City of Hermitage | Transit | C | $ 232,837 | | $ - | | $ - | $ 232,837 |
| TIP | - | 83658 | Office Equipment | City of Hermitage | Transit | C | $ 200,000 | | $ - | | $ - | $ 200,000 |
| TIP | - | 106707 | Replace Admin Vehicle | City of Hermitage | Transit | C | $ 30,000 | | $ - | | $ - | $ 30,000 |
| TIP | - | 95412 | Safety & Security | City of Hermitage | Transit | C | $ 31,615 | | $ - | | $ - | $ 31,615 |
| TIP | - | 83656 | Shop/Garage Equipment | City of Hermitage | Transit | C | $ 200,000 | | $ - | | $ - | $ 200,000 |
| TIP | - | 95415 | SVSS Transit Buses | City of Hermitage | Transit | C | $ 465,000 | | $ - | | $ - | $ 465,000 |
| TIP | - | 87396 | Transit Enhancement Project | City of Hermitage | Transit | C | $ 31,640 | | $ - | | $ - | $ 31,640 |
| TIP | - | 102638 | Vehicle Purchase | City of Hermitage | Transit | C | $ 732,180 | | $ - | | $ - | $ 732,180 |

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| | | | | | | CURRENT | | MID-RANGE | | LONG RANGE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TIP +2: FFY 2017-2022 | | FFY: 2023-2028 | | FFY: 2029-2042 | | Total |
| | SR | Project # | Project Title | Municipality | Mode | Phase | Cost | Phase | Cost | Phase | Cost | |
| **AIRPORT (From PennDOT BOA)** | | | | | | | | | | | | |
| | - | | Construct (replace) AVGAS Fuel System and Jet A Fuel System | Hempfield Township | Airport | C | $ 200,000 | | $ - | | $ - | $ 200,000 |
| | - | | Construct Airport Access Road and Automobile Parking Area | Hempfield Township | Airport | | $ - | C | $ 300,000 | | $ - | $ 300,000 |
| | - | | Construct Conventional Hangar | Hempfield Township | Airport | | $ - | C | $ 500,000 | | $ - | $ 500,000 |
| | - | | Construct Parallel Taxiway | Hempfield Township | Airport | | $ - | C | $ 448,612 | | $ - | $ 448,612 |
| | - | | Construct T-Hangar 10 units | Hempfield Township | Airport | | $ - | C | $ 575,000 | | $ - | $ 575,000 |
| | - | | Construct T-Hangar Access Taxiways | Hempfield Township | Airport | | $ - | C | $ 308,333 | | $ - | $ 308,333 |
| | - | | Construct T-Hangar T/W | Hempfield Township | Airport | | $ - | C | $ 475,000 | | $ - | $ 475,000 |
| | - | | Construct T-Hangar T/W (Design Only) | Hempfield Township | Airport | | $ - | C | $ 95,000 | | $ - | $ 95,000 |
| | - | | Construct T-Hangar Taxiway | Hempfield Township | Airport | | $ - | C | $ 501,388 | | $ - | $ 501,388 |
| | - | | Develop Multi-Municipal Airport Hazard Zoning Ordinance | Hempfield Township | Airport | C | $ 12,000 | | $ - | | $ - | $ 12,000 |
| | - | | Expand Apron 180' x 150' | Hempfield Township | Airport | | $ - | C | $ 253,334 | | $ - | $ 253,334 |
| | - | | Extend Parallel Taxiway MIRL Lighting | Hempfield Township | Airport | | $ - | C | $ 686,112 | | $ - | $ 686,112 |
| | - | | Improve Airport Drainage | Hempfield Township | Airport | C | $ 333,332 | | $ - | | $ - | $ 333,332 |
| | - | | Install Automatic Weather Observation System | Hempfield Township | Airport | | $ - | C | $ 166,666 | | $ - | $ 166,666 |
| | - | | Install Security/Perimeter Fencing | Hempfield Township | Airport | C | $ 333,334 | | $ - | | $ - | $ 333,334 |
| | - | | Install Windcone and Refurbing Rotating Beacon | Hempfield Township | Airport | C | $ 166,666 | | $ - | | $ - | $ 166,666 |
| | - | | Rehabilitate Aircraft Parking Apron | Hempfield Township | Airport | C | $ 263,888 | | $ - | | $ - | $ 263,888 |
| | - | | Rehabilitate T-Hangar Taxiway | Hempfield Township | Airport | C | $ 333,334 | C | $ 316,666 | | $ - | $ 650,000 |
| | - | | Relocating the Airport Electrical Systems to the Electrical Vault | Hempfield Township | Airport | C | $ 316,666 | | $ - | | $ - | $ 316,666 |
| | - | | Snow Removal Equipment Building | Hempfield Township | Airport | C | $ 333,326 | | $ - | | $ - | $ 333,326 |
| | - | | Acquire Airfield Maintenance Equipment | Pine Township | Airport | | $ - | C | $ 150,000 | | $ - | $ 150,000 |
| | - | | Acquire Brush Hog | Pine Township | Airport | | $ - | C | $ 15,000 | | $ - | $ 15,000 |
| | - | | Acquire Field Maintenance Equipment | Pine Township | Airport | | $ - | C | $ 165,000 | | $ - | $ 165,000 |
| | - | | Acquire Land in Runway Approaches | Pine Township | Airport | C | $ 333,333 | | $ - | | $ - | $ 333,333 |
| | - | | Acquire Snow Removal Equipment | Pine Township | Airport | C | $ 333,332 | | $ - | | $ - | $ 333,332 |
| | - | | Construct Administration Building, 6,000 SF | Pine Township | Airport | | $ - | C | $ 900,000 | | $ - | $ 900,000 |
| | - | | Construct Conventional Hangar 6,400 SF | Pine Township | Airport | | $ - | C | $ 500,000 | | $ - | $ 500,000 |
| | - | | Construct Parallel Taxiway, Phase 1 Design | Pine Township | Airport | | $ - | C | $ 591,112 | | $ - | $ 591,112 |
| | - | | Construct Parallel Taxiway, Phase 2 Construction | Pine Township | Airport | | $ - | C | $ 633,334 | | $ - | $ 633,334 |
| | - | | Construct Snow Removal Equipment Building, Phase 1 | Pine Township | Airport | | $ - | C | $ 166,666 | | $ - | $ 166,666 |
| | - | | Construct Snow Removal Equipment Building, Phase 2 | Pine Township | Airport | | $ - | C | $ 166,666 | | $ - | $ 166,666 |
| | - | | Expand Apron | Pine Township | Airport | | $ - | C | $ 308,334 | | $ - | $ 308,334 |
| | - | | Extend Runway 10-28, 500 feet | Pine Township | Airport | | $ - | C | $ 3,166,666 | | $ - | $ 3,166,666 |
| | - | | Improve Airport Drainage (stormwater permitting) | Pine Township | Airport | | $ - | C | $ 15,834 | | $ - | $ 15,834 |
| | - | | Improve Runway Safety Area for Runway 28 | Pine Township | Airport | | $ - | C | $ 166,666 | | $ - | $ 166,666 |
| | - | | Install Instrument Landing System Runway 28, GPS | Pine Township | Airport | | $ - | C | $ 316,666 | | $ - | $ 316,666 |
| | - | | Install Perimeter Fencing, Ph 1 | Pine Township | Airport | C | $ 166,667 | | $ - | | $ - | $ 166,667 |
| | - | | Install Perimeter Fencing, Ph 2 | Pine Township | Airport | C | $ 166,666 | | $ - | | $ - | $ 166,666 |
| | - | | Rehabilitate Access Road and Expand Parking (2,700 SY) 3,500 SY | Pine Township | Airport | | $ - | C | $ 211,112 | | $ - | $ 211,112 |
| | - | | Rehabilitate Corporate Hangar and T-Hangar | Pine Township | Airport | | $ - | C | $ 222,222 | | $ - | $ 222,222 |
| | - | | Rehabilitate Runway 10-28 (4500' x 75') | Pine Township | Airport | C | $ 527,778 | | $ - | | $ - | $ 527,778 |
| | - | | Remove Obstructions in Runway Approaches | Pine Township | Airport | C | $ 277,778 | | $ - | | $ - | $ 277,778 |
| | - | | Update Airport Master Plan | Pine Township | Airport | C | $ 263,888 | | $ - | | $ - | $ 263,888 |

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