



2020-45 LONG RANGE TRANSPORTATION PLAN



ADOPTED JUNE 23, 2020

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Northwest Pennsylvania Commission

2020-45 Long Range Transportation Plan

Prepared for:
Northwest Commission

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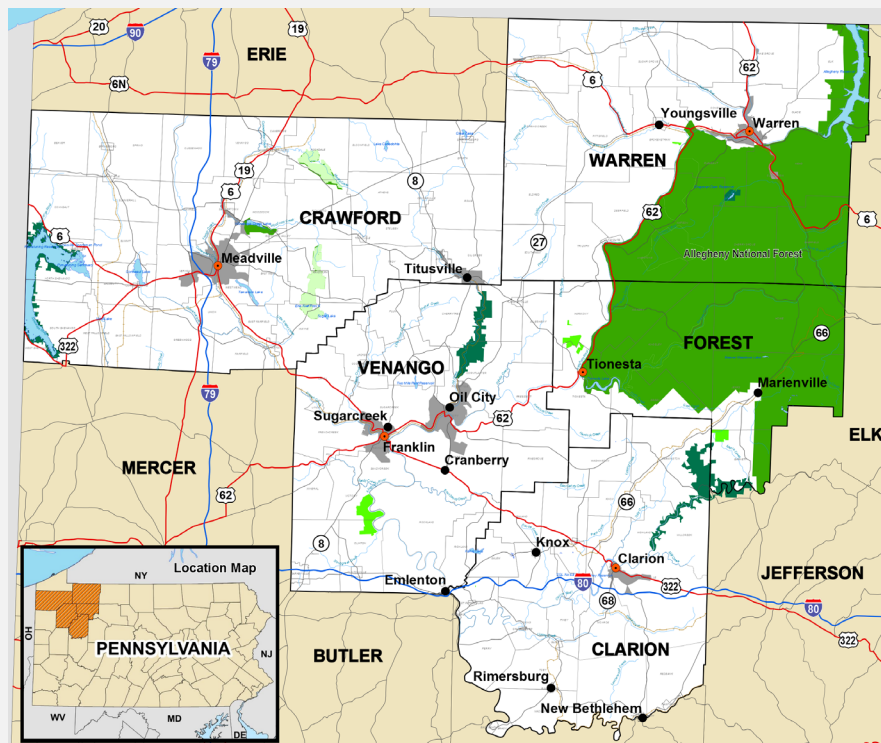
Our Regional Geographic Position

The Northwest PA region includes a 5-county area located in the northwestern corner of Pennsylvania. It is one of the state's smallest transportation planning regions by population, yet consists of nearly 3,600 square miles of land area (or an area roughly half the size of New Jersey).

The region's location just off the shores of Lake Erie also makes it an area with one of the harshest environments in the state. The region is situated within the winter snowbelt, and annually receives upwards of 100 inches of snowfall, along with 40-48 inches of rain. PennDOT typically spends anywhere from 100 to 150 days a year de-icing the region's roadways.

Geologically, the region is located within the broader Appalachian Plateau region, with deposits of glacial till that can run more than 200 feet deep. This environmental phenomenon can substantially drive up the costs of bridge maintenance and construction, just as much as the region's freeze and thaw cycles can adversely affect roadway conditions.

The region in general is very rural, with a population density of only 64 persons per square mile. In addition, significant portions of the region are quite remote and inaccessible, with limited access to the national Interstate system. The largest municipalities in the region include the micropolitan statistical areas of Meadville, Oil City, and Warren. The Allegheny National Forest is a major geographic feature within the region and stretches across large portions of Forest and Warren Counties.



The preparation of this publication was financed in part through the United States Department of Transportation's Federal Highway Administration and the Pennsylvania Department of Transportation.

MESSAGE FROM THE TAC CHAIRMAN

Dear Reader –

The Northwest Commission's 2020-2045 Long Range Transportation Plan (LRTP) represents the culmination of much work by the Commission and its many transportation stakeholders. These include PennDOT, the Federal Highway Administration, county planning agencies, and hundreds of private individuals who use and depend on the regional transportation system for their livelihood every day.

As a region, Northwestern Pennsylvania faces many transportation challenges that this plan seeks to address. As always, our biggest challenge is in coming up with enough funding to be able to do larger projects that are needed. In many instances, we cannot fund needed projects without collaborative efforts among the five Northwestern counties, or from our partners in Harrisburg and Washington DC.

Our Interstates are in fair condition, but will not last for another 25 years. Major reconstruction projects will be needed to keep our most strategic highway assets operating in an acceptable condition. The region also has a high concentration of secondary roadways that are not eligible for state funds. We continue to work on addressing the number of "poor" bridges across the region. Through various initiatives at the state and regional level, we have driven those numbers down to their lowest level in many years. System preservation continues to be an ongoing need and is one of the Commission's top priorities: we need to hold our roadways and bridges together with more preservation-type work. Our other transportation assets and services related to public transportation, rail freight, aviation, and bicycle/pedestrian facilities also deserve our attention in planning for a multimodal system.

This is also the region's first LRTP to incorporate Federally-driven performance measures and targets on areas related to safety, system condition, and performance. The LRTP update also took advantage of new planning tools from PennDOT, specifically the asset management systems for bridges and pavements. The projects and policies being advocated through this plan will help us to continue to meet our long-term goals and targets.

The LRTP itself represents the region's long-range outlook and 25-year spending plan. Since we will always need to plan and program projects within a limited funding environment, plans such as this will help us in spending our limited transportation dollars toward improving and optimizing our transportation system in the most effective way possible. The LRTP is a living document and process. On behalf of my colleagues at the Northwest Commission and the regional Transportation Advisory Committee, I invite your ongoing interest and involvement in the transportation planning process for Northwest Pennsylvania.

Sincerely,



Dan Glotz, Chairman
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Safety and Intersection Improvements along PA 68 in Clarion County

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Executive Summary



Hunter Station Bridge, carrying US 62 over the Allegheny River in Forest County

Executive Summary

Background/Overview

The Northwest RPO 2020-45 Long Range Transportation Plan is the fourth such plan that the Northwest RPO has developed. The LRTP serves as the guidebook to the region's transportation policy and candidate project identification. As such, it serves as a primary "gatekeeper" for future Transportation Improvement Programs (TIPs) and Twelve-Year Programs (TYPs).

The development of the most recent LRTP broke with the approaches used in developing previous plans in that it placed a stronger emphasis on project identification. The RPO took full advantage of planning tools such as Decision Lens in evaluating and prioritizing evaluation criteria, and used new asset management tools such as Bridge Asset Management (BAMS) and Pavement Asset Management (PAMS) as part of the prioritization process. The plan is also the RPO's first to be developed during the FAST Act era – the planning region made the Transportation Performance Measures advanced by the Act an integral part in evaluating candidate projects for future programming. The result is a plan that clearly delineates what the region's project priorities are, by county, by project type.

Existing Conditions

The Northwest RPO region includes the five counties of Clarion, Crawford, Forest, Venango, and Warren. In 2017, the region had an estimated population of 223,335, a figure that has not changed to any great degree over the past 50 years. While total population has remained steady, the composition of the population continues to evolve. Plan forecasts imagine that by the plan horizon year of 2045, nearly one in four within the region will be over the age of 65. This phenomenon will introduce new implications for Northwest planners, particularly within the realm of transportation safety and the delivery of public transportation services.

The region's transportation system is undergirded by its 7,000-mile network of roadways, including a 73-mile share of the state's Interstate System, and 313 miles on the National Highway System. The total network of roadways (both state and locally-owned) accommodates over 6.3 million miles of travel, daily. A multimodal system of public transportation services, rail freight, and aviation round out the region's portfolio of transportation systems and services.

The Northwest RPO in 2019 undertook an effort to update its functional classification scheme, which FHWA approved in July. Among the many changes included 12 classification upgrades, which yielded additional mileage in Principal Arterials, and roadways eligible for FHWA's National Highway Performance Program (NHPP) – its most significant highway funding category. The region's current functional classification scheme is in alignment with FHWA recommendations for a rural system.

Bridge conditions are continually improving. The rate of poor bridges is currently at 8.3 percent (by count). As a district, District 1-0 ranks second-best in the state in its bridge conditions (which includes four of the Northwest RPO counties). The region has been investing heavily in its bridge stock and improving its overall bridge health; overall pavement conditions have been affected to some extent because of this emphasis.

Public and Stakeholder Engagement

The planning process included extensive outreach. In doing so, the RPO used the following approaches:

- **State Transportation Commission** – The RPO drew from public comments received as part of the update and development of the 2021 Twelve Year Program. The survey results included 43 respondents from the Northwest region.
- **Regional Listening Sessions** – The RPO facilitated “listening sessions” in each one of its member counties. The sessions provided the public with opportunity to review existing TYP projects and make recommendations regarding changes to the regional transportation system. A total of 68 individuals participated in these meetings.
- **Digital Online Option** – The RPO employed the online MetroQuest tool as a means of obtaining a broader cross-section of interests and individuals. The survey itself attracted the attention of 564 different people, and over 1,000 points of information were provided on online, interactive maps.

The 900 Million Dollar Plan

Shortfalls in Pennsylvania transportation funding have been well documented and are widespread. Act 89 was welcome transportation funding legislation when it was passed in 2013, yet it has failed to meet revenue projections in part due to an increase in more fuel-efficient vehicles, like hybrids and electric models. The price of fuel has also remained relatively low while project costs have steadily increased, contributing to a loss of the RPO’s buying power over time. The Act also made provisions to allow counties to impose a \$5 additional vehicle registration fee to fund local transportation projects. As of this writing, only 23 of Pennsylvania’s 67 counties have opted to implement this fee, none of which are from the Northwest region.

A previous funding act, Act 44 of 2007, required the Pennsylvania Turnpike to provide PennDOT with \$450 million annually for transportation projects. By July 2022, the Turnpike’s annual obligation to PennDOT will drop to \$50 million per year (in what has been referred to as a “partial sunset”) through 2057, creating an even larger funding gap in the state’s General Fund.

During the update of the 2021 Program, PennDOT announced that it would be investing more heavily in the state’s Interstate System. The Department has estimated it would require over \$1 billion annually just to maintain the system in an acceptable operating condition. This contrasts to the \$454 million currently being invested, effectively documenting that the system is being funded at less than half of basic cyclic need. Many sections are in need of reconstruction and modernization.

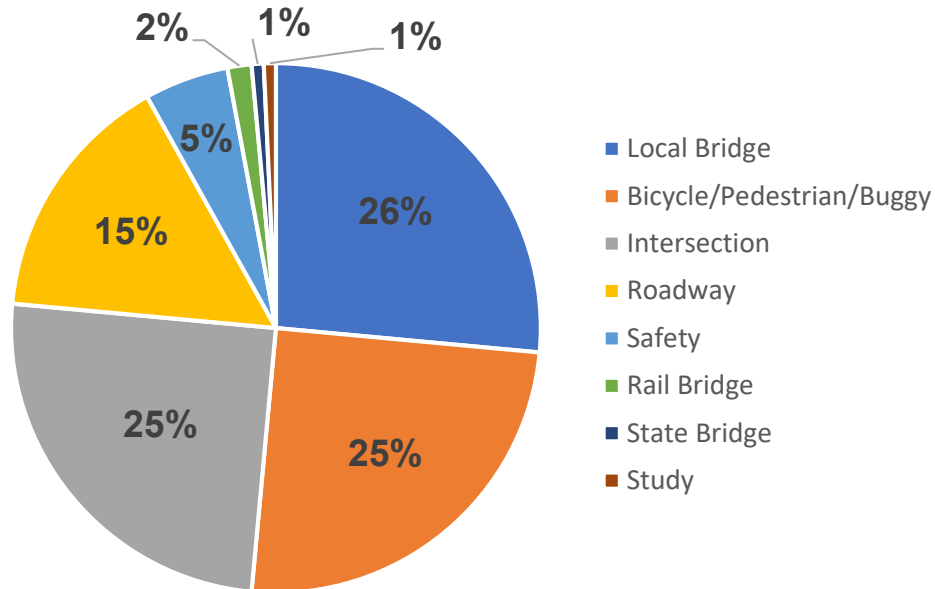
In meeting the growing challenges posed by the Interstate System, PennDOT will be instituting an additional annual \$50 million in investment until the Interstate Program reaches \$1 billion – a level that will be realized within eight years. The cost for the increase will be shared among PennDOT’s Planning Partners (including the Northwest RPO), and the State’s 20 percent discretionary reserve.

The changes mean that the Northwest RPO will operate on a current (2021) TIP of nearly \$157 million. Future TIPs will be capitalized at lower amounts.

Investment Plan

The 2045 LRTP identifies 136 candidate projects that are programmed within the final LRTP plan period, or FFY 2031-45. The LRTP consists of projects from this period in addition to those from the 2021-32 Twelve Year Program. Altogether, projects from the 25-year period are valued at over \$1.8 billion.

Northwest RPO 2045 LRTP Final Project Composition (Years 13-25)



The Investment Plan contains projects that are both within and beyond financial constraint. Projects from the 2021 Twelve Year Program are “financially constrained,” while the 136 candidate projects should be considered as “eligible, but unfunded.” They are included in the plan as illustrative projects and may be considered as future programs are developed.

As part of the identification of the region’s unconstrained highway and bridge needs, PennDOT also identified the level of investment required to maintain the system at an acceptable operating condition during the years 13-25 of the LRTP. These include:

- **Betterments** - \$413.5 million
- **Local Bridges** - \$38.6 million
- **Slide Repairs** - \$6 million
- **Local Federal Aid Routes** - \$6 million

Betterments include a variety of projects and will always be PennDOT’s highest priority, over capacity-adding projects. Betterments may entail more of a “middle of the road” treatment between full reconstruction and resurfacing, or a mill and overlay to replacing the wearing surface. A betterment may also include some structural repair to the pavement, or even signal work in some cases.

The accompanying table summarizes the region’s revenue forecast in today’s dollars. As shown, the RPO is expected to have \$913 million over the life of the plan (through 2045) to address plan needs.

Northwest RPO Region, Revenue Forecast by Planning Period

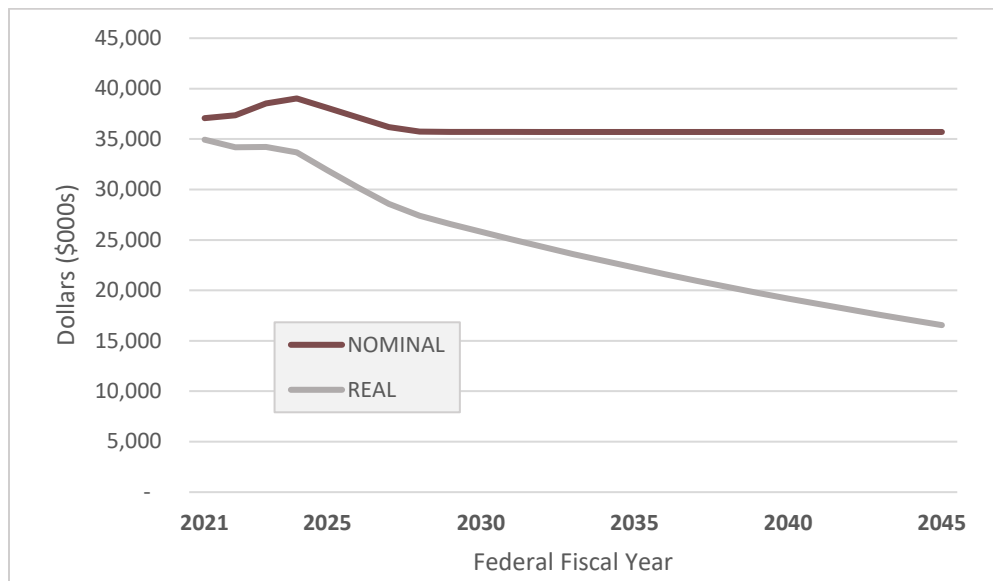
Period	Nominal Dollars (000s)
TIP (2021-24)	\$156,899
TYP (2021-32)	\$441,997
L RTP (2021-2045)	\$913,059

Source: PennDOT 2021 Financial Guidance; Michael Baker International projections

These dollars include anticipated revenue, as well as approximately \$7 million in additional discretionary dollars that the region received over and above an original revenue forecast estimate from PennDOT financial guidance documentation.

The accompanying chart shows the erosion of the RPO's buying power, over time. For the plan to be financially constrained, these dollar amounts were used as control totals against long-range needs through 2045.

Actual and Projected Annual Revenue (in Real and Nominal Dollars), 2021-45 (\$000s)



Source: PennDOT Financial Guidance documentation and Michael Baker International estimates

Next Steps

The implementation of the regional LRTP will begin immediately, as the Northwest RPO works to identify activities and special studies for forthcoming work programs, and as the development of the 2021 Program comes to a close later in 2020.

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Plan Introduction



Rail freight in Oil City

Introduction

The Northwest PA Rural Planning Organization and the Pennsylvania Department of Transportation (PennDOT) together invest millions of dollars to produce and maintain the regional transportation systems that area businesses, workers, families, and freight services rely on every day. The partnership between the Northwest Commission and PennDOT dates back to 1992. The formal relationship between MPOs/RPOs and DOTs date back to the 1962 Federal Aid Highway Act, which introduced the vision of so-called “3-C” (cooperative, comprehensive, and continuing) planning between local communities and states.

Over the years, there have been many changes in how projects are planned and programmed. Areas of emphasis have changed over the years, from the introduction of federal transit funding, the rise of active transportation modes (walking and bicycling), increased concerns surrounding coordinated growth, environmental and sustainability planning, requirements related to metropolitan freight, increased urgency surrounding basic maintenance and operations needs, and less focus on capacity enhancements. Recently, responsibility for transportation funding has increasingly devolved from federal and toward state and local levels of government. Growth in fuel-efficient and alternative fuel vehicles and the emergence of autonomous vehicles already signal significant future shifts in transportation policy and funding conventions.

This plan addresses ways in which Northwest PA can respond more effectively to changes in transportation demands, conditions, and technologies over the next twenty-five years to 2045. It provides a menu of strategies and projects for better equipping the region to plan, maintain, and improve transportation systems. The Northwest RPO will use this plan to enhance planning and decision-making for the challenges and changing transportation paradigms of the first half of the 21st century.

The plan is also intended to set the stage for regional transportation planning through the year 2045. As planning for this LRTP drew to a close, there are many unknowns on the horizon that will affect the regional transportation system. Key among these will be the end of the Federal Fixing America’s Surface Transportation (FAST) Act, which is due to expire in September 2020. This will be followed by a presidential election. Also, the 2020 decennial census will occur, and will report the latest trends in demographics. Planning for the deployment of connected and autonomous vehicle technologies will be well underway in many areas. Given the transportation changes we see now on the horizon, the 2020-45 Long Range Transportation Plan marks an appropriate interval for exploring how best to plan for the region’s future.

Existing Conditions Profile



Trail 66 road crossing in Clarion County

Regional Trends and Forces Affecting Transportation

There are many factors that will influence transportation systems in Northwest PA in the future, including but not limited to current conditions and trends, technological advances, public policy, and economic growth. The following sections present an overview of existing socioeconomic and transportation conditions within the region.

*A detailed profile of existing regional conditions and trends is included as **Appendix A**.*

Socioeconomic Factors

Population Forecasts

Population change in the Northwest PA region could be characterized as being static, with no dramatic “boom and bust” cycles, or precipitous changes overall. In fact, the region’s estimated population of 223,000 today¹ is just slightly less than what it was sixty years ago, when the 1960 US Census recorded the region’s total population at 230,721. The region’s overall population peaked in 1980, but has steadily declined by nearly 16,000 since then.

Looking ahead, data from the long-term county economic and demographic projections firm of Woods & Poole indicate that the region’s total population is expected to remain relatively stable, with an estimated total population of 233,380 by the 2040 Census (Table 1). This translates into an expected decline of 65 persons per year between 2020 and 2040, illustrating the region’s demographic stability.

Table 1. Northwest PA Region Historic and Projected Total Population, by County, 1960-2040

	Clarion	Crawford	Forest	Venango	Warren	Region	% Change
1960	37,408	77,956	4,485	65,295	45,582	230,721	-
1970	38,414	81,342	4,926	62,353	47,682	234,717	1.73%
1980	43,362	88,869	5,072	64,444	47,449	249,196	6.17%
1990	41,699	86,169	4,802	59,381	45,050	237,101	-4.85%
2000	41,765	90,366	4,946	57,565	43,863	238,505	0.59%
2010	39,988	88,765	7,716	54,984	41,815	233,268	-2.20%
2020	40,730	89,820	7,770	55,150	41,210	234,680	0.61%
2030	41,210	90,320	7,920	55,240	40,630	235,320	0.27%
2040	41,240	89,820	7,980	54,720	39,620	233,380	-0.82%

Source: 1960-2010-US Census; 2020, 2030 and 2040 Woods & Poole (2014)

There has been a significant increase in the region’s senior population, a phenomenon which has continued from 1990 to the present. The total population age 65 and older is growing in the region and across Pennsylvania. With the oldest of the baby boomer generation turning 65 in 2010, the size of this age group is expected to increase in the region and across the state. According to 2014 Woods & Poole projections, Pennsylvania is expected to be ranked sixth in the nation for total share of population over

¹ Current (2017) Census estimates place the region’s total population at 223,335.

65 by 2040, at 23.1 percent. The percentage of the population 65 and over in the Northwest PA region is higher than that of Pennsylvania overall according to the US Census for 2000 and 2010 and projected to continue through 2040, shown in Table 2.

Table 2: Percent Population Age 65 and over, 2000–40

	Clarion	Crawford	Forest	Venango	Warren	Region
2000	16.0%	15.8%	19.0%	16.9%	17.4%	16.5%
2010	16.5%	16.6%	18.4%	17.9%	18.8%	17.3%
2020	19.2%	21.2%	21.9%	22.6%	23.7%	21.4%
2030	22.3%	25.3%	23.7%	27.9%	29.0%	25.8%
2040	22.5%	25.6%	25.6%	27.5%	29.7%	26.0%

Source: 2000 and 2010 U.S. Census Bureau, 2020, 2030 and 2040 Woods & Poole (2014)

The growth of the region’s senior population will have implications on the transportation system. These may include the need for planning for mature drivers, predictable construction zones, improved signing, access to public transportation and planning for autonomous and connected vehicles and other future technologies.

Environmental Justice

Federal agencies are required to achieve Environmental Justice by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. FHWA recently introduced the Environmental Justice Core Elements Methodology to ensure an MPO/RPO can meaningfully assess the benefits and burdens of plans and programs. PennDOT and the Northwest Commission are committed to following the Core Elements approach, which includes:

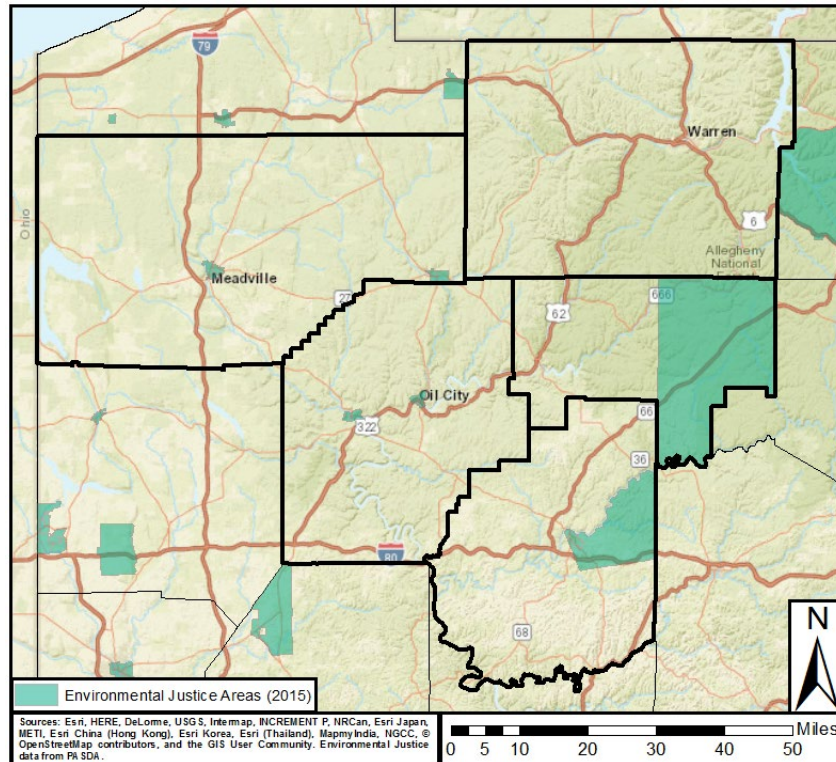
- Avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

By integrating the Core Elements into the planning process, as supported by FHWA, federal agencies are better equipped to carry out the investment strategy and project selection. The EJ process should be comprehensive and continuous with each task informing and cycling back to influence the next step. The outcomes of the analysis performed by the Northwest Commission will influence the project selection process. This analysis is located in Appendix J.

Pennsylvania designates Census tracts as Environmental Justice Areas based on certain U.S. Census datasets. Environmental Justice areas are defined as a Census tract where 30 percent or more of the population is a minority and/or 20 percent or more individuals live in poverty. Figure 1 shows

Environmental Justice Areas based on Census data collected in 2015. Environmental Justice Areas in the region includes urban areas, such as the Marienville Tract in Meadville and Titusville in Crawford County, tracts in Franklin and Oil City in Venango County, and a tract containing Clarion in Clarion County. The tract that includes the Forest State Correctional Institution in Forest County is also designated as an Environmental Justice Area.

Figure 1: Environmental Justice Areas in the Region, by Census Tract, 2015



Multimodal Transportation System

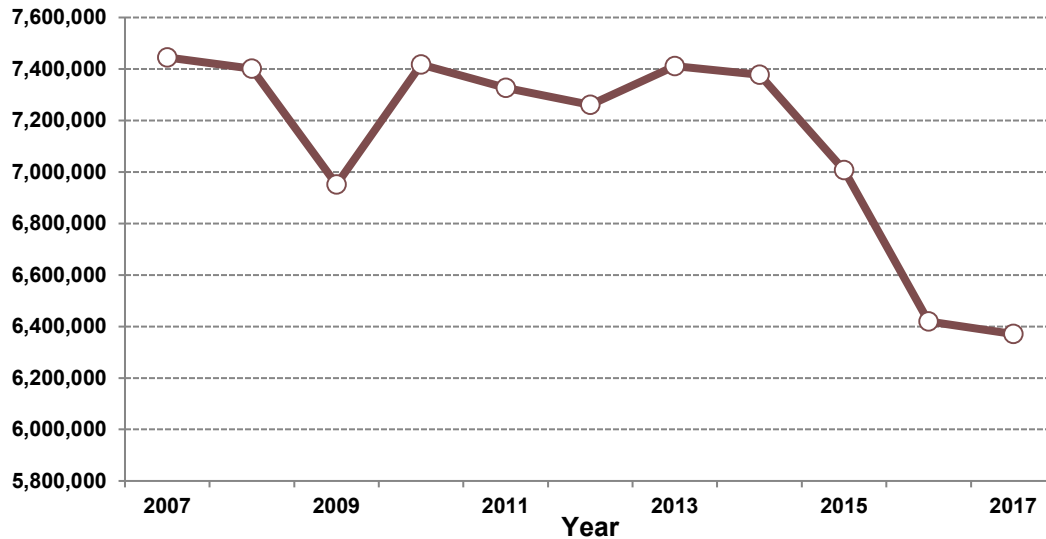
Roadway Network

There are just over 7,000 linear miles of roadway within the Northwest PA region. About 37 percent of all roadways in the region are owned by the state, compared to the statewide rate of 33 percent. The region also has a disproportionate share of roadway owned by “Other Agencies,” such as the state Department of Conservation and Natural Resources (DCNR) and the U.S. Forest Service.

The region’s roadways accommodate over 6.3 million miles of travel daily, according to PennDOT data. Since 2006, overall travel demand within the region has been declining, with a steep decline of almost a million daily vehicle miles of travel (DVMT) between 2014 and 2016. Factors influencing this decline include a decrease in the total population of the area, coupled with a growing share of senior population, a cohort that tends to drive less. Another factor has been the national recession, which formally began in December 2007 and continued through June 2009. The region did post an increase in

DVMT between 2012 and 2013, largely as a result of increasing travel on locally-owned roadways. Figure 2 provides more detailed information on regional trends in DVMT.

Figure 2: Northwest PA Regional Daily Vehicle Miles Traveled (DVMT), 2007-2017²



Source: PennDOT Pub 600, 2017

Functional Classification

As part of this LRTP update, the Northwest RPO performed an evaluation of the region's functional classification scheme. Functional classification defines how streets and highways are characterized based on the level and type of service they are intended to provide. The region's functional classification had not been updated in many decades, despite significant changes in land use and travel demand. To complete the update, the Northwest RPO developed a data-driven, stakeholder validated process that included:

- A review and analysis of the existing classification scheme overlaid with current related data (e.g., Average Annual Daily Traffic (AADT), truck traffic, industrial business locations, etc.);
- A GIS analysis of "borderline" roadways, or roads that could be upgraded or downgraded based on AADT;
- Outreach meetings with county planning directors and PennDOT District planning managers to review initial findings and provide additional input; and
- Coordination with the PennDOT District Executives and Bureau of Planning and Research on submitting a formal classification change request.

In total, 23 unique changes to the region's functional classification were identified. Twelve of the 23 recommendations are classification upgrades (including seven proposed Other Principal Arterials). The remaining eleven proposed changes indicate a classification downgrade. Depicted in Table 3, the

² At periodic intervals, PennDOT's Bureau of Planning and Research surveys other state and federal agencies for updates to their road mileage and traffic data. The most recent survey was completed between the 2015 and 2016 data submittals, the results of which are reflected in the chart.

updated functional classification is similar to the current functional classification scheme and is mostly consistent with FHWA's guidelines (with the exception of Minor Arterial roadways).

Table 3: Northwest Road Mileage - Percent Share by Current Classification and Updated Classification

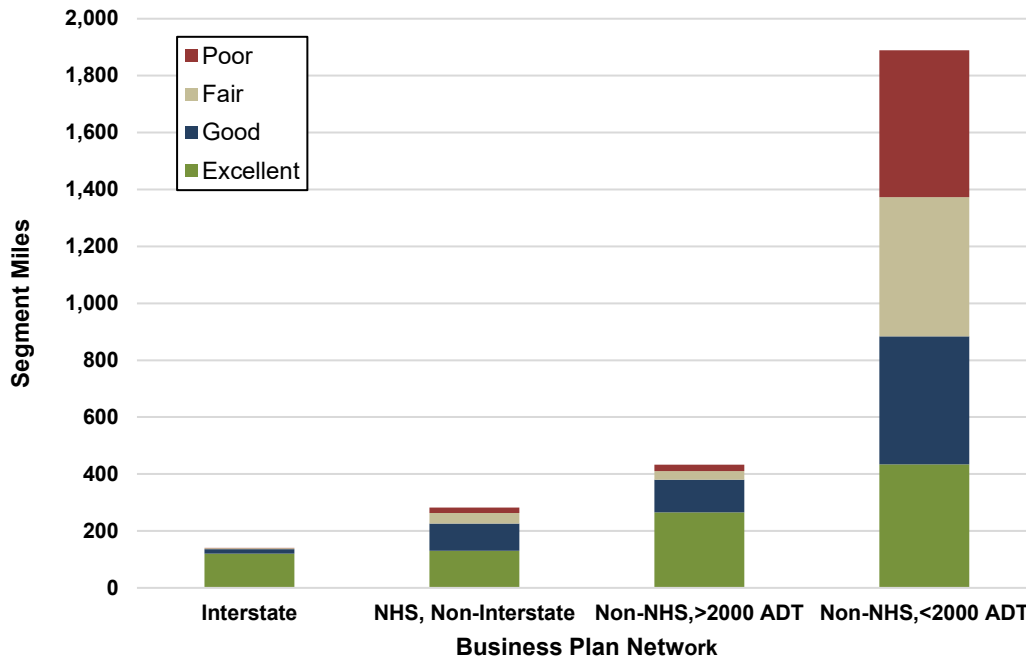
FHWA Functional Classification	Current Classification		Updated Classification		FHWA Recommended Rural System
	Miles	Percent	Miles	Percent	
Principal Arterial: Interstate	73.3	1.1%	73.3	1.1%	1 – 2%
Principal Arterial: Other Freeways and Expressways	7.9	0.1%	7.9	0.1%	0 – 2%
Principal Arterial: Other Principal Arterial	258.2	3.9%	296.3	4.5%	2 – 6%
Minor Arterial	523.5	8.0%	488.8	7.5%	3 – 7%
Major Collector	738.1	11.3%	716.8	10.9%	9 – 19%
Minor Collector	581.2	8.9%	599.2	9.1%	4 – 15%
Local Road: State-Owned	763.8	11.7%	763.8	11.7%	64 – 75%
Local Road: Municipal-Owned	3,600.9	55.0%	3,600.9	55.0%	
N/A (e.g., rest-stop pull-offs, runaway truck ramps, etc.)	4.9	0.1%	4.9	0.1%	N/A

Source: PennDOT Bureau of Planning and Research

Pavement Conditions

Annual pavement needs are analyzed in different ways, including International Roughness Index (IRI), which indicates the level of roughness on a roadway (a lower number indicates a better score). Figure 3 highlights the progress that PennDOT and the Northwest RPO have been making in improving pavement quality, particularly on the higher-order networks that carry the most traffic volume. The largest improvement has been made in improving the roughness of Interstate roadways, with a median IRI drop of 25 points, from 88 median IRI in 2013 to 53 in 2018. For more information on Interstate maintenance and the Interstate Management Program, refer to **Appendix B**.

Figure 3: Northwest PA Region International Roughness Index by Business Plan Network (2017)



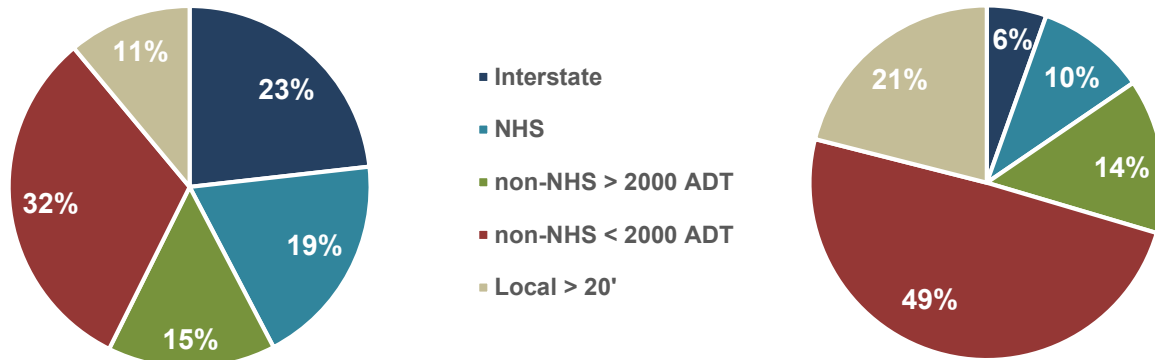
Source: PennDOT Performance Measure Reports, 2017

Bridge Conditions

The state of Pennsylvania's bridges is a story that has been well documented in recent years. At its peak in 2007, PennDOT had a total of 6,034 bridges that were rated in poor condition. However, the Accelerated Bridge Program, launched the following year, saw a great increase in the total number of annual bridge lettings, reducing the state's number of poor condition bridges to a present-day total of approximately 2,969. Other funding streams, such as Act 44 of 2007 and the Federal American Recovery and Reinvestment Act (ARRA) funding that became available in January 2009, also contributed to addressing Pennsylvania's enormous bridge problem. PennDOT is continuing to work to reduce the number of bridges in poor condition, while addressing the approximate 300 bridges or so that reach poor condition every year.

Figure 4 depicts the composition of the region's bridge stock. The pie charts indicate that a majority of the region's deck area is on non-NHS roadways with an ADT less than 2,000 and interstate roadways.

Figure 4: Northwest RPO Bridges >8', by Deck Area (left) and by Count (right), by Business Plan Network, 2018



Source: PennDOT Bureau of Project Delivery

Within the Northwest PA region, 8.0 percent of state-owned bridges are in poor condition, compared to a state rate of 10.8 percent. The more meaningful bridge condition measure, however, is that of deck area. Here, bridge conditions in the Northwest PA are comparable to the rest of the state, with 5.47 percent within the region to 6.6 percent at the state level. Table 4 depicts the breakdown of the region's state-owned bridge conditions, by county.

Table 4: Bridges on State Route System, Length 8' or Greater Summary of Bridges by County

County	Total Count	Total Deck Area (MSF)	Closed Bridges	Posted Bridges	Poor Condition Count	% Poor Condition by Count	Poor Condition Deck Area (MSF)	% Poor Condition by Deck Area
Clarion	208	1.013	0	0	10	4.81%	0.0475	4.69%
Crawford	502	1.459	0	6	51	10.16%	0.0916	6.28%
Forest	76	0.204	0	1	3	3.95%	0.0054	2.62%
Venango	223	0.709	2	1	16	7.17%	0.0417	5.90%
Warren	267	0.666	1	2	22	8.24%	0.0353	5.30%
Northwest Region	1,276	4.051	3	10	102	7.99%	0.2215	5.47%
Pennsylvania	25,418	115.788	32	477	2,758	10.85%	7.6800	6.63%

Source: PennDOT, September 30, 2019

The region's locally owned, poor condition bridges are a greater concern. Compared to a 2010 baseline of 27 percent, the share is now over 35 percent. According to FHWA guidelines, all bridges over 20 feet in length should be inspected every two years. Posted bridges and those with critical deficiencies are inspected annually. Weight restrictions are imposed, and bridges are closed if deterioration causes safety concerns.

An ongoing initiative in recent years sponsored by PennDOT has been to inventory locally-owned bridges that are between 8 and 20 feet in length. Currently there is no federal requirement to monitor (i.e., inventory or inspect) these bridges. Their condition is a concern that is currently unquantifiable.

Table 5 depicts condition information for the region's locally-owned bridges (greater than 20 feet in length), by county.

Table 5: Bridges on Local Route System, Length 20' or Greater Summary of Bridges by County

Total Count	Total Count	Total Deck Area (MSF)	Closed Bridges	Posted Bridges	Poor Condition Count	% Poor Condition by Count	Poor Condition Deck Area (MSF)	% Poor Condition by Deck Area
Clarion	49	0.053	3	15	11	22.45%	0.0085	16.02%
Crawford	125	0.155	8	35	51	40.80%	0.0581	37.44%
Forest	13	0.023	0	2	4	30.77%	0.0081	35.15%
Venango	66	0.134	6	15	25	37.88%	0.0202	15.06%
Warren	64	0.128	2	11	22	34.38%	0.0162	12.65%
Northwest Region	317	0.493	19	78	113	35.64%	0.1111	22.54%
Pennsylvania	6,458	14.941	209	1,444	1,834	28.40%	3.5622	23.84%

Source: PennDOT, September 30, 2019

While the region's bridges have improved significantly over the last decade, there is still a need to invest in the region's local bridge system. The region currently receives approximately \$3.38 million annually to address its inventory of "off-system" bridges.³ New initiatives, such as PennDOT's Rapid Bridge Replacement Project, takes advantage of a P3 tool that will "bundle" bridge projects, saving time and money. The initiative has accelerated the replacement of approximately 560 poor condition bridges statewide (including 28 within the RPO region) and maximize PennDOT's ability to deliver more bridge projects in a shorter period of time.

³ FFY 2019-2022

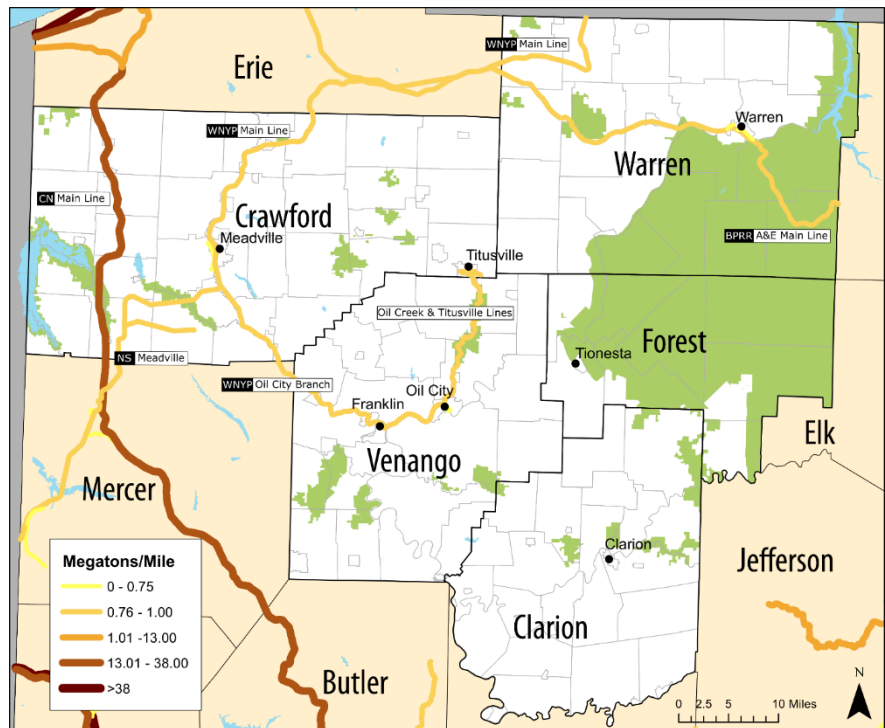
Rail Freight

The accessibility of rail in the Northwest PA region is a valued resource for many large manufacturing and distribution interests, since shipping freight by rail can significantly reduce the transportation costs related to bulk products. Although most freight in the region is shipped by truck, rail provides an alternative connection to regional, national and world markets. As the economy of the Northwest PA region evolves, and strategies to attract additional employment opportunities are evaluated, it is important to assess the current railway network to provide a better understanding of potential future needs.

Rail freight service within the Northwest PA region is provided by a mix of Class I, regional railroads, and short lines, including:

- Norfolk Southern (NS)
- Buffalo and Pittsburgh (Genesee & Wyoming)
- Western New York and Pennsylvania
- Oil Creek & Titusville Lines

Figure 5: Regional Rail Line Density



These regional rail lines are depicted in Figure 5 and a more detailed description of each rail service is included in **Appendix A**.

Public Transportation

The region is served by several providers of public transportation, including the Crawford Area Transit Authority (CATA, serving Venango and Crawford Counties), Clarion County Transportation, and the Transit Authority of Warren County (TAWC). These transit operators provide regional community services within each respective county and provide both fixed-route and demand responsive services. Another provider, Area Transportation Authority (ATA) provides service in Clarion Borough.

Table 6 depicts statistics related to the region's providers of shared ride transportation services.

Table 6. Northwest RPO Region Community Transportation Statistics (SFY 2016-17)

Operator	Service Area (Sq. Mi.)	Pop.	65+ Pop.	Vehicles Operated in Max. Service	Avg. Shared Ride Fare	65+ Trips	PwD Trips	Tot. Shared Ride Trips
CATA (Crawford and Venango Counties)	1,688	143,749	24,596	27	\$18.13	49,040	2,464	82,031
Transit Authority of Warren County	883	41,815	7,840	9	\$13.96	25,817	649	33,702
Clarion County Transportation	602	39,988	6,566	21	\$34.39	10,062	501	21,278

Source: PennDOT Annual Performance Report, April 2018

Aviation

Aviation facilities are an important component of the multimodal transportation system in Northwest Pennsylvania. There are 5 public use airports, including:

- Brokenstraw Airport (Warren County)
- Clarion County Airport (Clarion County)
- Port Meadville Airport (Crawford County)
- Titusville Airport (Crawford County)
- Venango Regional Airport (Venango County)

Bicycle/Pedestrian/Buggy

Among the regional trends and forces affecting transportation throughout the Northwest region is the increasing utilization of bicycles and on-foot modes of transportation for not just recreational purposes but also for such basic functions of daily life – healthy exercise, commuting to work, conducting commerce and errands, and outdoor experiences. These trends, also referred to as active transportation, are due in part to the decreasing use of personal vehicles. Individuals are steering away from single-occupancy vehicles for reasons including finances, personal well-being, pollutant emission reductions, and other conscious lifestyle choices. Therefore, it is appropriate to include improved bicycle and pedestrian safety and convenience features as part of transportation projects and programs.

Active transportation is not limited to bicyclists, hikers, and people riding tricycles. It also includes people who are walking, jogging, running, or using such non-motorized wheeled or gliding implements such as roller skates, roller blades, skateboards, scooters, skis, pedi-taxis, and other more diverse mobility options which may be developed in the future with new applications of technology and shared mobility.

In addition, while horseback riders and people utilizing horse-drawn wagons or buggies are not within the definition of active transportation as being “self-propelled, human-powered” modes of transportation, equine-based transportation shares many characteristics and safety situations with those of pedestrians and bicyclists. Often improvements geared for pedestrians and bicyclists will also benefit equine riders and the drivers and passengers in horse-drawn equipment. Consideration of such factors is especially important in those portions of northwestern Pennsylvania where there are concentrations of residents whose cultural beliefs and practices are heavily dependent on horse-based transportation. Roadways, road berms, off-road trails, and parking areas in such communities merit additional consideration to serve all people safely where equine is a major mode of transportation. For instance, some off-road trails in these localities are constructed with a dual-surface pair of parallel trails – paved side for bicyclists and hikers, and gravel side for equines.

During 2020, the Commonwealth of Pennsylvania is expected to adopt a new “Statewide Active Transportation Plan”; the draft thereof circulated in late 2019 with final public comments due as of December 6, 2019. Previously referred to as the “Statewide Bicycle and Pedestrian Master Plan,” this positive and forward-looking document is the result of extensive new data analysis and public participation. Quoting from its foreword, the “Statewide Active Transportation Plan” ...” identifies and prioritizes strategies that will promote more bicyclists and pedestrians, while supporting safety and multimodal connectivity. It will simultaneously serve as a resource for metropolitan and rural planning organizations, as well as statewide municipalities throughout the Commonwealth as they develop and implement regional and local active transportation plans.”

The soon-to-be-approved Statewide Active Transportation Plan adopts the following principles as constituting the guidance for ongoing planning and implementation in the Northwest RPO counties.

Pennsylvania’s Active Transportation Plan: Draft Directions

Vision: Biking and walking are integral elements of Pennsylvania’s transportation system that contribute to community health, economic mobility, and quality of life.

Statewide Plan Themes (*Labeled numerically for convenience, not implying priority ranking*)

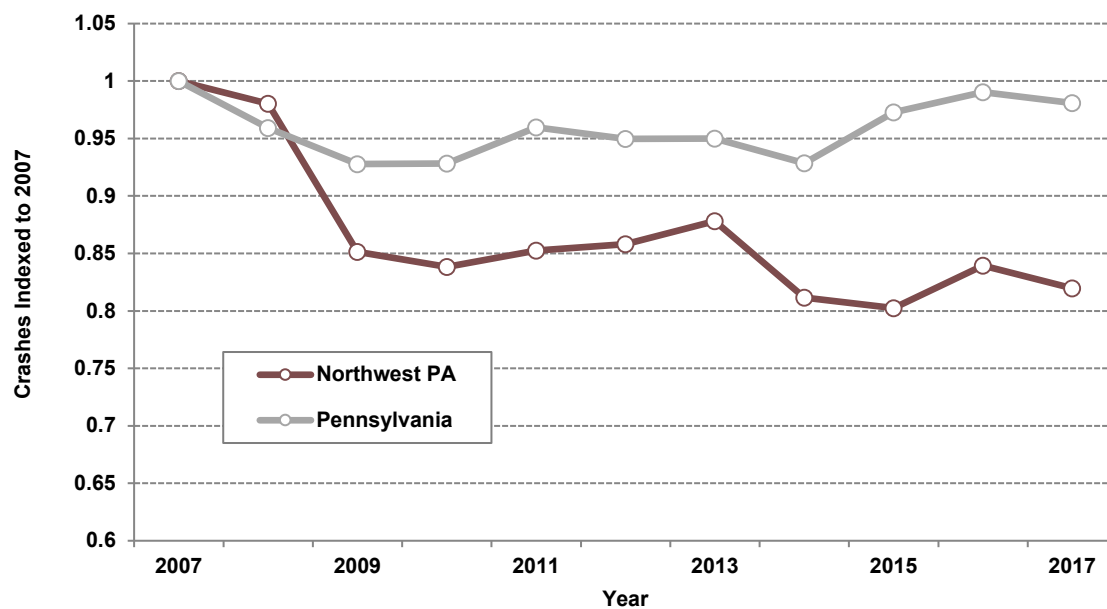
1. Enhance Safety
2. Provide Transportation Equity
3. Connect Walking and Biking Networks
4. Leverage Partnerships
5. Improve Public Health
6. Increase Economic Mobility

The reader is referred to the Statewide Active Transportation Plan and future updates for the goals and objectives, strategies, implementation steps, data collection, and performance measures which correspond to each of the themes listed above.

Transportation Safety

Safety data from PennDOT indicate that total crashes within the Northwest PA region have declined significantly since 2008, though crash levels have remained relatively consistent since 2014, as shown in Figure 6. For the decade ending 2017, crashes declined by over 14 percent across the region. The Northwest PA region in 2017 registered a decline in the total number of crashes.

Figure 6: Crash History, Northwest PA and Pennsylvania, as a Percent of 2007 Totals, 2007-2017



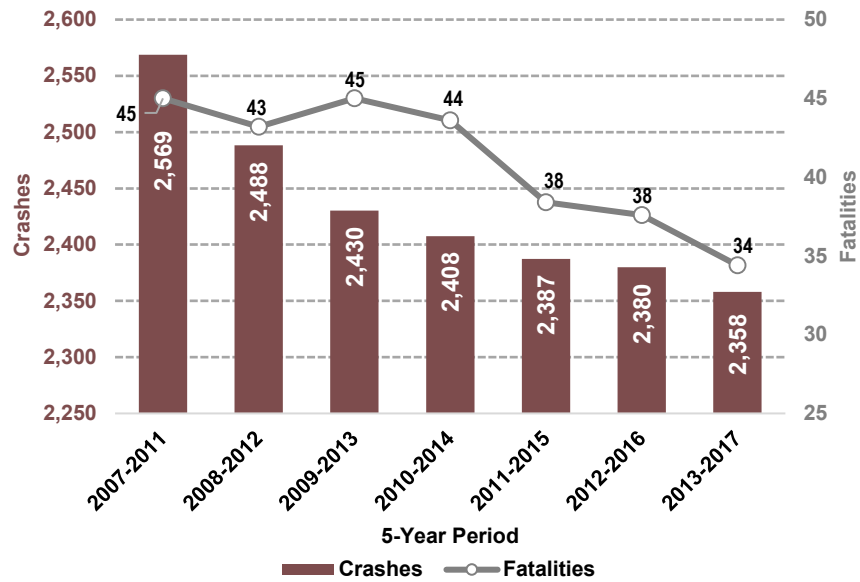
Source: PennDOT Bureau of Maintenance and Operations

The region also exhibits fewer crashes than the state overall when compared against total vehicle miles traveled (VMT). For the region in 2017, there are approximately 100 crashes for every 100 million vehicle miles of travel. This is a slight decline from the roughly 102 crashes in 2016, but is almost 17 percent higher than the 85.6 crashes per 100 million miles of VMT registered in 2014. However, the current rate still compares favorably to the state rate of 126.1 crashes per 100 million miles of VMT.

While crash rates per VMT are lower in the Northwest PA region, the severity of crashes is greater, and increasing. From data available from PennDOT, there were 1.38 fatalities per 100 million vehicle miles traveled. All Northwest PA counties exhibit a higher share of fatal crashes than other counties in Pennsylvania as a whole. There are several reasons for the higher fatality rate in a rural region like Northwest PA, including: higher speeds on rural roads, and more severe winter conditions, which increases the likelihood of death or severe injuries.

Examining crash data using rolling 5-year averages demonstrates the substantial progress that PennDOT and the RPO have made in addressing safety on the regional highway network. Figure 7 shows historic trends in total crashes and fatalities within the region, dating back to 2007.

Figure 7: 5-Year Average Annual Crashes and Fatalities, Northwest PA, 2007-17



Source: PennDOT Bureau of Maintenance and Operations

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Strategic Directions



PennDOT Road Sculpture Garden in Meadville

Strategic Directions

Planning objectives were developed for the Northwest PA LRTP using input gathered from public, stakeholder, and municipal outreach in combination with federal and state guidelines. The resounding needs of the public were used to develop the strategic directions of the LRTP. Shown in the table below, the goal of the LRTP is to improve quality of life by maintaining the quality of existing infrastructure and investing in targeted multimodal improvements for safety and accessibility.

LRTP Objectives	
Transportation Asset Management - Address backlog of bridges rated as “poor” - Maintain roadway pavements in state of good repair - Assist Municipalities in funding local bridge needs Travel and Tourism - Coordinate with tourism agencies during project design - Support infrastructure projects and connections to state parks and forests Transit and Freight Mobility - Improve access to the Interstate System - Construct truck climbing lanes, where needed - Support improvements to fixed-route and human services transportation - Support the creation of intercity bus service Environment and System Resiliency - Protect Threatened & Endangered Species - Program projects that improve air quality - Train municipal officials on stormwater management Economic Development Planning - Continue efforts on upgrading and maintaining linkages to the Interstate system - Maintain existing roadway capacity and expand, where needed - Emphasize funding priority to critical freight corridors	Bicycle/Pedestrian - Pursue policies to improve bicycle and pedestrian accessibility and walkability in downtown areas - Install bicycle racks on buses - Support the directions established by the Statewide Active Transportation Plan upon its adoption - Develop “Active Transportation” committees in each county to help guide bicycle/pedestrian planning efforts at a local level Safety/Security - Address highway crash cluster areas - Improve work zone safety with cameras - Encourage enactment of Airport Hazard Zoning - Improve Railroad Crossing Safety Highway/Bridge - Address nonrecurring congestion caused by incidents and special events - Encourage Traffic Incident Management and first responder response time - Identify pre-established detours during incidents on the Interstate

Stakeholder and Public Outreach for Project Identification

Since the beginning of the region's 2045 Long Range Transportation Plan update, there have been four opportunities for public feedback:

- 1) The **State Transportation Commission (STC)**, in lieu of holding its traditional program hearings, administered a statewide survey during the first half of 2019. The survey results included 43 respondents from the Northwest RPO region.
- 2) **The Northwest Commission** published an online, interactive survey tool and worked with its partners to market the survey over a 4-month period. In total, 564 individuals provided feedback through the survey tool and over 1,000 transportation issue mapping points were collected.
- 3) **The Northwest Commission** facilitated a series of public listening sessions – one in each member county – to take the transportation planning process to the public in May 2019. These “issue identification” meetings included an overview of regional transportation trends and issues, with opportunities to provide feedback on plan priorities. A total of 68 individuals participated in these meetings.
- 4) **The Northwest Commission**, in accordance with federal guidelines, conducted a 30-day public review and comment period on the draft LRTP prior to its adoption on June 23, 2020. A summary of public comments received during the 30-day review period is included as **Appendix C**.

The consultant team summarized the STC feedback, public survey results, and public listening sessions and organized them around the draft LRTP's goals. Through the interactive mapping exercises, many survey respondents identified transportation issues throughout the region in need of being addressed. The project steering committee vetted all public input received and developed the LRTP Project Listing using that feedback.



Public Listening Session in Crawford County

Project Evaluation

Once the LRTP Project Listing was finalized, all projects were evaluated for future for programming and funding priority. PennDOT provides the Decision Lens Model to RPOs to assist in providing an equitable and objective ranking scheme. The ranking criteria from the 2014 LRTP Update were modified to better reflect the two new Federal planning factors (tourism, and stormwater & reliability) and account for performance measurement. The Decision Lens model was used to determine the overall weighting of each Northwest PA LRTP Project Ranking Criteria. The final evaluation criteria matrix is included as **Appendix D**.

Northwest PA LRTP Project Ranking Criteria and Scoring Weight

- **Safety and Security (30.1%)** – considers safety for motorists, pedestrians, and cyclists.
- **Infrastructure Condition (23.3%)** – considers the condition of the existing infrastructure
- **System Performance and Operations (12.4%)** – considers the travel reliability of the existing infrastructure.
- **Sustainability and Smart Growth (10.1%)** – considers the economic and land use impacts of transportation improvements.
- **Traffic Congestion and Network Classification (9.9%)** – considers traffic volume, truck volume, and various transportation networks.
- **Multimodal Accessibility and Mobility (7.3%)** – considers mobility and interconnectivity of transportation modes, including trucks/freight, automobiles, pedestrians, bicycles, transit, and airports.
- **Project Impact and Benefit (6.9%)** – considers impacts on environmental justice populations and environmental resources.

The final project list and evaluation results are summarized in the Implementation and Evaluation chapter, beginning on page 30.

Transportation Funding in Northwest PA

Federal guidelines require that MPOs/RPOs demonstrate the amount of funding that the planning region can reasonably expect to receive over the life of the LRTP. Historically, the Northwest PA RPO has taken a conservative approach toward revenue forecasting and has looked to the past in order to assess the amount of revenue that it could potentially receive from state and Federal sources in funding its programs over time.

Recent years have introduced an unprecedented level of uncertainty and volatility for forecasting transportation revenue. This period has included a major infusion of Federal dollars outside of the traditional Federal authorization bills (e.g., the American Recovery and Reinvestment Act, in January 2009), and a Highway Trust Fund that has had to be capitalized with multiple transfers from the General Fund in order to pay its bills. The passage of a long-term funding bill remains uncertain. The money for the Highway Trust Fund comes from 18.3 cents per gallon on gasoline and 24.4 cents per gallon of diesel fuel and other related excise taxes. The Federal government has not raised the gas tax since 1993.

Appendix E provides additional background on historic transportation funding in Northwest Pennsylvania.

2045 LRTP Revenue Forecast

In developing a revenue forecast for the LRTP, the Northwest Commission made several assumptions:

- Numbers from the most recent round of financial guidance from PennDOT for the 2021 Program were used as base funding allocations as the most reliable numbers available for forecasting purposes. The region’s base funding allocation for the 2021 TIP is nearly \$152 million, and nearly \$442 million for its share of PennDOT’s 2021 Twelve Year Program.
- The plan does not anticipate any increases in Federal revenue after the FAST Act expires in September 2020. Funding levels in FFY 2032 are expected to carry forward through the plan horizon year of 2045, with additional Federal reauthorizations at periodic intervals, with no interim stimulus packages. No major funding increases are anticipated from State actions, such as with Act 44 of 2007, and Act 89 of 2013.
- The plan assumes a 3 percent rate of inflation, from base numbers established in 2019. In doing so, the LRTP recognizes the loss in buying power over time.
- As a conservative forecast, no funding was anticipated from discretionary “Spike” funding, or from competitive grant programs such as the Multimodal Transportation Fund, TAP (Transportation Alternative Program), GLG (Green Light-Go), and ARLE (Automated Red Light Enforcement).

Existing funding levels for the region as outlined in the 2021-24 Transportation Improvement Program (TIP) are as depicted on Table 7.

Table 7: Northwest RPO Revenue, 2021-24 Program (\$000s)

	FEDERAL ⁴				STATE		Total
	NHPP	STP	Off-System Bridges	HSIP	State Highway (Capital)	State Bridge	
2021	5,589	7,708	2,889	1,412	11,780	7,691	37,069
2022	4,940	7,677	2,889	1,412	12,765	7,689	37,372
2023	6,356	8,019	3,380	1,412	11,519	7,842	38,528
2024	5,380	7,968	3,380	1,412	13,049	7,839	39,028

Source: PennDOT 2021 Financial Guidance

⁴ NHPP – National Highway Performance Program

STP – Surface Transportation Program

HSIP – Highway Safety Improvement Program

Given the timing of the LRTP's development, the RPO was able to acknowledge the addition of funding over and above the numbers presented in PennDOT's Financial Guidance documentation. Table 8 summarizes the region's revenue forecast in nominal (today's) dollars, along with additional discretionary funding that is available. As depicted, the RPO is expected to have \$913 million over the life of the plan (through 2045) to address plan needs. This figure does not include \$63 million in leftover projects from the 2019 Program for FFY 2020. (Since the RPO adopted the LRTP in June 2020, these projects were included since they are part of the 2019 Program, which formally expires in September 2020.) Readers should refer to Appendix G for more detail on the plan's fiscally-constrained project listing (or the 2021 Program), projects from FFY 2020 (from the 2019 Program), and the projects being funded with discretionary dollars (over and above what was forecasted in PennDOT's financial guidance).

Table 8: Northwest RPO Region, Available Revenue by Planning Period (\$000s)⁵

Period	Original Forecast	Discretionary Funding	Programmed
FFY 2020	n/a	n/a	\$63,039
TIP (2021-24)	\$151,997	\$4,902	\$156,899
TYP (2021-32)	\$441,997	\$6,802	\$448,797
LRTP (2021-2045)	\$906,149	\$6,802	\$913,059⁶

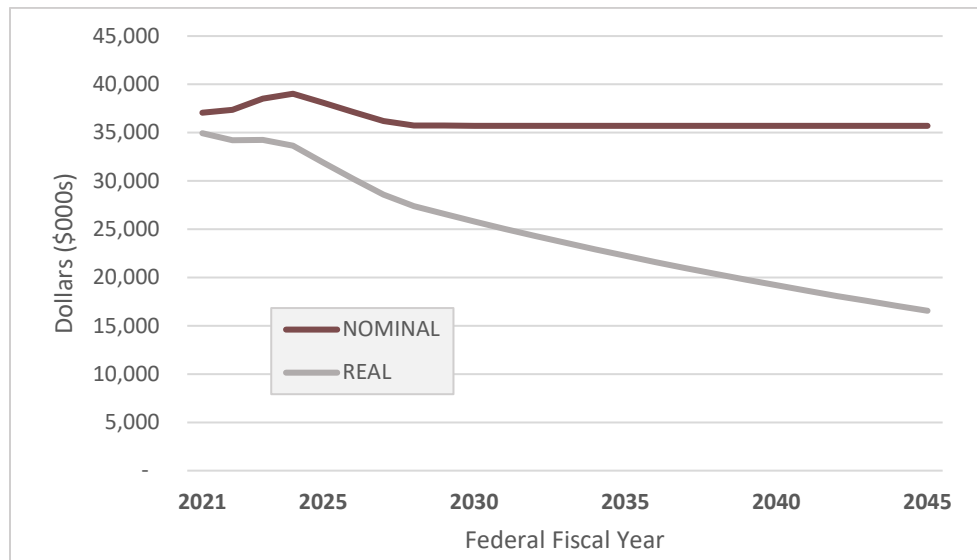
Source: Original forecast amounts are the fiscally-constrained financials from PennDOT's 2021 Financial Guidance documentation

Figure 8 graphically shows the erosion of the RPO's buying power, over time. For the plan to be financially constrained, these dollar amounts were used as control totals against long-range needs through 2045.

⁵ The project listing for FFY 2020 includes fiscal constraint in addition to funds (e.g., Spike, Deobligations, etc.) made available to the region in FFY 2020 as of April 8, 2020. These additional projects adhered to the agreed upon principles of fiscal constraint for TIP and LRTP development, and specifically followed all regulations, federal and state, that directed fiscal constraint for the development of the 2019 TIP.

⁶ Does not include project totals from FFY 2020

Figure 8: Actual and Projected Annual Revenue (in Real and Nominal Dollars), 2021-45 (\$000s)



Source: Nominal dollars are from PennDOT Financial Guidance (Year 13 to 45 are projected to remain flat through the life of the plan using Financial Guidance numbers from year 12).

Plan Implementation and Evaluation



Liberty Street in Franklin

Plan Implementation and Evaluation

LRTP Project Listing

To address multimodal transportation system needs, the Northwest Commission engaged the Steering Committee to develop the final LRTP project listing. The Steering Committee reviewed public and stakeholder input from multiple sources to compile the final LRTP project listing, including:

- Municipal project solicitations completed on behalf of the county planning directors and transportation advocates
- Feedback received from the online public MetroQuest survey
- Feedback received from public meetings in each county

To assist the Northwest Commission in advancing future transportation projects as funding becomes available, all LRTP candidate projects were scored against objective evaluation criteria (described previously on page 27). The results of the project evaluation scoring, both regionally and within each RPO county, are included as **Appendix G**.

The result is a list of 136 projects. The following tables present the final LRTP project listing, organized and ranked according to project category. The project categories, detailed below, were defined by the type of improvement identified and the expected source of funding available to complete the improvement.

Northwest PA LRTP Project Categories

- **Roadway** – includes capacity adding, betterments, and general maintenance activities
- **Intersection** – includes realignments, roundabouts, signal improvements, and turning lane improvements
- **Safety** – includes specific treatments to reduce fatalities and serious injuries
- **Bicycle/Pedestrian/Buggy** – includes infrastructure enhancements to improve equity, mobility, recreation, and health for nonmotorized transportation modes
- **Rail Bridge** – includes rehabilitation and replacement of rail bridges
- **State Bridge** – includes rehabilitation and replacement of state-owned bridges
- **Local Bridge** – includes rehabilitation, replacement, and removal of locally-owned bridges
- **Study** – includes recommended future studies to focus on a particular issue where there is insufficient information to develop a specific project

Table 9: Roadway Project Listing

County	Ranking (within category)	SR No.	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Clarion	1	208	PA 208 Pavement Conditions	Poor road condition, minimal shoulders
Venango	2	8	PA 8 Betterment	Widen roadway and add sidewalks (Rouseville Study with Rt. 8)
Warren	3	957	PA 957 Widening and Resurfacing	Widening and resurfacing of PA 957
Forest	4	62	US 62 Geometry in Tionesta	Roadway geometry and turning radii cause truck backups
Venango	5	8	Add Capacity PA 8 to I-80	Extend 4-lane to I-80 interchange
Clarion	6	68	PA 68 to I-80 Improvements	Various roadway/signal improvements to accommodate new traffic from approved developments off Commerce Road (add turning lanes or new pavement markings, adding stop sign, etc.)
Crawford	7	27	PA 27 Truck Climbing Lane	Construction of a climbing lane in the vicinity of the Wayland Road intersections was originally identified as a recommendation in the 1996 study.
Warren	8	4019	SR 4019 Shoulders	Widen shoulders along SR 4019 to accommodate Amish buggy traffic
Warren	9	957	PA 957 Pavement Conditions	Poor pavement conditions, plowing has removed top coat, 7'x2'x4" pothole)
Crawford	10	2040	SR 2040 Flooding	Spring Street Extension prone to flooding - option to elevate roadway
Warren	11	4009	SR 4009 Betterment	Narrow roadway in need of resurfacing, lacking shoulders; Deep ditching in the road could disable a vehicle
Venango	12	1007	SR 1007 Flooding	Beaver dams cause flooding
Warren	13	59	PA 59 Truck Climbing Lane	Truck climbing lane
Crawford	14	198	PA 198 Pavement Conditions	There has been an increase in freight traffic on this route. There is a weight restriction south of the fairgrounds that forces trucks onto this road segment. Poor pavement conditions.
Venango	15	3024	SR 3024 Drainage Issues	Dip in the road with drainage issues
Venango	16	427	PA 427 Flooding	Flooding during rainfall
Venango	17	4003	SR 4003 Drainage Issues	Erosion of roadway, undercut on right hand side, drainage issues
Venango	18	3026	SR 3026 Drainage Issues	Drainage issues - road washouts
Forest	19		Guiltonville Road Flooding	Flooding issues
Crawford	20		Rocky Glen Rd Drainage	Restore roadway drainage ditch and berms. Line drainage ditch with the appropriate stone, concrete, culverts, or other method necessary to correct the constant erosion of ditch and berm.
Crawford	21	n/a	New Access Road in Vernon Twp	The access road would connect in east-west fashion Baco Road, Moss Road, Port Road and Airport Road for approximately .95 miles on new articulation, running between SR 98 and Cotton Road

Table 10: Intersection Project Listing

County	Ranking (within category)	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Venango	1	Front Street and Second Street Intersection Improvements	Front Street and Second Street Intersection Improvements in Oil City
Clarion	2	Main Street and 5th Avenue Intersection	Pedestrian safety improvements in Clarion
Crawford	3	1996 Safety Study Intersection Improvements	Improvements to the intersection of PA 8 and PA 27 were originally identified as a recommendation in the 1996 study in Titusville.
Venango	4	Liberty Street and PA 8 Intersection Improvements	Pedestrian safety improvements in Franklin
Warren	5	Pennsylvania Avenue and Conewango Avenue Signal	Signal improvements in Warren
Warren	6	5th Avenue and Conewango Street Intersection	Intersection safety improvements - additional left turn lanes and safety features in Warren
Venango	7	PA 8 and Front Street Intersection Improvements	PA 8 and Front Street Intersection Improvements in Franklin
Venango	8	Front Street, Wilson Avenue, First Street Intersection	Intersection Improvements in Oil City
Warren	9	US 62 and PA 957 Intersection	Poor sight distance at intersection due to high bank in Russell
Clarion	10	US 322 and PA 66 Roundabout	Potential roundabout location in Shippensburg. Traffic can get backed up easily, especially when there is an accident on I-80. 2 manufacturing sites are located south of the intersection and trucks need a wider turning radius.
Crawford	11	PA 77 and PA 8 Intersection	Intersection improvement in Centerville
Venango	12	Pittsburgh Road and Pone Lane Intersection	Intersection improvements to accommodate left hand turns in Franklin
Crawford	13	Mead Avenue and French Creek Parkway Intersection	Possible road diet in Meadville
Venango	14	PA 8 and SR 3013 Intersection	Offset intersection with poor line of sight and geometric issues in Polk
Venango	15	US 322, PA 417 and Meadville Pike Intersection	Multimodal improvements at US 322, PA 417, and Meadville Pike intersection in Franklin
Crawford	16	SR 408 and Main Street Intersection	Intersection improvements in Hydetown
Forest	17	PA 899 and PA 66 Intersection	Intersection realignment in Marienville
Crawford	18	PA 27 and PA 8 Intersection	Intersection improvements in Titusville
Venango	19	PA 8 and Dollar General Intersection	Dollar General at this location has caused an increase in traffic turning off of PA 8 in Franklin
Warren	20	US 6 and Main Avenue Interchange	Construct missing access ramps on east side of overpass in Warren
Venango	21	PA 27 and Lesh Road Intersection	Intersection Improvements in Cooperstown
Crawford	22	PA 102 and Pennsylvania Avenue Intersection	Pennsylvania Ave and SR 102 offset intersection - sight distance issues in Meadville
Crawford	23	PA 77 and SR 1024 Intersection	Widening south side of Canadohta Lake Road for horse and buggy safety in Spartansburg. Site

County	Ranking (within category)	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
			clearance on southern side of Rt 77 on curve heading east.
Crawford	24	PA 27 and PA 173 Intersection	The addition of an eastbound left turn lane at the intersection of PA 173 and PA 27 in Guys Mills was originally recommended in the 1996 study.
Crawford	25	Delano Rd and Perry Highway Intersection	Visibility poor in Cochranon
Venango	26	Rouseville Signal	Low traffic intersection; may not warrant the current traffic signal in Rouseville.
Warren	27	US 6 and PA 27 Intersection	Intersection Improvements in Rouseville
Crawford	28	US 322 and PA 173 Intersection	Intersection configuration - lumber trucks turning left onto 322, tight turning radius, sight distance in Cochranon
Warren	29	SR 1019 and Quaker Hill Road Intersection	Intersection improvement necessary due to sharp bend on SR 1019 and poor line of sight at intersection in Warren
Crawford	30	Waylands Corner Intersection	Intersection improvements in Meadville
Crawford	31	PA 408 and SR 1010 Intersection	Intersection improvements in Townville
Crawford	32	SR 3004 and Victory Boulevard Intersection	Intersection improvements to accommodate vehicles entering the PGW plant as well as traffic traveling on Adamsville Rd in Cochranon.
Warren	33	Werner Park Entrance (US 62)	Intersection Improvements in Russell
Venango	34	PA 27 and Cherrytree Plumline Road Intersection Improvements	Intersection Improvements in Titusville

Table 11: Safety Project Listing

County	Ranking (within category)	SR No.	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Venango	1	3024 8	SR 3024 and PA 8 Intersection	Documented fatalities, severe injuries, and observed near misses
Crawford	2		North Main Street Safety Improvements	Safety study completed by D-1 with many recommendations that don't require programming on TIP. Complete small improvements first, include in TIP for safety improvements.
Clarion	3		I-80 Interchange (Exit 70) Safety Improvements	Eastbound exit onto I-80 has poor visibility and a short merge lane mixed with heavy truck traffic. Improvements may include an accel ramp and funded via Interstate Management Program.
Crawford	4		At-grade Crossing in Cambridge Springs	At-grade crossing safety improvements; recommend application for RRX funding from PennDOT Central Office.
Clarion	5	338	PA 338 Sight Distance	Difficult to see oncoming traffic when turning onto SR 338 due to elevation. Project to include bank cutting at Knox Road and narrowing the intersection; possibly HSIP eligible.
Crawford	6	322 2005	US 322 and SR 2005 Intersection	Documented fatalities, severe injuries, and observed near misses
Crawford	7	2014	SR 2014 sight distance	Line of sight issues that would be beneficial to resolve.

Table 12: Bicycle/Pedestrian/Buggy Project Listing

County	Ranking (within category)	SR No.	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Clarion	1		Bike/Pedestrian Improvements along PA 68	Bicycle/pedestrian facilities connecting commercial district, hospital, and YMCA to downtown Clarion (MTF grant received for YMCA). Project to include safety and landscape improvements, bike signage and pavement markings, and replacing rumble strips.
Venango	2		Liberty Street Multimodal Improvements	Multimodal improvements along Liberty Street in Franklin
Clarion	3		Bike/Pedestrian Connectivity between Clarion and Trail 66	Improved bicycle/pedestrian facilities connecting downtown Clarion to Trail 66 trailhead, including safety improvements, sidewalks, curbing, ADA accessibility, bike signage and pavement markings, and landscape improvements.
Venango	4		Various Multimodal Improvements for Adult Living Community	Proposed adult living community - need sidewalks and transit service in Barkeyville
Venango	5		13th Street Multimodal Improvements	Multimodal improvements to 13th Street and 13th Street Bridge in Franklin
Venango	6		Bicycle Sharrows and Signage Improvements in Franklin	Sharrows and bicycle signage

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County	Ranking (within category)	SR No.	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Warren	7		Bicycle Trail from Youngsville to PA 62 (Old 6)	Possible bike trail to east side of Irvine
Venango	8		Front Street (Oil City) Multimodal Improvements	Multimodal improvements along Front Street corridor
Clarion	9		Upgraded Trail 66 Facilities	Trail 66 road crossing safety improvements (signage, advanced warning signals) - possible TAP application.
Warren	10		On-road Bicycle Improvements along US 62	Improved bicycle facilities connecting North Warren to the Hike Bike Trail
Venango	11		8th Street Multimodal Improvements	Riverfront Park Bike Path and 8th Street mid-block crossing in Franklin
Venango	12		Front Street (Franklin) Multimodal Improvements	Multimodal improvements along Front Street
Venango	13		9th Street Bicycle Improvements	Sharrows and signs on 9th Street in Franklin
Crawford	14		Titusville Trail Town Master Plan	Implement infrastructure projects from Titusville Trail Town Master Plan
Warren	15		US 6 Bike/Ped Connectivity	Local business at intersection of US6 and Kinzua Rd and could be better connected to Warren via bike/ped improvements along US6
Crawford	16		Connect Ernst Trail and Bicentennial Park (PA 102)	Connect Ernst Trail in Vernon Twp with Meadville's Bicentennial Park, crossing Poplar Street Bridge.
Crawford	17		French Creek Pkwy Road Diet	District just completed a study on this corridor and may eliminate at least one lane (possible road-diet).
Crawford	18		Erie to Pittsburgh East Branch Trail Extension - Spartansburg to Centerville	Erie to Pittsburgh East Branch Trail Extension - Spartansburg to Centerville (remove conflict between cars and Amish buggies)
Venango	19		Elk Street Shared Lanes	Elk Street Extension - Shared Lanes in Franklin
Venango	20		Sandy Creek/Clarion Highlands Trail Crossing Improvements	Sandy Creek Trail/Clarion Highlands Trail Crossing - improved crossing facilities
Warren	21		Youngsville Revitalization Plan Streetscape Improvements and Bike/Ped	Downtown streetscape & ped facility upgrades (see Youngsville Revitalization Plan - 2008)
Venango	22		Erie to Pittsburgh Trail Gap Closure in Oil Creek State Park	Worst trail gap in Venango County - bicycle/pedestrian improvements along SR1007 to improve safety for Erie to Pittsburgh trail users. Also, debris from trees, slides, rocks.
Venango	23		Central Elementary School Pedestrian Improvements	Pedestrian safety improvements around Central Elementary School in Franklin
Crawford	24		Bicycle/Pedestrian Connectivity in Titusville	Pedestrians and bicyclists need passage over the Oil Creek at South Perry Street
Crawford	25		Erie to Pittsburgh East Branch Trail Extension - Centerville to Hydetown	Erie to Pittsburgh East Branch Trail Extension - Centerville to Hydetown
Crawford	26		Erie to Pittsburgh East Branch Trail Extension - Hydetown to Titusville	Erie to Pittsburgh East Branch Trail Extension - Hydetown to Titusville (Connect ETP Trail with existing Queen City Trail)
Clarion	27		Armstrong Trail Brady Tunnel Trail Gap	Armstrong Trail Brady Tunnel Trail Gap - DCNR Top 10 Trail Gap
Clarion	28		Clarion Highlands On-road Detour	Improved on-road bicycle facilities for Clarion Highlands Trail detour

County	Ranking (within category)	SR No.	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Crawford	29		Erie to Pittsburgh East Branch Trail Extension - Black Bridge to Spartansburg	Erie to Pittsburgh East Branch Trail Extension - Black Bridge to Spartansburg
Clarion	30		Bicycle/Pedestrian Connectivity to ATA Bus Stop	ATA has a bus stop near cottages in this area. Trails could connect the development to the hospital and serve as emergency access.
Warren	31		PA 59 Bike/Ped Connectivity to Jakes Rocks	There is community desire to link the newly constructed mountain bike trails (Jakes Rocks) to downtown Warren via PA 59.
Clarion	32		Erie to Pittsburgh Trail Gap Closure Emlenton to Foxburg	High priority trail gap in Erie to Pittsburgh Trail System
Clarion	33		Allegheny River Trail - Parker to Upper Hillville	Trail gap in Allegheny River Trail System - Parker to Upper Hillville
Venango	34		PA 417 Multimodal Improvements	Multimodal improvements along PA 417 in Rocky Grove

Table 13: Rail Bridge Project Listing

County	Ranking (within category)	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Venango	1	Rail Bridge Improvement - Sugar Creek	Bridge has a weight limit - should be upgraded to accommodate movement of freight (on 2015 LRTP and should be carried forward)
Venango	2	Rail Bridge Improvement - Oil City	Railroad bridge should be upgraded to accommodate heavier trains (on 2015 LRTP and should be carried forward)

Table 14: State Bridge Project Listing

County	Ranking (within category)	SR No.	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Venango	1	2004	State Bridge Replacement SR 2004 over Deer Lick Run	Bridge is weight posted - concerned it won't be replaced, there is no good detour

Table 15: Local Bridge Project Listing

County	Ranking (within category)	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Crawford	1	Clinton Court over Mill Run (ID 20730188074012)	Lacking properly sized riprap along far abutment to prevent additional undermining caused by high elocity flow being directed toward far side; exposed steel on downstream fascia beam; voids around storm sewer pipe penetrations
Crawford	2	Walnut Street and North Cottage over Mill Run (ID 20730188294107)	Spalls and overlay deck need patched with approved material; near abutment and far abutments need underpinned; bearing seats along the near and far abutments need repaired' 9 steel beams need replaced or repaired
Crawford	3	Sportsman Road County Bridge Replacement (ID 20722208963028)	Complete replacement of bridge. Priority #3
Warren	4	Local Bridge Replacement North Road over Little Brokenstraw Creek (Bridge ID 61721005614001)	Bridge replacement
Warren	5	Local Bridge Replacement Kidder Road over Little Brokenstraw Creek (Bridge ID 61721005514004)	Bridge replacement
Crawford	6	Grove Street over Mill Run (ID 20730188124001)	Needs completely replaced. D-1 has inspected the structure and concluded it is beyond its useful lifespan.
Warren	7	Local Bridge Replacement Depot Road (Bridge ID 61721603784009)	Bridge replacement
Warren	8	Local Bridge Replacement Baker Hill Road over Brokenstraw Creek (Bridge ID 61720305214000)	Bridge replacement
Crawford	9	Hogback Road Bridge (ID 20721808404000)	As recommended in the 2012 Annual Routine Bridge Inspection Report, this project covers the entire bridge structure replacement.
Warren	10	Local Bridge Replacement Eureka Road over West Branch Caldwell Creek (Bridge ID 61720703774005)	Bridge replacement
Warren	11	Mount Hope Road (Bridge ID 61-7219-0306-4003)	Bridge replacement
Crawford	12	Creek Road County Bridge Replacement (ID 20720607513008)	Complete replacement of bridge. Priority #1.
Crawford	13	Joiner Road Bridge Replacement Project (ID 20720208834003)	The project involves the complete replacement of the bridge, which was deficient in load-carrying capacity and in generally poor condition with a new two-lane bridge that meets current PennDOT design standards. Min approach roadway work will be required.
Crawford	14	Jerusalem Road County Bridge Replacement (ID 20720408993004)	Complete replacement of bridge. Priority #2

County	Ranking (within category)	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Warren	15	Local Bridge Replacement Gossville Road over West Caldwell Creek (Bridge ID 61720703554004)	Bridge replacement
Warren	16	Local Bridge Replacement Chappel Hill Road over Caldwell Creek (Bridge ID 61720703554001)	Bridge replacement
Warren	17	Local Bridge Replacement Western Road over Little Brokenstraw Creek (Bridge ID 61721005474005)	Bridge replacement
Crawford	18	Racop Road Bridge (ID 20722908734002)	Carryover bridge replacement project from 2015 NW LRTP
Warren	19	Local Bridge Replacement Valastiak Road over Railroad (Bridge ID 61-7210-0539-8007)	Bridge replacement
Warren	20	Local Bridge Replacement Schell Road over Gar Run (Bridge ID 61721603974006)	Bridge replacement
Crawford	21	West Road over Linesville Creek (ID 20720506054001)	Carryover bridge replacement project from 2015 NW LRTP
Warren	22	Local Bridge Replacement Barton Run Road over Little Brokenstraw Creek (Bridge ID 61721604414003)	Bridge replacement
Warren	23	Local Bridge Replacement Hyde Road over Spring Creek (Bridge ID 61722003224003)	Bridge replacement
Warren	24	Local Bridge Replacement Old State Road over Kiantone Creek (Bridge ID 61720905894003)	Bridge replacement
Warren	25	Local Bridge Replacement Ludwick Road over Kiantone Creek (Bridge ID 61720905084002)	Bridge replacement
Crawford	26	Plank Road Bridge Replacement (ID 20720905173011)	This request is for a full bridge replacement. The Sufficiency Rating computed for this structure is 17.4, which is well below the threshold for replacement eligibility. County Priority #4.
Crawford	27	Hamilton Road over Muddy Creek (ID 20720107433001)	Carryover bridge replacement project from 2015 NW LRTP
Crawford	28	East Spring Road Bridge (ID 20722304664002)	Carryover bridge replacement project from 2015 NW LRTP
Crawford	29	Jay Road Bridge (ID 20722704774002)	Carryover bridge replacement project from 2015 NW LRTP
Warren	30	Local Bridge Replacement Marshianne Road (Bridge ID 61721603954008)	Bridge replacement
Crawford	31	Deeter Hill Road Bridge (ID 20722704254003)	Carryover bridge replacement project from 2015 NW LRTP
Warren	32	Local Bridge Replacement Mount Hope Road (Bridge ID 61721903064003)	Bridge replacement
Warren	33	Local Bridge Replacement Youngsville Road over Tidioute Creek (Bridge ID 61722203624001)	Bridge replacement

County	Ranking (within category)	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Warren	34	Local Bridge Replacement Stoddard Road over Stillwater Creek (Bridge ID 61722105904007)	Bridge replacement
Crawford	35	Stitzerville Bridge (ID 20720703993010)	Bridge is in dire need of repair on approach from both sides.

Table 16: Future Study Project Listing

County	Ranking (within category)	SR No.	Project Name	Observed Issue or Proposed Improvement, according to Public Preference
Warren	1	62	Safety Study US 62	US 62 in Warren County has many observed issues (condition, safety, etc.) and many drivers use PA 27 as an alternate route. Currently programmed for slide repairs.

2021-45 Fiscally-Constrained and Unconstrained Project Listings

The 2045 LRTP includes two sets of project listings: one that is fiscally-constrained, and one that is not fiscally-constrained.

The fiscally-constrained project listing includes projects from the 2021 Twelve Year Program, which is valued at nearly \$449 million. These projects appear in Appendix G.

For years 13 through 25 of the LRTP, the RPO has identified **regional line item totals** to address specific transportation system concerns. The regional line items include: 1) betterments; 2) slide repairs; 3) local Federal-aid routes; and 4) local bridges. The regional line items are valued at \$464 million, and – from the long-range revenue forecast – rounds out the LRTP’s estimated budget of \$913 million.

It should be noted that **betterment projects** are a priority for the RPO. To maintain the 30-year and 10-year cycles in the Northwest RPO, the annual investment would require \$19.8 million per year.

Increasing those cycle lengths to 36-yr and 12-yr periods respectively would lower that total to \$16.5 million per year⁷. For long range planning purposes, the RPO has estimated its total betterments needs to be \$437 million. However, this amount exceeds the RPO’s revenue forecast, and has been right-sized to a figure of \$413.5 million.

A regional line item for **local bridges** was also included. The RPO assumes a cost of \$100 per square foot as an average cost to rehabilitate or preserve bridge deck area, and \$700 per square foot as an average cost for replacement. The plan also assumes that new bridges will have a life span of 100 years, with one rehabilitation/preservation treatment being applied at year 50. Given these assumptions, the RPO is

⁷ For the four District 1 counties

assuming a cost of nearly \$39 million in local bridge needs during years 13 through 25 of the LRTP. Table 17 provides an overview of the LRTP’s fiscally-constrained project listing.

Table 17: 2021-2045 LRTP Investment Plan (Fiscally-Constrained)

		FFY 2021-2024 TIP	FFY 2025-2032 Mid-Range	FFY 2033-2045 Long Range	FFY 2021-45 Total
Regional Line Items	Betterments			\$413,564,229	\$413,564,229
	Slide Repairs			\$6,000,000	\$6,000,000
	Local Federal Aid Rts.			\$6,000,000	\$6,000,000
	Local Bridges			\$38,698,271	\$38,698,271
LRTP Project Cost by County	Clarion	\$29,187,444	\$56,951,407		\$86,138,851
	Crawford	\$55,180,392	\$58,737,639		\$113,918,031
	Forest	\$4,375,000	\$12,395,088		\$16,770,088
	Venango	\$40,425,357	\$115,980,315		\$156,405,672
	Warren	\$27,731,078	\$47,833,551		\$75,564,629
	Total	\$156,899,271	\$291,898,000	\$464,262,500	\$913,059,711

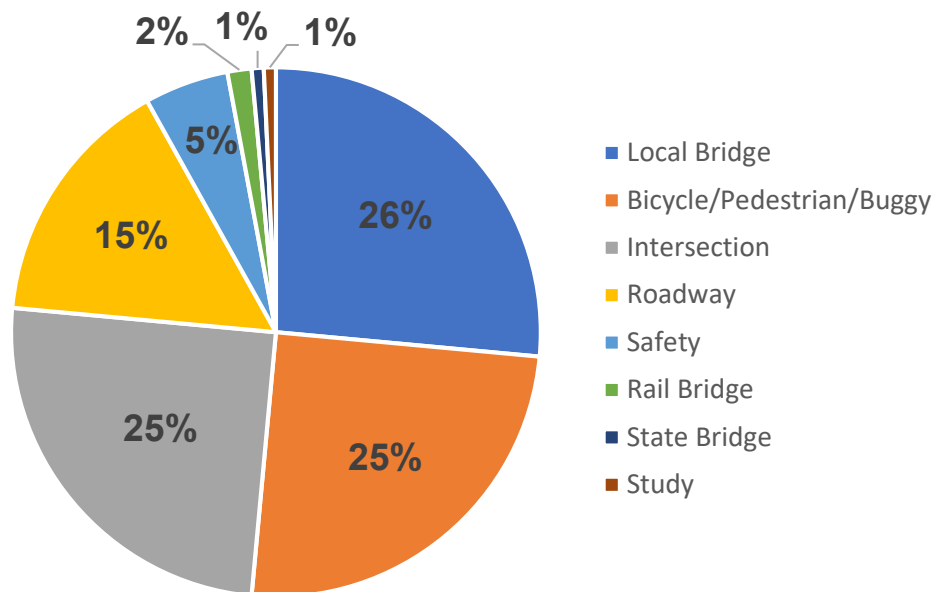
In addition to the fiscally-constrained 2021-2045 Investment Plan funding outlined in the previous table, the LRTP also includes additional funding to the 2021 Program (above Financial Guidance). These funding totals are depicted in Table 18 and the projects themselves are included in more detail in Appendix G .

Table 18: LRTP Funding (Over and Above Financial Guidance)

Total	Projects
\$1,443,500	Rail Yearly – FED (Mt Pleasant RRR MPMS 106162; Shaw’s Landing RRR MPMS 113216)
\$1,000,000	Safety Spike/Earmark PA 8 and PA 77 intersection MPMS 109996
\$225,000	STP Spike/Earmark (I-80 Barkeyville ITS addition)
\$1,896,760	TAP (Allegheny Blvd Trail MPMS 98571)
\$337,011	LOC (added to TIP as a local match)
\$1,900,000	s581 (year 5)
\$6,802,271	TOTAL

Source: PennDOT Program Center

The LRTP also includes a listing of candidate projects (shown in Appendix F and I) which are included for illustrative purposes, and should be considered as fiscally unconstrained, or “eligible but unfunded” projects. This listing includes 136 projects valued at nearly \$431 million. Altogether, the total project need within the Northwest RPO region is estimated to be in excess of \$1.86 billion (including constrained and unconstrained projects). This is more than double the region’s long-range revenue forecast. Figure 11 shows the composition of the 136 candidate projects identified through the LRTP process.

Figure 11: Northwest RPO 2045 LRTP Illustrative Project Composition (non-fiscally-constrained)

The RPO developed planning-level cost estimates for all illustrative LRTP projects, with a percentage of overall project cost set aside for inflation, contingencies, preconstruction phase, and potential environmental impacts. All planning-level project cost estimates should be carefully evaluated before advancing the project to account for new information and fluctuations in unit costs.

Review of Potential Direct and Indirect Environmental Impacts

Federal legislation defines the environmental mitigation roles and requirements of MPOs and RPOs that the LRTP shall:

- Include a discussion of potential environmental activities and potential areas to carry out these activities, including activities that have the greatest potential to restore and maintain environmental functions affected by potential transportation projects;
- Focus on policies, programs and strategies, rather than the project level; and
- Develop this discussion in consultation with Federal, state and tribal land management, wildlife, and regulatory agencies.

The Northwest Commission 2045 LRTP includes a list of projects expected to be built by the plan's horizon year, and while detailed environmental analysis is not required at this early stage of the planning process, the Commission recognizes the importance of anticipating potential environmental impacts. As such, the Northwest Commission performed a high-level evaluation of the environmental resources that could be affected by the LRTP's candidate project list, which helped inform the identification of appropriate mitigation strategies for the region as these projects move through the project delivery process. The Northwest Commission consulted with regulatory and resource agencies involved in natural resource management, environmental protection, conservation, and cultural resource preservation in September 2019 to discuss the draft program and solicit additional comments on potential resources and their mitigation strategies.

Mitigation Strategies – “Avoid...Minimize...then Mitigate”

The two PennDOT Districts that serve the Northwest RPO region create environmental measures tracking matrices at the end of the environmental clearance phase for each project, which in turn goes to Contract Management to ensure that the project manager employs the measures identified during Final Design. The mitigation measures that are specified come directly from the resource agencies themselves. There is very rarely a need to mitigate. Whenever mitigation actions are required, it is typically *wetlands* that are the primary environmental resource to be mitigated. Wetland banks exist in each one of the five member counties. There is interest in developing more, although it is becoming difficult to find suitable locations. There is also interest in developing a game land bank, as well as obtaining involvement from watershed groups to discuss impacts on streams. Related to this, all counties have stormwater management plans in place.

In principle, the following mitigation strategies will be pursued by the RPO and its partners:

- Coordinate with municipal and county planning to identify the status of affected agricultural properties (i.e., ground cover, existing agricultural easements, etc.)
- Work with all local, regional, state, and federal organizations and agencies to avoid, minimize, or mitigate impacts from the Twelve-Year Program (TYP) projects through the PennDOT Connects process.

- Coordinate with PennDOT and the region's farmers to reduce impacts on agricultural land by reducing takings, improving stormwater management, and maintaining access to working fields, etc.
- Collaborate with municipal, county, and PennDOT district officials in making Level 2 screening forms as comprehensive as possible, particularly for major projects identified before the TYP plan period.
- Investigate sites for construction of a wetland bank or other mitigation measures in the region, in collaboration with PennDOT and relevant agencies.
- The Northwest planning region includes three heritage regions: PA Lumber Heritage Region (Forest, Warren, and portions of Clarion County), the PA Route 6 Heritage Corridor (Crawford and Warren Counties), and Oil Region National Heritage Area (Venango, and portions of Crawford County). The Commission will continue working with PHMC to identify and preserve all key cultural and historic resources in the Northwest planning region and will consult with PHMC outside of the PennDOT Connects process.
- Continue to identify resources of regional importance that are not listed on or eligible for the National Register of Historic Places.
- Continue early coordination with the PA Game Commission, PA Fish and Boat Commission, PA DCNR, and US Fish and Wildlife Service.
- Consult with the PA Fish and Boat Commission in advance of all bridge projects associated with protected trout streams in the region and observe seasonal in-stream work restrictions.
- Investigate opportunities during transportation planning and programming to avoid or minimize 4(f) or 6(f) property impacts or find ways to further enhance the property or properties in general.
- Consult with Union City Hatchery stakeholders for possible replication of their mussel propagation work and examine stream habitat work for roadway improvements (e.g., log trimming) as a treatment for system resiliency.
- Coordinate with the Partners for Fish and Wildlife advocacy group based out of PennDOT District 12-0 to learn about mitigation best practices.

L RTP Performance Measurement

One of the hallmarks of the two most recent Federal surface transportation reauthorizations (MAP-21 and the FAST Act) was the elevation of performance-based planning. The two acts established a series of **performance measures** to ensure effective use of Federal transportation funds. For the Northwest RPO, the measures demonstrate what the RPO is working toward, and assists in monitoring progress toward meeting targets and goals. The data from performance measures can also be used as a guide in funding decisions and in asset management.

During 2018, the Northwest Commission approved performance measures and targets across three areas. These include:

- PM-1: Safety
- PM-2: System Condition
- PM-3: System Performance

Why have Performance Measurement?

- ❖ Sets goals and standards
- ❖ Detects and corrects problems
- ❖ Manages, describes, and improves processes
- ❖ Documents the RPO's accomplishments

Many of the requirements fall on PennDOT, as the Federal rulemaking requires State Departments of Transportation (DOTs) to establish performance measure targets in coordination with MPO/RPOs and to report on performance at regular intervals. PennDOT has completed the development of statewide targets and baseline reports for each of the measures. The Northwest RPO was given the opportunity to set their own targets or agree to PennDOT's targets. In all cases, the Northwest RPO has agreed to support PennDOT's statewide target values.

A summary of the transportation performance measures is recorded in the following subsections.

PM-1: Safety

FHWA has established five performance measures relating to safety. These include:

1. Number of fatalities
2. Rate of fatalities
3. Number of serious injuries
4. Rate of serious injuries
5. Number of non-motorized fatalities and serious injuries

PennDOT, in cooperation with the Northwest RPO, is required to establish targets for each of the five Safety Performance Measures annually by August 31. PennDOT has established the annual targets, which reflect its 2017 Strategic Highway Safety Plan (SHSP) goal of reducing fatalities and serious injuries by 2 percent. Pennsylvania's statewide targets are as depicted in Table 18.

Table 19: PM-1 Statewide Targets

Performance Measure	5-year Rolling Averages		
	TARGET 2016-20	ACTUAL 2016-20	BASELINE 2014-18
Number of Fatalities	1,171.9	TBD	1,182.0
Fatality Rate	1.148	TBD	1.169
Number of Serious Injuries	4,400.3	TBD	3,839.6
Serious Injury Rate	4.309	TBD	3.797
Number of Non-motorized Fatalities and Serious Injuries	781.7	TBD	679

* Future VMT estimated to be 0.5% higher per year starting in 2019

On November 19, 2019, the Northwest RPO agreed to support the performance measure targets as identified by PennDOT, and as depicted in Table 19.

Table 20: PM-1 Northwest RPO Supporting Values

Performance Measure	5-year Rolling Averages		
	TARGET 2016-20	ACTUAL 2016-20	BASELINE 2014-18
Number of Fatalities	34.8	TBD	30.6
Fatality Rate	1.494	TBD	1.251
Number of Serious Injuries	98.9	TBD	98.4
Serious Injury Rate	4.246	TBD	4.022
Number of Non-motorized Fatalities and Serious Injuries	12.5	TBD	11.8

* Future VMT estimated to be 0.5% higher per year starting in 2019

PM2: System Condition

FHWA has established six performance measures relating to system condition. These include:

1. Percentage of pavements on the Interstate System in Good condition
2. Percentage of pavements on the Interstate System in Poor condition
3. Percentage of pavements on the NHS (excluding the Interstate System) in Good condition
4. Percentage of pavements on the NHS (excluding the Interstate System) in Poor condition
5. Percentage of NHS bridge deck area classified as in Good condition
6. Percentage of NHS bridge deck area classified as in Poor condition

Table 21: Baseline and Target Values for Pavement Measures (Interstate)

Performance Measure	2017 BASELINE	2019 2-YEAR TARGET	2021 4-YEAR TARGET
Percentage in Good Condition	67.2%	N/A	60.0%
Percentage in Poor Condition	0.4%	N/A	2.0%

Table 22: PM-2 Baseline and Target Values for Pavement Measures (Non-Interstate)

Performance Measure	2017 BASELINE	2019 2-YEAR TARGET	2021 4-YEAR TARGET
Percentage in Good Condition	36.8%	35.0%	33.0%
Percentage in Poor Condition	2.3%	4.0%	5.0%

Table 23: PM-2 Baseline and Target Values for Bridge Measures

Performance Measure	2017 BASELINE	2019 2-YEAR TARGET	2021 4-YEAR TARGET
Percentage in Good Condition	25.6%	25.8%	26.0%
Percentage in Poor Condition	5.5%	5.6%	6.0%

PM-3: System Performance

FHWA has established six performance measures relating to system performance. These include:

1. Percent of Person-miles Traveled on the Interstate System that are Reliable
2. Percent of Person-miles Traveled on the Non-Interstate NHS that are Reliable
3. Interstate System Truck Travel Time Reliability Index
4. Annual Hours of Peak-Hour Excessive Delay (PHED) per Capita
5. Percent Non-Single Occupant Vehicle (SOV) Travel
6. On-Road Mobile Source Emissions Reduction for CMAQ-funded Projects^{8,9}

The Northwest RPO agreed to support the PennDOT targets during its November 27, 2018 meeting. In principle, this means that the RPO will plan and program projects that contribute to meeting or making significant progress toward the established PennDOT performance targets, as shown in Table 23.

Table 24: PM-3 Baseline and Target Values for Reliability and Peak Hour Delay Measures

Performance Measure	2017 BASELINE	2019 2-YEAR TARGET	2021 4-YEAR TARGET
Interstate Reliability (Statewide)	89.8%	89.8%	89.8%

⁸ The PHED, Non-SOV, and on-road emissions measures do not apply to the Northwest RPO at this time. As such, the RPO, is not reporting targets or monitoring performance to those measures.

⁹ For the three reliability measures, PennDOT has set statewide targets only. The Northwest RPO will work to monitor and track reliability on the region's National Highway System (NHS) roadways.

Appendices



PA 36 over the Allegheny River in Forest County

List of Appendices

Appendix A: Unabridged Existing Conditions Profile

Appendix B: Interstate Management Program Overview

Appendix C: Summary and Disposition of Public Comments on the Draft LRTP

Appendix D: LRTP Project Evaluation Criteria

Appendix E: Historic Transportation Funding in Northwest Pennsylvania

Appendix F: LRTP Project Evaluation Scoring Results

Appendix G: Fiscally-Constrained Project Listing

Appendix H: Pavement and Bridge Performance Reports (2018)

Appendix I: Eligible but Unfunded Project Listing

Appendix J: Environmental Justice Benefits and Burdens Analysis

Appendix K: 2021 Transit TIP

Appendix A: Unabridged Existing Conditions Profile

Regional Trends and Forces Affecting Transportation

There are many factors that will influence transportation systems in Northwest Pennsylvania in the future, including but not limited to current conditions and trends, technological advances, public policy, and economic growth. The following sections present an overview of existing socioeconomic and transportation conditions within the region.

Socioeconomic Factors

Population Forecasts

Change in population is but one indicator in marking the health of a region's economy. Population characteristics are also important drivers in affecting the demand for travel. Population change in the Northwest PA region could be characterized as being static, with no dramatic "boom and bust" cycles, or precipitous changes, overall. In fact, the region's estimated (2017) population of 223,000¹ is just slightly less than what it was sixty years ago, when the 1960 US Census recorded the region's total population at 230,721. The region's overall population peaked in 1980, but has steadily declined by nearly 16,000 since then.

For the decade ending 2010, Forest County was the only county in the region to register an increase in total population, adding 2,770 persons since the 2000 Census. The increase however, was not enough to offset losses in the region's other four counties, which experienced a net decline of over 5,200 persons, overall. The gains in Forest County were due largely to the opening of a new state prison in Marienville, which occurred in 2004.

Looking ahead, data from the long-term county economic and demographic projections firm of Woods & Poole indicate that the region's total population is expected to remain relatively stable, with an estimated total population of 233,380 by the 2040 Census. This translates into an expected decline of 65 persons per year between 2020 and 2040, illustrating the region's demographic stability.

Table 1 provides more detail on historic and projected changes in the region's population by county, dating back to 1960. Figure 1 illustrates the region's population by county from 2000 to 2040.

Table 1. Northwest PA Region Historic and Projected Total Population, by County, 1960-2040

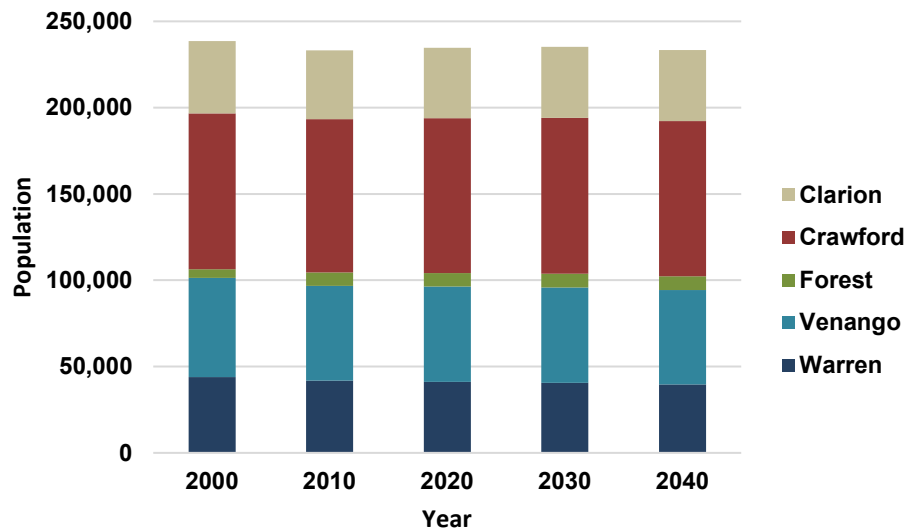
	Clarion	Crawford	Forest	Venango	Warren	Region	% Change
1960	37,408	77,956	4,485	65,295	45,582	230,721	-
1970	38,414	81,342	4,926	62,353	47,682	234,717	1.73%
1980	43,362	88,869	5,072	64,444	47,449	249,196	6.17%
1990	41,699	86,169	4,802	59,381	45,050	237,101	-4.85%
2000	41,765	90,366	4,946	57,565	43,863	238,505	0.59%
2010	39,988	88,765	7,716	54,984	41,815	233,268	-2.20%
2020	40,730	89,820	7,770	55,150	41,210	234,680	0.61%

¹ Current (2017) Census estimates place the region's total population at 223,335.

	Clarion	Crawford	Forest	Venango	Warren	Region	% Change
2030	41,210	90,320	7,920	55,240	40,630	235,320	0.27%
2040	41,240	89,820	7,980	54,720	39,620	233,380	-0.82%

Source: 1960-2010-US Census; 2020, 2030 and 2040-2014 Woods & Poole

Figure 1. Population by County 2000 - 40



Source: 2000 and 2010-US Census; 2020, 2030 and 2040-2014 Woods & Poole

There has been a significant increase in the region's senior population, a phenomenon which has continued from 1990 to the present. The total population age 65 and older is growing in the region and across Pennsylvania. With the oldest of the baby boomer generation turning 65 in 2010, the size of this age group is expected to increase in the region and across the state. According to 2013 Woods & Poole projections, Pennsylvania is expected to be ranked sixth in the nation for total share of population over 65 by 2040, at 23.1 percent.

The percentage of the population 65 and over in the Northwest PA region is higher than that of Pennsylvania overall according to the US Census for 2000 and 2010 and projected to continue through 2040. Every county in the Northwest PA region is expected to experience an increase in the percentage of its total population in this age group, with Venango and Warren Counties expecting the highest percentages by 2040 of 27.5 percent and 29.7 percent respectively. Table 2 depicts the percent population age 65 and over in each county in the Northwest PA region and the region itself from 2000 to 2040.

Table 2. Percent Population Age 65 and over, 2000–40

	Clarion	Crawford	Forest	Venango	Warren	Region
2000	16.0%	15.8%	19.0%	16.9%	17.4%	16.5%

2010	16.5%	16.6%	18.4%	17.9%	18.8%	17.3%
2020	19.2%	21.2%	21.9%	22.6%	23.7%	21.4%
2030	22.3%	25.3%	23.7%	27.9%	29.0%	25.8%
2040	22.5%	25.6%	25.6%	27.5%	29.7%	26.0%

Source: 2000 and 2010 U.S. Census Bureau, 2020, 2030 and 2040-2014 Woods & Poole.

The growth of the region's senior population will have implications on the transportation system. These may include the need for planning for mature drivers, predictable construction zones, improved signing, access to public transportation and planning for autonomous and connected vehicles and other future technologies.

Environmental Justice Populations

Long range transportation planning must acknowledge Environmental Justice (EJ) communities and their involvement in the planning process. A LRTP must consider and not adversely impact any economically-marginalized groups. EJ populations include minority populations and low-income populations.

Federal agencies are required to achieve Environmental Justice by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. PennDOT and the Northwest Commission are committed to following the Core Elements of EJ, which include:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority populations and low-income populations.

By integrating the Core Elements into the planning process, as supported by FHWA, federal agencies are better equipped to carry out the investment strategy and project selection. The EJ process should be comprehensive and continuous with each task informing and cycling back to influence the next step. The outcomes of the analysis performed by the Northwest Commission will influence the project selection process.

Similar to other rural areas of Pennsylvania, the Northwest PA region has a small minority population. According to the 2012-2016 American Community Survey (5-year estimates), the region is 95.5 percent White with small percentages of African-American, Asian, Native American, and Hispanic populations. Pennsylvania's nonwhite population is about 18.6 percent (according to the 2012-2016 American Community Survey) as compared to 4.5 percent of the Northwest PA region. Though the percent of minority populations is still relatively low compared to Pennsylvania as a whole, the region is slowly becoming more diverse, with approximately a 98 percent White population in 2000.

Adverse Effects

An “Adverse Effect” is the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of human-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of FHWA programs, policies, or activities.

Forest County is an outlier in the region, with a Black/African American population of 31.6 percent and a Hispanic/Latino population of 7.5 percent according to American Community Survey 2012-2016 estimates. This percentage is far greater than the other counties in the region, and is a sharp increase from the 2.2 percent Black/African American and 1.2 percent Hispanic and Latino population recorded in the 2000 US Census. The total population also increased by about 50 percent. These changes in both total population and race composition in Forest County since 2000 is primarily attributed to the opening of a State Correctional Institution in Marienville in 2004. Table 3 illustrates the racial composition for each of the region’s five counties.

Table 3: Northwest PA Region Racial Composition

	Clarion	Crawford	Forest	Venango	Warren	Region
White	37,669	83,395	4,653	51,796	39,766	217,279
Black/African American	462	1,646	2,371	445	204	5,128
American Indian	52	39	34	29	34	188
Asian	239	414	43	183	217	1,096
Hispanic	301	1,017	565	567	406	2,856

Source: 2012-2016 American Community Survey, 5-year estimates

All counties in the region had a median household income less than that of the state average. Forest County had the lowest median at \$36,594 with the other four counties in a similar range of \$42,800 to \$45,700. Similarly, Forest County is again the outlier when it comes to per capita income with a value of \$13,283, while the other four counties’ per capita income is in the range of \$22,400 to \$25,400, with Warren County having the highest estimated per capita income of \$25,414. All five counties have lower per capita income averages than the state value of \$30,137. Table 4 summarizes the percentage of the population below the poverty level, median household income, and per capita income for each county and Pennsylvania for comparison.

Table 4: Northwest PA Region Poverty and Income Overview

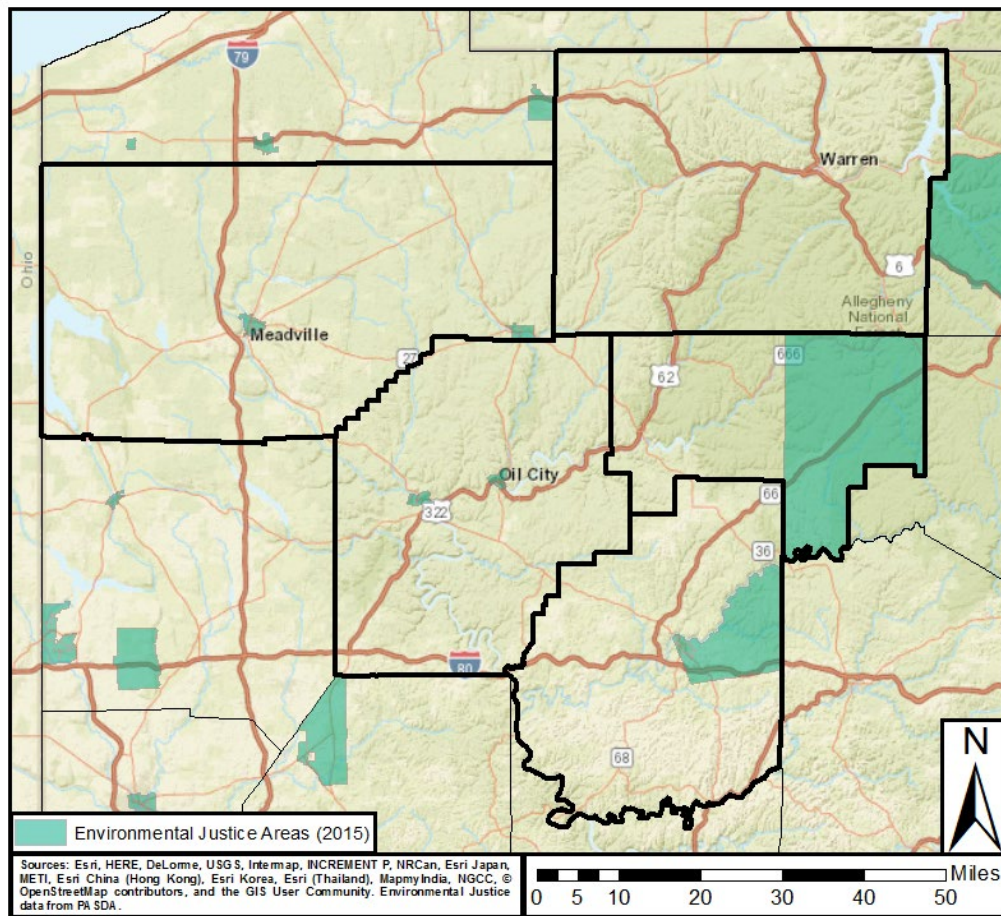
	Clarion	Crawford	Forest	Venango	Warren	PA
% of People Below the Poverty Level	18.6%	14.5%	12.7%	14.4%	12.7%	13.3%
Median Household Income	\$42,890	\$45,637	\$36,594	\$43,885	\$44,977	\$54,895
Per Capita Income	\$22,451	\$23,578	\$13,283	\$24,257	\$25,414	\$30,137

Source: 2012-2016 American Community Survey, 5-year estimates

Federal agencies are directed to address and avoid disproportionate impacts to minority and low-income populations, also known as environmental justice populations. The Federal Highway Administration (FHWA) defines minority populations as Black or African American, Hispanic, Asian American, American Indian/Alaskan Native, and Native Hawaiian or Pacific Islander. Low income, for the purpose of environmental justice in transportation planning, is interpreted as a household income at or below the Department of Human Services poverty guidelines. The 2018 guideline for a family of four is a household income of \$25,100 per year. Ensuring that the burden of negative impacts and the benefits of positive impacts involved with transportation decisions are evenly distributed among the population is an important part of planning for the region. This plan discusses the environmental justice populations at a programmatic level, and acknowledges that the specific needs of all populations should be considered on a project by project basis.

Pennsylvania also designates census tracts as Environmental Justice Areas based on U.S. Census data. Environmental Justice areas are defined as a census tract where 30 percent or more of the population is a minority and/or 20 percent or more individuals live in poverty. Figure 2 shows Environmental Justice Areas based on census data collected in 2015. Environmental Justice Areas in the region includes urban areas, such as a tracts in Meadville and Titusville in Crawford County, tracts in Franklin and Oil City in Venango County, and a tract containing Clarion in Clarion County. The Marienville tract that includes the Forest State Correctional Institution in Forest County is also designated as an Environmental Justice Area.

Figure 2: Environmental Justice Areas in the Region, by Census Tract, 2015



Source: 2012-2016 American Community Survey, 5-year estimates

Land Use Management

The management of land use is a critical supporting function in protecting the investments that the RPO has made in the regional transportation system. While transportation planning functions are carried out by the RPO, community planning, or decisions related to proper land use are carried out by the counties and municipal planning commissions. Land use planning helps to ensure that the highest and best use of land is achieved, avoiding unwanted development such as:

- Suburban encroachment onto airport approach zones
- Rail-served properties that are developed into commercial uses
- Arterial roadways that are developed without any provisions for access management, bicycle/pedestrian accommodation, or transit-oriented design.

Multimodal Transportation System

Roadway Network

There are just over 7,000 linear miles of roadway within the Northwest PA region. This mileage has remained constant over the years. About 37 percent of all roadways in the region are owned by the state, compared to the statewide rate of 33 percent. The region also has a disproportionate share of roadway owned by “Other Agencies,” such as the state Department of Conservation and Natural Resources (DCNR) and the U.S. Forest Service. In Warren County, these roadways constitute over 11 percent of all roadway mileage while in Forest County, the rate is over a quarter. Locally-owned roadway mileage has remained static since 2013. Table 5 provides more information on the extent of the region’s roadway network, by ownership.

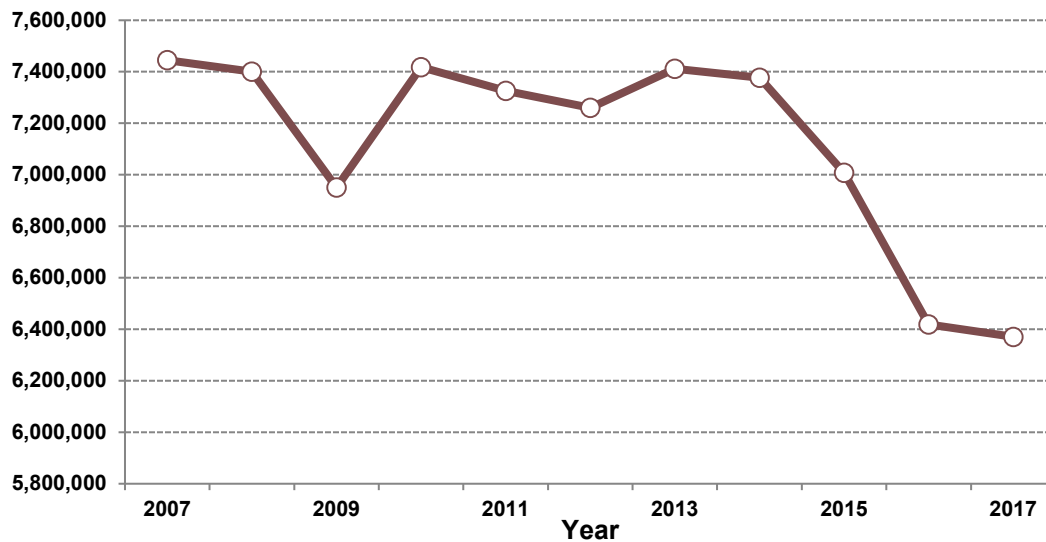
Table 5. Roadway Mileage, 2017 Summary of Roadways by County

County	Linear Miles			
	PennDOT	Other Agencies	Local Municipal	Total
Clarion	468.93	32.86	944.22	1,446.01
Crawford	909.82	58.61	1,498.44	2,466.88
Forest	200.96	125.2	161.92	488.08
Venango	528.71	24.05	826.39	1,379.15
Warren	528.74	149.13	612.15	1,290.02
Region	2,637.16	389.85	4,043.12	7,070.14
Pennsylvania	39,739.45	2,144.78	78,073.36	120,527.36

Source: PennDOT Pub 600, 2017

The region’s roadways accommodate over 6.3 million miles of travel daily, according to PennDOT data. Since 2006, overall travel demand within the region has been declining, with a steep decline of almost a million daily vehicle miles of travel (DVMT) between 2014 and 2016. Factors influencing this decline include a decrease in the total population of the area, coupled with a growing share of senior population, a cohort that tends to drive less. Another factor has been the national recession, which formally began in December 2007 and continued through June 2009. The region did post an increase in DVMT between 2012 and 2013, largely as a result of increasing travel on locally-owned roadway. Figure 3 and Table 6 provide more detailed information on regional trends in DVMT.

Figure 3. Northwest PA Regional DVMT, 2007-2017²



Source: PennDOT Pub 600, 2017

Table 6. Daily Vehicle Miles of Travel (DVMT) by Roadway, by Ownership, 2017

County	DVMT			Total
	PennDOT	Other Agencies	Local Municipal	
Clarion	1,365,217	89,460	147,119	1,601,797
Crawford	1,843,426	154,293	241,367	2,239,086
Forest	142,276	22,660	12,306	177,242
Venango	1,276,080	63,850	140,815	1,480,745
Warren	747,343	39,417	85,061	871,821
Northwest PA	5,374,342	369,680	626,668	6,370,691
Pennsylvania	211,309,804	4,151,851	44,723,430	278,414,227*

*This figure includes DVMT from the Pennsylvania Turnpike

Source: PennDOT Pub 600, 2017

The use of networks in transportation planning has been performed by FHWA and its partners at the state and regional level at least since the Federal-Aid Highway Act of 1973 required the practice for updating and modifying the Federal-aid highway system. PennDOT and the Northwest RPO have grouped the region's roadways into a hierarchy, according to the character of service they provide. Functional classification defines the role that any particular roadway should play in serving the movement of people and goods across the regional highway network.

² At periodic intervals, PennDOT's Bureau of Planning and Research surveys other state and federal agencies for updates to their road mileage and traffic data. The most recent survey was completed between the 2015 and 2016 data submittals, the results of which are reflected in the chart.

Table 7. Mileage by Highway Functional Classification, 2017 - Summary of Roadways (Linear Miles) by County

County	Federal Aid					Non Federal Aid		Total
	Interstate	Other Frwy/Expwy	Other PA	Minor Art	Maj Coll	Minor Coll	Local	
Clarion	28.1	0	38.5	125.9	64.6	127.5	1,061.5	1,446.1
Crawford	27.1	0	38	184.8	311.2	214.7	1691	2,466.8
Forest	0	0	14.1	45.3	76.2	38	314.5	488.1
Venango	14.7	9.2	59.5	89.9	226.1	98.3	881.5	1,379.2
Warren	0	4.2	79	85.7	116.8	138.1	866.2	1,290.0
Region	69.9	13.4	229.1	531.6	794.9	616.6	4,814.7	7,070.2

Source: PennDOT Pub 600, 2017

Roadways that are functionally classified as “Local” are eligible to be “turned back” to municipal control (and thus removed from the state system) through PennDOT’s Highway Transfer Program. PennDOT either rehabilitates the roadway to first class condition before the transfer takes place, or provides the municipality funding to rehabilitate the road. Participating municipalities then receive an annual maintenance payment of \$4,000 from PennDOT for every turnback mile. In some municipalities, local officials may have a desire to install landscaping, lighting and other visual upgrades. The Highway Transfer Program thus provides a greater level of flexibility to make these improvements.

As part of this LRTP update, the Northwest RPO performed an evaluation of the region’s functional classification scheme. Functional classification defines how streets and highways are characterized based on the level and type of service they are intended to provide. The region’s functional classification had not been updated in many decades, despite significant changes in land use and travel demand. To complete the update, the Northwest RPO developed a data-driven, stakeholder validated process that included:

- A review and analysis of the existing classification scheme overlaid with current related data (e.g., Average Annual Daily Traffic (AADT), truck traffic, industrial business locations, etc.);
- A GIS analysis of “borderline” roadways, or roads that could be upgraded or downgraded based on AADT;
- Outreach meetings with county planning directors and PennDOT District planning managers to review initial findings and provide additional input; and
- Coordination with the PennDOT Bureau of Planning and Research on submitting a formal classification change request.

In total, 23 unique changes to the region’s functional classification were identified. Twelve of the 23 recommendations are classification upgrades (including seven proposed Other Principal Arterials). The

remaining eleven proposed changes indicate a classification downgrade. Depicted in Table 8, the updated functional classification is similar to the current functional classification scheme and is mostly consistent with FHWA’s guidelines (with the exception of Minor Arterial roadways).

Table 8: Northwest Road Mileage - Percent Share by Current Classification and Updated Classification

FHWA Functional Classification	Current Classification		Updated Classification		FHWA Recommended Rural System
	Miles	Percent	Miles	Percent	
Principal Arterial: Interstate	73.3	1.1%	73.3	1.1%	1 – 2%
Principal Arterial: Other Freeways and Expressways	7.9	0.1%	7.9	0.1%	0 – 2%
Principal Arterial: Other Principal Arterial	258.2	3.9%	296.3	4.5%	2 – 6%
Minor Arterial	523.5	8.0%	488.8	7.5%	3 – 7%
Major Collector	738.1	11.3%	716.8	10.9%	9 – 19%
Minor Collector	581.2	8.9%	599.2	9.1%	4 – 15%
Local Road: State-Owned	763.8	11.7%	763.8	11.7%	64 – 75%
Local Road: Municipal-Owned	3,600.9	55.0%	3600.9	55.0%	
N/A (e.g., rest-stop pull-offs, runaway truck ramps, etc.)	4.9	0.1%	4.9	0.1%	N/A

Source: PennDOT Bureau of Planning and Research

Within the Northwest PA region, there are over 70 municipalities that are participating in the Turnback Program. Since the program’s inception in 1981, there have been 4,764 miles of roadway statewide that have been transferred to local control of the original 12,000 miles of “functionally local” candidates. Of this total, just over 273 miles have been “turned back” within the Northwest RPO region to local control, as shown in Table 9. Turnback mileage in the region has remained relatively unchanged over the last 5 years.

Table 9. Turnback Mileage and Payment by County, 2018

	Participating Municipalities	Turnback Mileage	Turnback Payment
Clarion	25	137.86	\$551,440
Crawford	27	94.11	\$376,440
Forest	4	6.62	\$26,480
Venango	11	26.34	\$105,360
Warren	5	8.48	\$33,920
Total	72	273.41	\$1,093,640

Source: PennDOT, 2018

National Highway System

The U.S. Congress formally designated the National Highway System (NHS) in December 1995 in response to the federal ISTEA legislation of 1991. The NHS includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. FHWA developed the NHS in cooperation with the states, local officials, and metropolitan planning organizations (MPOs).

Federal reauthorization “Moving Ahead for Progress in the Twenty-First Century” (MAP-21) in 2012 added additional roadways to the NHS in what has become known as the “enhanced NHS.” The additional roadways were functionally classified as principal arterials. (The action however did not change the existing NHS network within the Northwest PA region.)

National Highway Freight Network (NHFN)

The Fixing America's Surface Transportation (FAST) Act directed the FHWA Administrator to establish a National Highway Freight Network (NHFN) to strategically direct Federal resources and policies toward improved performance of highway portions of the U.S. freight transportation system

The NHFN is composed of several distinct subsystems, including:

- a Primary Highway Freight Network (PHFS),
- the remainder of the interstate system not on the PHFS, and
- a network of Critical Rural Freight Corridors (CRFCs), and
- a network of Critical Urban Freight Corridors (CUFCs).

The PHFS is a network of highways identified as the most critical highway portions of the U.S. freight transportation system, determined by measurable and objective national data. The network consists of 41,518 centerline miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads. Within the Northwest PA region, the network includes only Interstate 80. Other interstates not on the PHFS provide important continuity and access to freight transportation facilities. Within the Northwest region, only Interstate 79 is included as part of this network.

Critical Rural Freight Corridors (CRFC)

CRFCs will be designated by PennDOT in collaboration with Northwest RPO and its counterparts statewide. Factors associated with the CRFC however will include Rural Principal Arterials that carry a minimum of 25 percent truck traffic, or those roadways that provide access to energy exploration, development, or production areas. A candidate for the CRFC might also connect the PHFS to facilities that accommodate more than 500,000 tons per year of bulk commodities or 50,000 20-foot equivalents (TEUs) annually.

During 2017, the Northwest RPO identified several candidates for consideration as Critical Rural Freight Corridors (CRFCs). PennDOT evaluated the RPO's proposals and submitted a listing to the Federal Highway Administration for consideration and certification. Depending on FHWA's action, the CRFCs as identified by the Northwest RPO would then become eligible for National Highway Freight Program

(NHFP) funding and a funding target under the FASTLANE Grants Program.³ Table 10 lists all of the region's roadway segments that were submitted by the RPO to PennDOT for evaluation. Candidate roadway segments that were ultimately submitted by PennDOT to FHWA for potential certification are as noted in the last column. The Northwest RPO cannot authorize the use of NHFP funds on these routes unless and until they are certified by FHWA.

Table 10. Critical Rural Freight Corridors (as Submitted by Northwest PA to PennDOT)

County	Route	Start Point (Seg Begin)	End Point (Seg End)	Length (miles)	RPO Priority ⁴	Submitted to FHWA	Certified by FHWA
Clarion	PA 66	0330	0400	3.70	H		
Crawford	US 6	0431	0571	3.17	H	X	
Crawford	PA 198	0340	0430	3.00	M		
Crawford	PA 27	0410	0530	4.50	H		
Crawford	Victory Blvd	PGW Auto Glass	SR 3004	0.90	L		
	SR 3004	Victory Blvd	US 19	0.50			
	US 19	SR 3004	PA 285	1.70			
	PA 285	US 19	I-79	0.20			
Forest/ Warren	US 62	0260	0320	2.90	H		
		0010	0130	6.40			
Venango	Debence Dr	US 8	Terminus	0.40	M		
Venango	US 322	0220	0280	1.70	H	X	X
Venango	US 62	PA 281	PA 310	0.50			
Warren	Lexington Ave ⁵	Penna. Ave	Penna. Ave	0.84	H	X	X
Warren	US 62	0422	0620	11.5	M	X	X

Source: PennDOT, 2018

Note: Segments shown in highlighted rows were submitted by PennDOT to FHWA in October 2018 for potential certification as a Critical Rural Freight Corridor (CRFC).

Highway Conditions

Annual pavement needs are analyzed in different ways, including International Roughness Index (IRI), which indicates the level of roughness on a roadway (a lower number indicates a better score). Table 11 and Figure 4 show the progress that PennDOT and the Northwest RPO have been making in improving pavement quality, particularly on the higher-order networks that carry the most traffic volume. The

³ Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies

⁴ HML = High, Medium, or Low

⁵ Includes Conewango Avenue (south) and South Parker Street

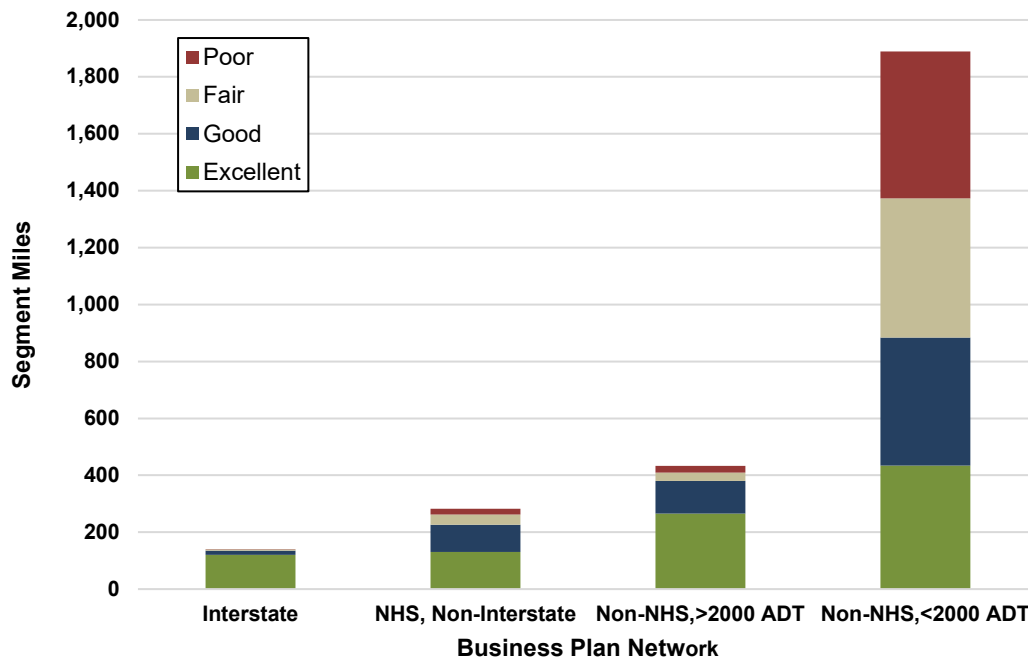
largest improvement have been made in improving the roughness of Interstate roadways, with a median IRI drop of 25 points, from 88 median IRI in 2013 to 53 in 2018.

Table 11. Northwest PA Region International Roughness Index of Roadways (2017)

Business Plan Network	Tested Segment Miles					Median IRI
	Total	Excellent	Good	Fair	Poor	
Interstate	139.8	120.5	15.1	3.7	0.6	53
NHS, Non-Interstate	282.1	130.5	95.4	36.7	19.5	80
Non-NHS,>2000 ADT	432.4	265.5	114.4	30.0	22.6	87
Non-NHS,<2000 ADT	1,889.3	434.0	450.0	489.2	516.1	168
Total	2,743.6	950.4	674.9	559.5	558.8	119

Source: PennDOT Performance Measure Reports, 2017

Figure 4. Northwest PA Region International Roughness Index by Business Plan Network (2017)



Source: PennDOT Performance Measure Reports, 2017

Highway Safety

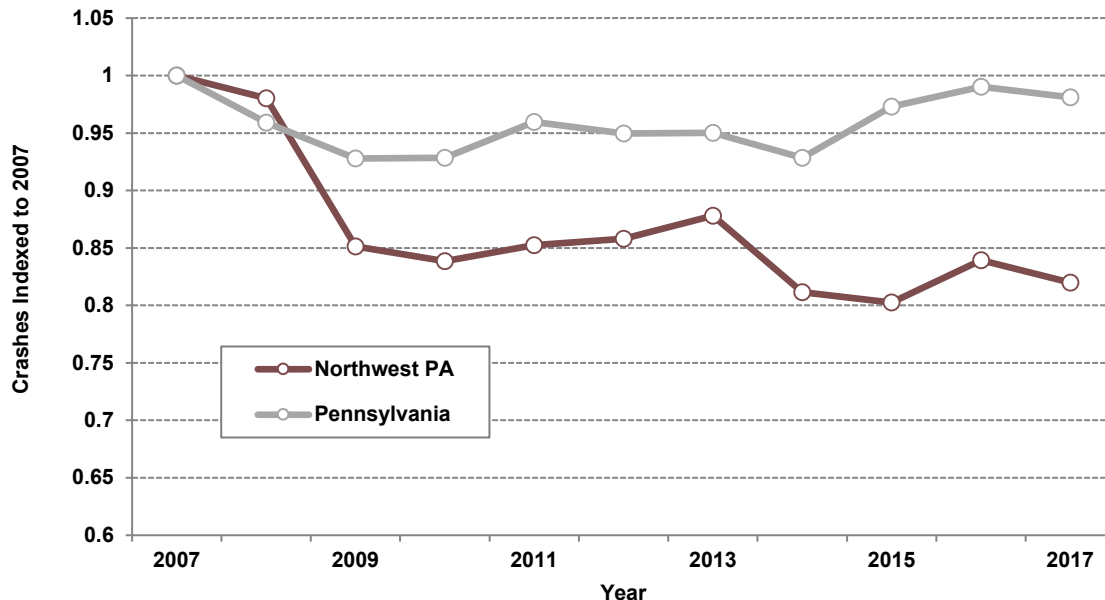
Safety data from PennDOT indicate that total crashes within the Northwest PA region have declined significantly since 2008, though crash levels have remained relatively consistent since 2014, as shown in Table 12. For the decade ending 2017, crashes declined by over 14 percent across the region. The Northwest PA region in 2017 registered a decline in the total number of crashes, as depicted in Figure 5.

Table 12. Northwest PA Region Summary of Crashes by County, 2008-17

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Clarion	564	484	479	458	466	496	451	432	417	392
Crawford	1085	898	874	897	874	963	857	872	944	911
Forest	88	65	85	70	86	84	68	55	70	59
Venango	598	560	571	582	606	539	547	541	542	554
Warren	449	411	372	414	405	412	382	379	411	412
Total	2,784	2,418	2,381	2,421	2,437	2,494	2,305	2,279	2,384	2,328

Source: PennDOT Bureau of Maintenance and Operations

Figure 5. Crash History, Northwest PA and Pennsylvania, as a Percent of 2007 Totals, 2007-2017



Source: PennDOT Bureau of Maintenance and Operations

The region also exhibits fewer crashes than the state overall when compared against total vehicle miles of travel (VMT). For the region in 2017, there are approximately 100 crashes for every 100 million vehicle miles of travel. This is a slight decline from the roughly 102 crashes in 2016, but is almost 17 percent higher than the 85.6 crashes per 100 million miles of VMT registered in 2014. However, the current rate still compares favorably to the state rate of 126.1 crashes per 100 million miles of VMT. The rate of crashes by VMT is highest in Crawford and Warren Counties, as shown in Table 13.

While crash rates per VMT are lower in the Northwest PA region, the severity of crashes is greater, and increasing. From data available from PennDOT, there were 1.38 fatalities per 100 million vehicle miles traveled. All Northwest PA counties exhibit a higher share of fatal crashes than other counties in

Pennsylvania as a whole. There are several reasons for the higher fatality rate in a rural region such as the Northwest PA region, including: higher speeds on rural roads, which increases the likelihood of death or severe injuries. Over a quarter of the region's overall travel occurs on roadways functionally classified as "Minor Collectors," or "Local" (and are thus off the Federal-Aid System). Travel on these roadways does not constitute the majority of travel within and through the region, but they do serve a greater share of trips, compared to similar roadways elsewhere throughout Pennsylvania.

Other factors affecting roadway safety include behavioral differences, such as more instances of drunken driving and less use of seat belts, along with slower delivery of acute medical care. Table 13 and

Table 14 compare crash rates and highway fatalities among all Northwest PA region counties compared to Pennsylvania as a whole. The data show that the region has fewer crashes per 100 million miles of travel, but a greater severity of crashes, when measured by fatalities. The region experienced 1.38 fatalities per 100 million vehicle miles of travel in 2017, compared to 1.12 for Pennsylvania.

Table 13. Crashes per 100 Million Miles of VMT, 2012-17

County	2012	2013	2014	2015	2016	2017
Clarion	82.7	88.1	80.4	75.6	70.9	67.0
Crawford	103.8	110.4	98.6	108.2	114.1	111.5
Forest	46.6	44.8	36.7	30.2	107.5	91.2
Venango	104.1	89.8	91.2	97.9	99.9	102.5
Warren	84.7	85.5	79.9	85.0	128.5	129.5
NW Region	92.0	92.2	85.6	89.1	101.8	100.1
Pennsylvania	124.7	125.9	121.5	125.9	128.0	126.1

Source: PennDOT, 2017

Table 14. Fatalities per 100 Million Miles of VMT, 2012-2017

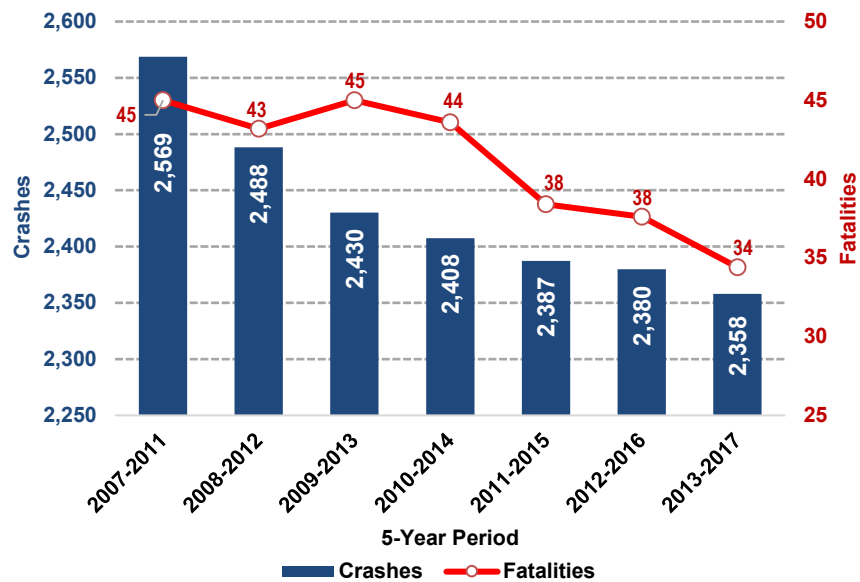
County	2012	2013	2014	2015	2016	2017
Clarion	1.24	2.13	0.89	0.70	0.68	1.20
Crawford	1.78	3.32	1.61	0.99	1.45	1.22
Forest	0.54	2.67	0.00	0.00	6.14	3.09
Venango	3.09	0.83	1.33	0.36	2.03	1.11

County	2012	2013	2014	2015	2016	2017
Warren	1.46	0.83	0.63	1.35	1.25	2.20
NW Region	1.81	2.03	1.11	0.78	1.49	1.38
Pennsylvania	1.32	1.22	1.20	1.19	1.18	1.12

Source: PennDOT, 2017

Examining crash data using rolling 5-year averages demonstrates the substantial progress that PennDOT and the RPO have made in addressing safety on the regional highway network. Figure 6 shows historic trends in total crashes and fatalities within the region, dating back to 2007.

Figure 6. 5-Year Average Annual Crashes and Fatalities, Northwest PA, 2007-17



Source: PennDOT Bureau of Maintenance and Operations

Appurtenances - Traffic Signals

Traffic signals are critical appurtenances in support of the region's highway and bridge assets. There are approximately 155 signalized intersections throughout the Northwest PA region. Forest County has the notable distinction of being the only such county in Pennsylvania that does not have a traffic signal. All traffic signals are owned, operated, and maintained by the host local municipality.⁶

An important development in the operation and maintenance of traffic signals throughout Pennsylvania includes requirements enacted through Act 89 of 2013. The act provided for a traffic signal agility

⁶ Of Pennsylvania's statewide inventory of traffic signals, PennDOT owns and maintains only nine.

program between PennDOT and the state's municipalities – Pennsylvania's Municipal Signal Partnership Program (Green Light-Go Program). Specifically, it provided for agreements between PennDOT and municipalities for the upgrade and synchronization of signals in a designated traffic corridor. The Act also contained provisions to provide up to \$40 million in grant money to coordinate traffic signals on certain arterials to alleviate congestion and improve operating efficiency.

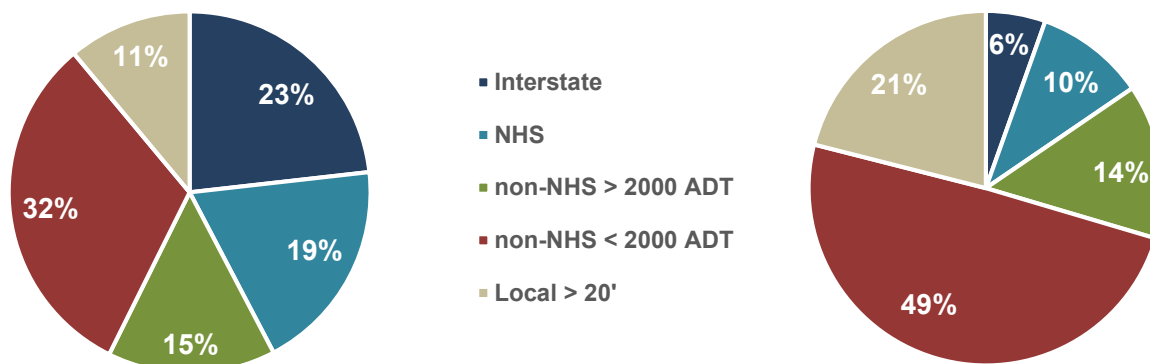
Bridge Conditions

The state of Pennsylvania's bridges is a story that has been well documented in recent years. At its peak, PennDOT had a total of 6,034 bridges that were rated in poor condition. However, the Accelerated Bridge Program, launched in 2008, saw a great increase in the total number of annual bridge lettings, reducing the state's number of poor condition bridges to a present-day total of approximately 2,969. Other funding streams, such as Act 44 of 2007 and the Federal American Recovery and Reinvestment Act (ARRA) funding that became available in January 2009, also contributed to addressing Pennsylvania's enormous bridge problem. PennDOT is continuing to work to reduce the number of bridges in poor condition, while addressing the approximate 300 bridges or so that reach poor condition every year.

PennDOT is currently designing its bridges for a 100-year design life. New bridge designs seek to avoid joints on decks that would prevent salt from penetrating to the substructure and pier caps. Other techniques, such as waterproof membranes, or an epoxy overlay on bridge deck surfaces figure to extend the life of new bridges by providing better protection of the deck's surface. Newer bridge types typically have good performing elements, and are expected to provide more years of service.

The following figures show the composition of the region's bridge stock. The figures show that a majority of the region's deck area is on non-NHS roadways with an ADT less than 2,000 and interstate roadways.

Figure 7. Northwest RPO Bridges >8', by Deck Area (left) and by Count (right), by Business Plan Network, 2017



Source: PennDOT Bureau of Project Delivery

Within the Northwest PA region, there are 1,276 state-owned bridges, a number that has changed only slightly over the past ten years. More importantly, the condition of the region's state-owned bridge stock has been improving over time. This is true against a number of metrics, including total number of load capacity challenged bridges (i.e., those that are posted or closed), total number of bridges that are poor condition, and poor condition bridges by deck area. Table 15 shows the improvements that have been made in bridge conditions over time against these specific metrics.

Table 15. Bridges on State Route System, Length 8' or Greater Summary

Bridge Metric	2007	2018
Total Bridges	1,269	1,276
Total Deck Area (sq. ft.)	3,932,000	4,047,000
Posted	29	9
Closed	3	1
Poor Condition by Count	263	106
Poor Condition by Deck Area (sq. ft.)	842,000	253,500

Source: PennDOT, 2017

Within the Northwest PA region, 8.3 percent of state-owned bridges are in poor condition, compared to a state rate of 11.7 percent. The more meaningful bridge condition measure, however, is that of deck area. Here, bridge conditions in the Northwest PA are comparable to the rest of the state, with 6.26 percent within the region to 7.26 percent at the state level. Table 16 depicts the breakdown of the region's state-owned bridge conditions, by county.

Table 16. Bridges on State Route System, Length 8' or Greater Summary of Bridges by County

County	Total Count	Total Deck Area (MSF)	Closed Bridges	Posted Bridges	Poor Condition Count	% Poor Condition by Count	Poor Condition Deck Area (MSF)	% Poor Condition by Deck Area
Clarion	208	1.013	0	0	10	4.81%	0.0475	4.69%
Crawford	502	1.459	0	6	51	10.16%	0.0916	6.28%
Forest	76	0.204	0	1	3	3.95%	0.0054	2.62%
Venango	223	0.709	2	1	16	7.17%	0.0418	5.90%
Warren	267	0.666	1	2	22	8.24%	0.0353	5.30%

County	Total Count	Total Deck Area (MSF)	Closed Bridges	Posted Bridges	Poor Condition Count	% Poor Condition by Count	Poor Condition Deck Area (MSF)	% Poor Condition by Deck Area
Northwest Region	1,276	4.141	3	10	102	7.99%	0.2216	5.35%
Pennsylvania	25,418	115.788	32	477	2758	10.85%	7.6800	6.63%

Source: PennDOT, September 30, 2019

Table 17 illustrates how state-owned bridge conditions within the Northwest RPO region compare to those in other, similar regions, and throughout Pennsylvania as a whole. The data indicate the condition of the Northwest region's bridges are comparable to Erie County and Shenango Valley RPO. The region has fewer, yet larger bridges that are in poor condition compared to the North Central RPO and Northern Tier PA RPO.

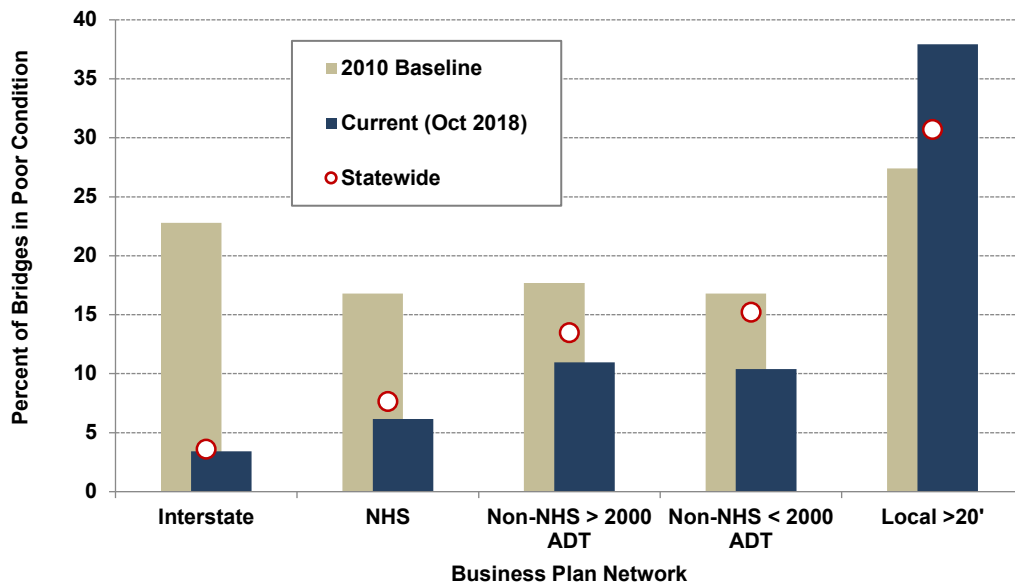
Table 17. Bridges on State Route System, Length 8' or Greater – Selected Planning Regions

Region	Total Count	Total Deck Area (MSF)	Closed Bridges	Posted Bridges	Poor Condition Count	% Poor Condition by Count	Poor Condition Deck Area (MSF)	% Poor Condition by Deck Area
Erie County MPO	577	2.176	1	1	30	5.20%	0.1586	7.29%
North Central RPO	1,325	3.344	0	15	173	13.06%	0.2472	7.39%
Northern Tier PA RPO	1,787	4.291	5	28	170	9.51%	0.1668	3.88%
Shenango Valley MPO (Mercer County)	423	1.420	0	6	26	6.15%	0.0630	4.44%
Northwest Region	1,276	4.051	3	9	102	7.99%	0.2213	5.46%
Pennsylvania	25,380	115.256	36	531	2969	11.70%	8.3703	7.26%

Source: PennDOT, September 30, 2019

Figure 8 shows the progress that PennDOT and the Northwest RPO have made in addressing bridges in poor condition on the state system since establishing a planning baseline in 2010. The figure shows the percentage of deck area that is rated as poor by business plan network. The rate of bridges in poor condition has improved the most on the region's interstate bridges, with poor condition deck area now at 3.41 percent (2017) versus the nearly 23 percent recorded in 2010. The region would like to maintain its goal of having less than 5 percent of its interstate bridges classified as in poor condition.

Figure 8. Northwest PA Region Bridges in Poor Condition, by Deck Area, by Network (2017)



Source: PennDOT Asset Management Data, 2017

A greater concern is the region's locally owned bridges considered to be in poor condition. Compared to a 2010 baseline of 27 percent, the share is now nearly 38 percent. According to FHWA guidelines, all bridges over 20 feet in length should be inspected every two years. Posted bridges and those with critical deficiencies are inspected annually. Weight restrictions are imposed and bridges are closed if deterioration causes safety concerns.

An ongoing initiative in recent years sponsored by PennDOT has been to inventory locally-owned bridges that are between 8 and 20 feet in length. Currently there is no federal requirement to monitor (i.e., inventory or inspect) these bridges. Their condition is a concern that is currently unquantifiable.

Table 18 depicts condition information for the region's locally-owned bridges (greater than 20 feet in length), by county.

Table 18. Bridges on Local Route System, Length 20' or Greater Summary of Bridges by County

Total Count	Total Count	Total Deck Area (MSF)	Closed Bridges	Posted Bridges	Poor Condition Count	% Poor Condition by Count	Poor Condition Deck Area (MSF)	% Poor Condition by Deck Area
Clarion	49	0.053	3	15	11	22.45%	0.0085	16.02%
Crawford	125	0.155	8	35	51	40.80%	0.0581	37.44%

Total Count	Total Count	Total Deck Area (MSF)	Closed Bridges	Posted Bridges	Poor Condition Count	% Poor Condition by Count	Poor Condition Deck Area (MSF)	% Poor Condition by Deck Area
Forest	13	0.023	0	2	4	30.77%	0.0081	35.15%
Venango	66	0.134	6	15	25	37.88%	0.0202	15.06%
Warren	64	0.128	2	11	22	34.38%	0.0162	12.65%
Northwest Region	317	0.493	19	78	113	35.65%	0.1111	22.54%
Pennsylvania	6,458	14.941	209	1,444	1,834	28.40%	3.5622	23.84%

Source: PennDOT, September 30, 2019

Table 19 shows the progress the region's municipalities have made in recent years in addressing load-challenged bridges. Since 2007, the number of posted bridges has dropped by 73, or over 45 percent, while the total number of closed bridges has declined by 7, or about 39 percent.

Table 19. Load-Challenged Bridges on Local Route System, Length 20' or Greater

County	Number of Bridges		Posted Bridges		Closed Bridges	
	2007	2019	2007	2019	2007	2019
Clarion	65	49	35	15	4	3
Crawford	124	125	61	35	10	8
Forest	14	13	3	2	0	0
Venango	64	66	35	15	0	6
Warren	66	64	27	11	4	2
Northwest Region	333	317	161	78	18	19

Source: PennDOT, September 30, 2019

In addition to local municipalities, counties may also own bridges. There are approximately 2,614 such structures throughout the state (greater than 20 feet in length). Within the Northwest PA region, there are 60 county-owned bridges, 21 of which are posted and 4 are closed. A third of county-owned bridges within the region are considered poor, a rate that is similar to the state rate of 27.7 percent. Warren is one of only five counties statewide that does not own any bridges.

Table 20 provides information on the region's county-owned, load challenged and poor bridges.

Table 20. County-owned, Load-Challenged Bridges, Length 20' or Greater

County	County-Owned Bridges 2018			
	Total	Closed	Posted	Poor Condition
Clarion	1	0	1	0
Crawford	38	5	14	15
Forest	3	0	0	1
Venango	18	1	4	2
Warren	0	0	0	0
Northwest Region	60	4	21	20
Pennsylvania	2,614	100	651	692

Source: PennDOT, September 30, 2019

In general, the region's bridges have improved significantly compared to a decade ago. However, there is still a need to invest in the region's local bridge system. The region currently receives approximately \$3.38 million annually to address its inventory of "off-system" bridges.⁷ New initiatives, such as PennDOT's Rapid Bridge Replacement Project, takes advantage of a P3 tool that will "bundle" bridge projects, saving time and money. The initiative has accelerated the replacement of approximately 560 poor condition bridges statewide (including 28 within the RPO region) and maximize PennDOT's ability to deliver more bridge projects in a shorter period of time. The P3 program has helped make a difference in addressing substandard bridges, as the first bridges under the program were reconstructed in 2015.

Municipal Liquid Fuels Program

The region's counties and municipalities receive annual Liquid Fuels payments in support of their transportation infrastructure. The amount is formula-based, according to the municipality's population, and extent of its roadway network.⁸ Beginning in 2008, Municipal Liquid Fuels also included Act 44 funds of \$30 million statewide for local roads. In 2018, the Commonwealth allocated nearly \$485.6 million among the state's municipalities. Act 89 of 2013 provided additional funding increases over time to the

⁷ FFY 2019-2022

⁸ 50 percent mileage/ 50 percent population

state's Motor License Fund, as the Act eliminated the Liquid Fuels Tax and gradually uncapped the Oil Company Franchise Tax. The Northwest PA region's share of this funding has grown from about \$11.3 million to more than \$17 million, as depicted in Table 21.

Table 21. Municipal Liquid Fuels Allocations by County (2018)

County	Miles	Population	Gross MLF Allocation
Clarion	806.56	39,980	\$3,473,538
Crawford	1,404.45	88,765	\$6,417,001
Forest	155.30	7,716	\$669,162
Venango	800.13	54,992	\$3,740,944
Warren	603.67	41,815	\$2,828,676
NW Region	3,770.11	233,268	\$17,129,321

Source: PennDOT, January 29, 2018

Payments to Counties

Counties also receive a portion of Liquid Fuels funding. The original allocation was established by the Liquid Fuels Act of 1931, which allocated one-half cent of the fuel tax to counties. Distribution is based on the county's share of gasoline consumption for the years 1927, 1928, and 1929. In more modern times, Act 44 of 2007 provided an additional \$5 million to the allocation. Allocation of Act 44 funds is based on a county's share of bridge deck area relative to the statewide total. Act 44 funds may only be used by counties on county-owned bridges. Beginning in December 2014, Act 89 funds were also allocated to counties that own bridges based on the same formula as the Act 44 allocation. The distribution in 2018 amounted to just over \$5 million.

Counties may also elect to pass their Liquid Fuels funding on to member municipalities. Counties without ownership for bridges (such as Warren County) must distribute those funds to municipalities either through a formula or a competitive process.

Rail Freight

The accessibility of rail in the Northwest PA region is a valued resource for many large manufacturing and distribution interests, since shipping freight by rail can significantly reduce the transportation costs related to bulk products. Although most freight in the region is shipped by truck, rail provides an alternative connection to regional, national and world markets. As the economy of the RPO region evolves, and strategies to attract additional employment opportunities are evaluated, it is important to assess the current railway network to provide a better understanding of potential future needs.

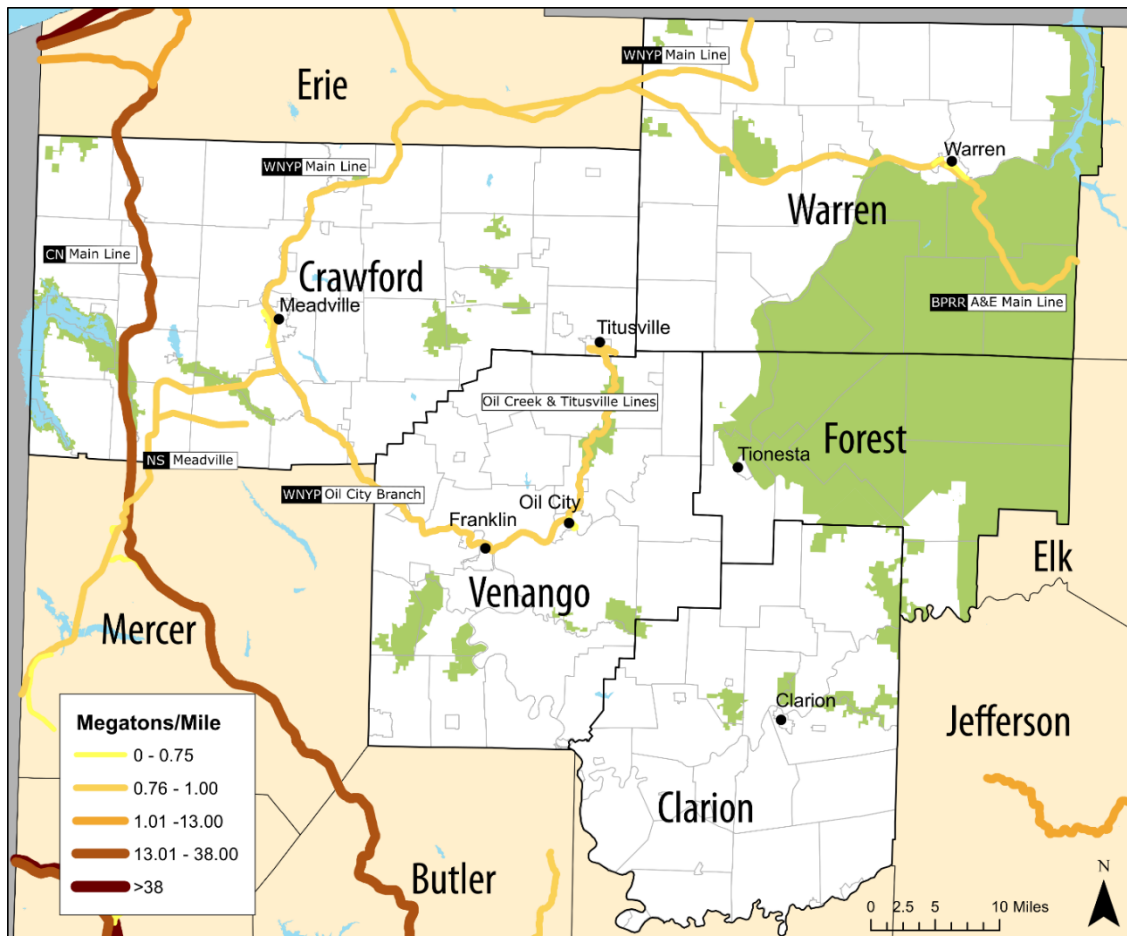
According to the American Association of Railroads (AAR), Pennsylvania has 59 operating freight railroad companies, the highest number in the United States. Those railroads encompass nearly 5,200 route-miles and employ over 7,000 people.

The Surface Transportation Board (STB) classifies freight railroads by inflation-adjusted revenue:

- Class I Railroads have more than \$452.6 million of annual carrier operating revenue. They primarily operate haul service over high-density intercity traffic lanes.
- Class II or Regional railroads operate over at least 350 miles of track and/or have annual revenue greater than \$36.2 million.
- Class III or Short line railroads operate over less than 350 miles of track and have annual revenue of less than \$36.2 million per year.

Rail freight service within the Northwest PA region is provided by a mix of Class I, regional railroads, and short lines. These lines are pictured in Figure 9 by line density, and described within this section.

Figure 9. Regional Rail Line Density



Source: PennDOT

Norfolk Southern

Norfolk Southern Corporation (NS) provides service between Sharon, Shenango and Meadville. At Meadville, NS connects with the Western New York & Pennsylvania Railroad. The NS Meadville Line carries less than 1 million gross tons annually. Norfolk Southern also provides a direct connection between the Northwest PA region and the Canadian National (CN) Bessemer Secondary, a major corridor connecting Pittsburgh to Erie.

The NS Meadville Line extends a total of 45.3 miles between French and Coalburg, OH. A total of 38.8 miles lie within Pennsylvania (in Crawford and Mercer Counties). CSX (Norfolk Southern's main Class I competitor in the East) has trackage rights between Norfolk Southern's Ferrona Yard in Sharon and Shenango. The line is primarily single track with maximum speeds of between 25-40 mph.

Buffalo and Pittsburgh (Genesee & Wyoming)

The Buffalo & Pittsburgh Railroad (BPRR) is a 368-mile regional freight railroad that interchanges with the Allegheny Valley Railroad, Canadian Pacific Railway, Canadian National, CSX Transportation, Nittany & Bald Eagle Railroad, Norfolk Southern, Rochester & Southern Railroad and Western New York and Pennsylvania Railroad.

The Allegheny and Eastern line (a subdivision of the Genesee & Wyoming system) runs from Erie through Warren County to BPRR's north-south mainline in Elk County. This line provides direct connections to US and Canadian Class I railroads (CSX, Norfolk Southern, Canadian National and Canadian Pacific), as well as other short line railroads. Historically the Allegheny and Eastern line linked Warren County to the International Paper operation in Erie. This operation has closed but other industries have increased their use of the line, ensuring its ongoing viability. The Warren County Comprehensive Plan Update (dated 2005), indicates that the line is critical to the county to retain major employers such as United Refining and Whirley Industries.

Western New York and Pennsylvania (WNYP)

The WNYP's Freight Main Line (FML) connects with the NS Meadville Line just west of Meadville and extends 60.6 miles northeastward to the New York State border near Lottsville, PA. The line continues to the east 66.2 miles through Jamestown, NY connecting with the BPRR at Salamanca, NY and with WNYP's north-south Buffalo Line at Olean, NY.

The WNYP FML, coupled with the NS Meadville Line were once an integral sector of the Erie-Lackawanna Railroad's New York City to Chicago Main Line prior to being folded into Conrail at its' creation by Federal legislation in 1976. It is critically important to note that the WNYP FML is the only 286K rail freight link into the Corry-Union City-Meadville-Franklin-Oil City-Titusville corridor. 286K traffic cannot route west on the NS out of Meadville.

The WNYP FML is in fit condition for FRA Class II 25 MPH operation. In the last two years 17 public grade crossing highway surfaces have been rebuilt along the line representing a railroad investment of nearly \$350,000. A PennDOT grade crossing improvement project programmed for Cambridge Springs in 2019

will see three public crossings receive new warning devices and highway surfaces for a PennDOT investment of over \$1 million.

The WNYP Freight Main Line supports the following customers:

- Emkey Energy, Union City
- Lord Corporation, Saegertown
- Ainsworth Pet Nutrition/Smuckers, Meadville
- Diversified Ingredients, Meadville
- Suit-Kote, Meadville
- T. R. Shearer Ag Commodities, (Carlton) Meadville
- Jacob A. Weaver Company, (Cochranton) Meadville
- WNYP Oil City Branch and OCTL customers as outlined further below

The WNYP's Oil City branch and associated trackage is a 37-mile branch line extending from Meadville through Franklin and Oil City to Rouseville. The 3.65-mile South Side Industrial Track leaves the Oil City branch in downtown Oil City, proceeds through the Siverly subdivision along the north side of the Allegheny River, crosses the river, and proceeds along the south side of the Allegheny River to Darr Street. The Oil City Branch was leased by WNYP in 2005 from Norfolk Southern until 2031, unless terminated by either party. The Oil City Branch supports the following customers:

- Franklin Steel Industries, Franklin
- Consolidated Container Corporation (South Side IT), Oil City
- Sasol Chemical, Oil City
- 4N Corporation, Franklin
- Electralloy, Rouseville
- Numerous Titusville customers of the OCTL

The entire line from Meadville to Oil City is 112# and largely continuously welded rail. Tie conditions had deteriorated so badly by 2014 that the entire line was reduced to 10 MPH operation due to numerous derailments. In ensuing years, WNYP performed a \$2 million tie and surfacing project on the line with the help of an \$840,000 Rail Transportation Assistance Program grant. With the improvements, the line has largely been restored to 25 MPH operation. In 2017 the railroad spent an additional \$350,000 of its own funds to install a final 3,000 ties along the line. It is now in a secure condition for 25 MPH operation over the next 20 years.

The line from Oil City to Rouseville is in solid condition for 10 MPH operation. This speed is satisfactory, due to multiple grade crossings, bridges, and pedestrian traffic. The railroad has worked with PennDOT and the City of Oil City to rebuild the highway surfaces of numerous grade crossings, representing a railroad investment of over \$75,000.

New flashing light and gates signals were installed at Petroleum Street (US 62), Oil City, in 2016 and at Wilson Chutes Road, West Mead Township in 2018 using Federal grade crossing safety funds. In 2018, in

coordination with PennDOT and the City of Franklin, the 13th Street (US 322) grade crossing highway surface was rebuilt with a railroad investment of over \$30,000.

The South Side Industrial Track⁹ is in very poor condition. It supplies one customer with rail service every other week. Track speed is only 5 MPH and there are currently no plans to improve it above that level.

The Oil City Branch and associated lines have 24 bridges. All but two rate sufficiently for 286K car loadings. These two structures are described further in Table 22.

Table 22. Load-challenged Bridges on the Oil City Branch

Bridge	Bridge OC-21.36 - Sugarcreek	Bridge OC-33.14 – Oil City
Feature Crossed	Sugarcreek	Oil Creek
Length	127 feet	2 span, 141-foot (282 foot total)
Bridge Type	through-truss	iron through-truss
Improvement Option(s)	Replacement (\$2,300,000)	Replacement (\$5 to 7 million)

Source: WNYP

The rail network surrounding Franklin, Oil City and Titusville once hosted multiple direct routes to Buffalo, Corry, Olean, Pittsburgh, New Castle, and Warren. Today there remains one means of ingress and egress: the WNYP Oil City Branch. Figure 10 displays the extent of the WNYP's operations within the Northwest PA region, and surrounding areas.

⁹ 3.65 miles between downtown Oil City and Darr Street.

Figure 10. Extent of WNYP Operations



At the time of this plan's writing, the Oil City Branch and associated trackage is in the best condition it has been in since the line was rebuilt by Conrail approximately 35 years ago. In order for the shippers of Franklin, Oil City, and Titusville to continue to receive viable rail freight service connecting to the national railroad system, a financial solution must be found to address the two deficient bridges noted previously.

Oil Creek & Titusville Lines (OCTL)

The OCTL's 14-mile line connects WNYP's Oil City Branch at Rouseville (Rynd Farm) in Venango County to Titusville in Crawford County, with a 2.5-mile industrial branch line from Titusville to East Titusville. The line currently serves four industrial businesses (Charter Plastics, International Waxes, Oil Creek Plastics, and Northwest Hardwoods) and operates several days per week hauling plastics, wax and lumber. A potential trans-load facility located in the Titusville Opportunity Park could impact the utilization of this line; however, at this time the future of this facility is uncertain.

The railroad received grants to repair the Petroleum Center bridge and tie replacement to allow for 286K-pound compatible cars and higher operating speeds. Once the two aforementioned bridges on the WNYP are replaced, OCTL will be capable of handling 286K-pound railcars to and from Titusville. Some additional tie replacement and surfacing will be needed to raise track speed to 25 mph freight/30 mph passenger.

Since 1994, OCTL, using \$1.4M of PennDOT RFAP grant funds, \$844K of federal funds, and over \$800K of company funds, has improved the condition of its main track, replaced the decks on three bridges, repaired and replaced piers on Bridge 121.59 over Oil Creek, re-railed and surfaced the 2.5-mile Fieldmore Springs branch, and worked with PennDOT to rebuild four grade crossings in Titusville.

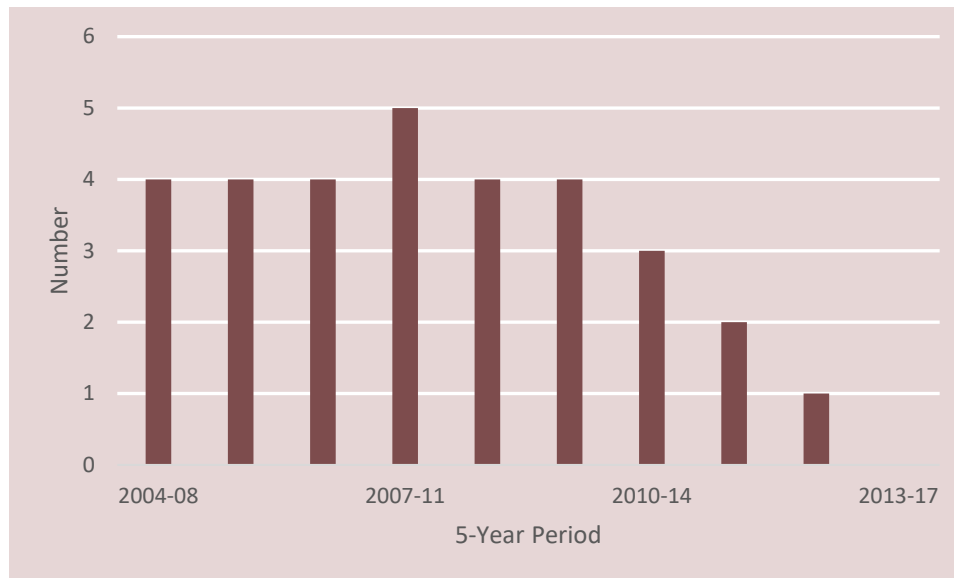
In recent years every OCTL customer, utilizing private investment, has either rebuilt their rail sidings, extended the length of their siding to accommodate more rail cars, or added new rail sidings. In 2011, International Waxes undertook a \$5M plant expansion which included a new rail siding and tank farm to add three new unloading stations. That same year, Charter Plastics added a third rail siding and is currently in the process of adding more storage silos to better accommodate their ever-increasing use of rail.

The railroad also operates approximately 80 tourist excursion trains annually between Titusville and Rynd Farm in Venango County for the Oil Creek Railway Historical Society, with annual ridership exceeding 19,000 passengers.

At-grade Crossings

Crashes involving highway and rail crossings are rare within the Northwest PA region, yet still remain a subject of concern, as these crashes tend to be very severe and result in serious injuries or fatalities. The number of rail-grade crossing crashes has declined in recent years, going against statewide trends. Many of the vehicle/train crashes that occur come as a result of motorists trying to circumvent or purposely violating active control devices. For the decade ending 2017, the region recorded four crashes at at-grade crossings. Figure 11 shows trends in at-grade railroad crossing crashes within the region over the past several years.

Figure 11. Total At-grade Railroad Crossing Crashes



Source: PennDOT Statewide Crash Statistics

Public Transportation

The region is served by several providers of public transportation, including the Crawford Area Transit Authority (CATA) serving Venango and Crawford Counties, Clarion County Transportation, and the Transit Authority of Warren County (TAWC). These transit operators provide regional community services within each respective county and provide both fixed-route and demand responsive services. Another provider, Area Transportation Authority (ATA) provides service in Clarion Borough. Greyhound Lines, Inc. and Fullington Auto Bus Company, Inc. provide intercity bus services. A description of each one of these providers and the services offered follows.

Act 44 of 2007 provided the state's transit operators with a predictable and dedicated funding structure that is distributed based on need and performance. The fund is meant to fully fund Programs of Statewide Significance. The system performance criteria outlined in Act 44 included passenger per revenue vehicle hour, operating cost per revenue vehicle hour, operating revenue per vehicle hour and cost per passenger trip. Periodic performance reviews are conducted and if performance is not met, corrective action is required. The law also requires coordination in regions where two or more award recipients provide service. With regionalization, the Commonwealth offers a five-year period with no local match requirement.

The 2011 Pennsylvania Governor's Transportation Funding Advisory Commission called for PennDOT to study the formation of regional transit agencies. The counties of the Northwest Commission region requested a study be performed to examine the potential benefits of an integrated regional transportation authority, providing both fixed route and demand response services. Pennsylvania Act 89 of 2013 further supported the establishment of regionalized transit operations by providing incentives

for local municipalities to pursue regionalization. A two-phased study was conducted, but did not offer a recommendation on whether or not regionalization of transit services should occur.

Table 23 depicts statistics related to the region's providers of shared ride transportation services.

Table 23. Northwest RPO Region Community Transportation Statistics (SFY 2016-17)

Operator	Service Area (Sq. Mi.)	Pop.	65+ Pop.	Vehicles Operated in Max. Service	Avg. Shared Ride Fare	65+ Trips	PwD Trips	Tot. Shared Ride Trips
CATA (Crawford and Venango Counties)	1,688	143,749	24,596	27	\$18.13	49,040	2,464	82,031
Transit Authority of Warren County	883	41,815	7,840	9	\$13.96	25,817	649	33,702
Clarion County Transportation	602	39,988	6,566	21	\$34.39	10,062	501	21,278

Source: PennDOT Annual Performance Report, April 2018

Area Transportation Authority (ATA)

ATA has served the greater Clarion area since August 2000. Areas served include Clarion Borough, Clarion University, and the Clarion Mall. ATA, which is based in Johnsonburg, primarily serves a six-county region immediately outside of the Northwest PA region. The authority provides transportation services in the Clarion area as a subcontractor to Clarion University and Monroe Township. The service is critical in a university community that hosts approximately 6,000 students, a majority of which live off campus and require access to educational and commercial services.

Clarion County Transportation

Clarion County Transportation has provided shared ride and community transportation service in Clarion County since 1980. The ridership for the service is about 21,000 in FY 2016-17. The Clarion County Transportation Service has 21 vehicles in operation.

Transit Authority of Warren County (TAWC)

The Transit Authority of Warren County was organized in 1979 and began providing service in 1980. TAWC provides both fixed-route and demand responsive (shared-ride) service. The fixed route service serves the area immediately surrounding the City of Warren while the shared-ride service is available throughout Warren County. Fixed-route service is provided Monday through Saturday with a fleet of five vehicles using three routes, serving the City of Warren, portions of Pleasant Township and Conewango and Glade Townships, and points as distant as Sheffield and Youngsville. Vehicles are equipped with bicycle racks. Fares for fixed-route service increased from \$0.75 to \$1 in July 2012. The authority in 2005

moved its administrative offices, bus barn, and maintenance facilities to a new location in the Breeze Point development in the City of Warren as part of a \$1.4 million project. For the four-year period ending FY 2017, the authority has averaged approximately 66,200 riders annually. Ridership has been declining slightly through this period.

The authority also provides shared-ride service through its fleet of nine vehicles. Shared-Ride service operates Monday through Friday. TAWC in 2012 acquired two new wheelchair-accessible transit vehicles equipped with power lifts to aid passengers with limited mobility. Shared-ride ridership in FY 2016-17 registered 33,700. Ridership of those 65+ however, has declined, a phenomenon that has occurred across Pennsylvania.

Crawford Area Transportation Authority (CATA)

CATA provides both fixed-route and demand responsive (shared-ride) service. The fixed route service has served the areas in and around the cities of Meadville and Titusville for years and shared-ride service is available to all residents of Crawford County and residents of Pleasantville in Venango County. CATA entered into a management agreement with the Venango County Transportation Office (VCTO) on July 1, 2016. CATA has since managed public transportation service in Venango County and operates as a single entity. Since consolidating, CATA has reduced its operating expenses by \$25,000.

CATA recently constructed a maintenance and indoor storage facility in Meadville. The work included the expansion of an existing structure, including vehicle wash and maintenance areas, office, and indoor storage facility for fleet vehicles. Site work included exterior parking for personal vehicles as well as paved access to the new garage ingress and egress points. A compressed natural gas (CNG) station equipped with pumps has also been constructed for use by the CATA fleet and will be made available to the public in the near future.

Fixed-route service is provided Monday through Saturday with a fleet of 61 vehicles. Fares for fixed-route service were raised in October 2014 from \$1.00, to \$1.25. For the FY 2016-17, the authority had over 293,000 riders. The authority also provides shared-ride service through its fleet of 27 vehicles. Shared-Ride service operates Monday through Friday. Total ridership for this service was 82,031 during FY 2016-17.

Aviation

Aviation service in the region is provided by several general aviation facilities, and one commercial service airport.

Venango Regional Airport

Venango Regional (FKL) is the only FAA CFR 139 Certificated Airport in the region that can accommodate commercial certificated air carriers. Although FKL is no longer proving commercial air service, the airport has maintained a commercial air service certification since 1948. The airline deregulation in 1978 resulted in the Essential Air Service (EAS) program, provided by the United States Department of Transportation, to subsidize air carrier service to small markets that otherwise could not financially

sustain airline service. The Federal budget of 2012 placed a statutory minimum of 10 passenger enplanements daily on EAS communities. Currently 13 EAS communities have been issued a show cause order for having less than the statutory minimum of 10 enplanements per day. Venango Regional Airport along with many of the other affected airports petitioned the USDOT successfully for a temporary waiver of the 10 enplanement rule while new airlines were sought to provide dependable air service. In October 2019, the USDOT turned down a request for subsidies to continue the EAS at FKL.

Venango Regional Airport is located southwest of Franklin and approximately 80 miles northeast of Pittsburgh and is accessible via PA 8. 10 The airport is a full service, all-weather facility with professional aircraft refueling and ground handling services, and certified aircraft rescue and fire fighting capabilities. The airport has 35 T-hangar units and 7 corporate hangars providing facilities for private, corporate and commercial aircraft operations. The airport has approximately 45 base aircraft and experiences about 15,665 annual operations. The primary runway length is 5,200 feet long by 150 feet wide. The secondary runway is 3,593 feet long by 100 feet wide. It is the base of operations for the state police helicopter detachment and three aviation organizations, the Experimental Aircraft Association (EAA) and the Civil Air Patrol, Vintage Wings a World War II DC-3 restoration project that will take approximately 3 to 4 years. The airport has a new flight school, Ravotti Air LLC which is affiliated with Clarion University. In 2018 Youngstown Jet Charter sign an attentive hangar agreement with a starting date sometime in March or April 2019.

Venango County is planning a project to extend the main runway (03-21) by 700 feet to 5,900 feet. This project was identified in the Airport Master Plan in 1990 and in subsequent plans. The land acquisition and environmental phases of the project are currently on the four-year State Transportation Improvement Program (STIP). This project is important to improving the reliability and safety of Corporate and Commercial Aviation in the region and will allow the airport to accommodate larger aircraft safely. The current runway length is not sufficient based on Federal Aviation Administration (FAA) standards for winter conditions except for aircraft with anti-skid brakes. The airport currently has a corporate tenant with larger aircraft and this would be a benefit to providing this service to the carrier as well as expanding the market to other similar operators.

In addition to Venango Regional, there are four other public airports in the Northwest PA region: the Clarion County Airport in Clarion County, the Port Meadville Airport in Crawford County, the Brokenstraw Airport in Warren County, and the Titusville Airport in Venango County. Forest County is the only county in the region that does not host an airport. These general aviation airports serve the respective business and recreational aviation needs of their respective communities.

Brokenstraw Airport

Brokenstraw Airport is located in Pittsfield and is the only public airport in Warren County. This airport was originally built in 1970 and takes its name from its location along the southern bank of Brokenstraw Creek. Two flying clubs, Warren Aviation Club and Brokenstraw Soaring Club, make their

¹⁰ PennDOT Bureau of Aviation. Economic Regional Impact of Venango Regional Airport. 2010.
PennDOT Bureau of Aviation. The Economic Impact of Aviation in Pennsylvania. 2010.

home at Brokenstraw as well as Valair Flying Service, which provides instruction and aircraft rentals. Fuel and oil sales, hangar rental and aircraft maintenance are provided as part of the airport services.

Clarion County Airport

The Clarion County Airport Authority is a municipal authority created in 1967. The original purpose of the Authority was to site and construct a facility to replace Rhea Airport, a small grass airport at the intersection of US 322 and PA 66, which was closed due to planned highway construction.

The airport authority completed construction of the Clarion County Airport in 1975, and is responsible for its overall operation. The airport supports the needs of business and recreational flyers in the area. Its close proximity to both Cook Forest State Park and the Allegheny National Forest provides users with convenient access to numerous hunting, fishing, golfing and camping activities. In doing so, the airport supports many of the region's primary economic activities. The airport is capable of landing business jets and includes multiple hangars and 24-hour fuel service.

Other available services include parking and hangars for transient aircraft, a passenger terminal and lounge, catering and meeting facilities, flight training, sightseeing tours and rides, car rentals, and courtesy transportation. The airport also hosts a medevac helicopter business.

Port Meadville Airport

Port Meadville Airport is a countywide facility located three miles west of Meadville with access to Interstate 79 and US 322. Available services include 24-hour self service fuel, pilots lounge, courtesy car, and aircraft parking. Within a short distance of the airport are dozens of golf courses, restaurants, and family-oriented tourism sites.

The airport serves all types of aviation needs. It has corporate facilities which house business jets, corporate flight and maintenance headquarters. Corporate single engine and twin engine aircraft are also hangared on the field. Privately owned general aviation production aircraft, experimental aircraft, ultra lights and para planes are also on the field. The local chapter of the EAA sponsors a Fly-In Breakfast each June which is attended by hundreds of people and features dozens of aircraft.

Titusville Airport

Titusville Airport is a city-owned public airport located three miles west of Titusville. The National Plan of Integrated Airport Systems (NPIAS) for 2011–2015 categorized it as a general aviation facility. Jet fuel and parking are available.

Table 24 provides additional details regarding the region's airports.

Table 24. Northwest PA Region Aviation Facilities ¹¹

Facility Name	Based Aircraft	Details
Brokenstraw Airport	22	- One mile east of Pittsfield, Warren Co. - Turf runway, 3,650 feet long and 100 feet wide - Total annual operations 1,486 - Economic output \$281,000 13 T-Hangers, and 10,500 ft² of conventional hangar space
Clarion County Airport	13	- Three miles west of Clarion, Clarion Co. - One paved runway, 5,003 feet long and 75 feet wide - Total annual operations 2,876 - Economic output \$1,274,500 20 T-Hangars, and 10,000 ft² of conventional hangar space
Port Meadville Airport	21	- Four miles west of Meadville, Crawford Co. - Paved runway, 5,001 feet long and 75 feet wide - Total annual operations 13,369 - Economic output \$12,258,800 20 T-Hangars, and 23,566 ft² of conventional hangar space
Titusville Airport	10	40 miles southeast of Erie in Venango Co. - Paved runway, 4,902 feet long and 75 feet wide - Total annual operations 9,506 - Economic output \$689,500 31,684 ft² of conventional hangar space
Venango Regional Airport	45	- Southwest of Franklin, Venango Co. - Paved runway, 5,200 feet long and 150 feet wide - Paved crosswind runway, 3,593 feet long and 100 feet wide - Total annual operations 19,058 35 T-Hangars and 7 corporate hangars - Economic output \$17,079,100

It is critical to preserve airport uses with compatible surrounding land use. The Commonwealth does this through Act 164, Chapter 59, Airport Operation and Zoning. This act requires municipalities with an airport hazard area within their boundaries to adopt Airport Hazard Zoning to protect the use of the airport facilities. There are a number of municipalities in these counties with Airport Hazard Zoning.

Table 25 illustrates the municipalities of each county in the Northwest PA region and whether or not it has airport hazard zoning in place.

¹¹ Airport IQ 5010. Airport Master Records and Reports. Accessed 12/12/2018

Table 25. Status of Airport Hazard Zoning in the Northwest PA Region

Municipality	Act 164 Ordinance
Clarion County Airport, Clarion County¹²	
Beaver Township	Yes
Elk Township	Yes
Paint Township	Yes
Port Meadville Airport, Crawford County	
Vernon Township	Yes
Summit Township	Yes
Union Township	Yes
City of Meadville	Yes
West Mead Township	Yes
Hayfield Township	Yes
Sadsbury Township	Yes
Titusville Airport, Venango County	
Plum Township	No
Cherry Tree Township	No
Troy Township (Crawford Co.)	No
Oil Creek Township (Crawford Co.)	No
Venango Regional Airport, Venango County	
Polk Borough	No
Victory Township	No
Sandy Creek Township	Yes
Cranberry Township	No
Jackson Township	No
City of Franklin	Yes
French Creek Township	No
Sugarcreek Borough	Yes
Oakland Township	No
Brokenstraw Airport, Warren County	
Brokenstraw Township	Yes
Pittsfield Township	Yes
Youngsville Borough	Yes
Corry-Lawrence Airport, Erie County	
Columbus Township	Yes
Spring Creek Township	No

Source: PennDOT Bureau of Aviation, Status of Airport Hazard Zoning in PA. March 17, 2014

¹² The Clarion County Commissioners adopted a county-wide airport zoning ordinance

Bicycle/Pedestrian/Buggy

Among the regional trends and forces affecting transportation throughout the Northwest region is the increasing utilization of bicycles and on-foot modes of transportation not just for recreational purposes but also for such basic functions of daily life as healthy exercise, commuting to work, conducting commerce and errands, and outdoor experiences. These trends, also referred to as active transportation, are due in part to the decreasing use of personal vehicles. Individuals are steering away from single-occupancy vehicles for reasons including finances, personal well-being, desires to reduce pollutant emissions, and for other conscious lifestyle choices. Therefore, it is appropriate to include improved bicycle and pedestrian safety and convenience features as part of transportation projects and programs.

Active transportation is not limited to bicyclists, hikers, and people riding tricycles. It also includes people who are walking, jogging, running, or using such non-motorized wheeled or gliding implements such as roller skates, roller blades, skateboards, scooters, skis, pedi-taxis, and other more diverse mobility options which may be developed in the future with new applications of technology and shared mobility.

In addition, while horseback riders and people utilizing horse-drawn wagons or buggies are not within the definition of active transportation as being “self-propelled, human-powered” modes of transportation, equine-based transportation shares many characteristics and safety situations with those of pedestrians and bicyclists. Often improvements geared for pedestrians and bicyclists will also benefit equine riders and the drivers/passengers in horse-drawn equipment. Consideration of such factors is especially important in those portions of northwestern Pennsylvania where there are concentrations of residents whose cultural beliefs and practices are heavily dependent on horse-based transportation. Roadways, road berms, off-road trails, and parking areas in such communities merit additional consideration to serve all people safely where equine is a major mode of transportation. For instance, some off-road trails in these localities are constructed with a dual-surface pair of parallel trails – paved side for bicyclists and hikers, and gravel side for equines.

During 2020, the Commonwealth of Pennsylvania is expected to adopt a new “Statewide Active Transportation Plan”; the draft thereof circulated in late 2019 with final public comments due as of December 6, 2019. Previously referred to as the “Statewide Bicycle and Pedestrian Master Plan,” this positive and forward-looking document is the result of extensive new data analysis and public participation. Quoting from its foreword, the “Statewide Active Transportation Plan” ... “identifies and prioritizes strategies that will promote more bicyclists and pedestrians, while supporting safety and multimodal connectivity. It will simultaneously serve as a resource for metropolitan and rural planning organizations, as well as statewide municipalities throughout the Commonwealth as they develop and implement regional and local active transportation plans.”

The soon-to-be-approved Statewide Active Transportation Plan adopts the following principle and can serve as guidance for ongoing planning and implementation in the Northwest RPO counties.

Pennsylvania's Active Transportation Plan: Draft Directions

Vision: Biking and walking are integral elements of Pennsylvania's transportation system that contribute to community health, economic mobility, and quality of life.

Statewide Plan Themes (*Labeled numerically for convenience, not implying priority ranking*)

1. Enhance Safety
2. Provide Transportation Equity
3. Connect Walking and Biking Networks
4. Leverage Partnerships
5. Improve Public Health
6. Increase Economic Mobility

The reader is referred to the Statewide Active Transportation Plan and future updates for the goal and objectives, strategies, implementation steps, data collection, and performance measures which correspond to each of the themes listed above.

Several statistics indicated in the Statewide Active Transportation Plan are of special serious concern, as follows:

- In 2017, there were 150 pedestrian fatalities and 21 bicyclist fatalities in Pennsylvania, with a combined economic cost of \$1.1 billion.¹³
- "Pedestrians account for 13.2 percent of all traffic deaths in Pennsylvania, despite representing only 3.2 percent of all traffic crashes. (2017)"¹⁴
- "The combined rate of pedestrian and bicyclist fatalities were greater than 15% of the total fatalities on state roads."¹⁵
- District 1 is "among the PennDOT Engineering Districts with the most bicyclist collisions (2013-2017)."¹⁶

¹³ Condensed from the May 30, 2019 Open House PowerPoint Presentation

¹⁴ See Page 14 of the draft SATP

¹⁵ See Page 14 of the draft SATP

¹⁶ See Page 42 of the draft SATP

In order to establish a baseline for performance measures, historic data for the Northwest RPO counties should be compiled, and then cited in the Northwest LRTP. That data can then be used to depict progress in reducing such crash, injury, and fatality rates, even as the volume of trips and distances traveled by bicycle, on foot, and other forms of active transportation grow in years ahead. The locations where such incidents occur should be mapped and analyzed to determine any design and/or implementation features which should be revised as the specific incident spots and/or other similar configurations in order to prevent and reduce future crashes, injuries, and/or fatalities.

Safety upgrades to reduce hazards to motorists, bicyclists, pedestrians, and people in horse-drawn equipment alike should include examination of any locations where vehicular roadways or parking areas intersect or overlap with recreational trails/paths. At such crossings, underpasses, overpasses, and other risky locations consideration should be given to such safety equipment as lighting, warning signals, signs, and the like.

Accommodations and safety enhancements for all these modes of transportation shall be included in the early planning and community input stages of project development, in order to offer and conduct design services and construction/maintenance cost analysis of including bicycle, pedestrian, and other active transportation options so that such objective information and data is considered when designs are refined and then implemented by decision makers throughout the network of agencies and partnerships.

Among key partners willing to assist in planning and sometimes co-funding facilities and accommodations for bicyclists and pedestrians in northwestern Pennsylvania are the following:

- PA Department of Conservation and Natural Resources – DCNR is committed to making outdoor recreation increasingly accessible and available to all residents. They have also identified top priority gaps within the trail network system where they are focusing investments of monetary and other assistance, including key locations within the NW RPO which are among the Commonwealth’s “Top Ten Priority Trail Gaps.”
- Erie to Pittsburgh Trail – With a vision of “a system of non-motorized, multi-use trails, and local connectors linking Erie to Pittsburgh through the experience of small towns, rural landscapes, historic sites, and cultural areas, tied to regional trails and beyond,” this growing system is envisioned as approximately 270 miles in length, with a large portion of both its existing and future mileage within the Northwest RPO counties. The Erie to Pittsburgh Trail Alliance is the non-profit corporation which promotes and provides advocacy services to the EPT system and the numerous respective trail owners along this corridor.
- North Country National Scenic Trail – At 4,600 miles in 8 states reaching from North Dakota to Vermont, this primarily off-road corridor runs through Clarion, Venango, and Warren Counties. The national nonprofit parent organization is assisted by regional chapters whose members devote substantial volunteer services to maintain and promote their segments.

- BicyclePA is the PennDOT-designated set of on-road and on-rail-trails routes that traverse the NW PA region.
- Federal funds via the Departments of Interior, Transportation, Community Development, Health, etc. are available to eligible entities for projects/programs meeting the grantor's respective criteria and procedures, some of which are applicable to active transportation.

Goods Movement

According to 2011 data from IHS Global Insight, the Northwest region is a net exporter of freight. IHS data indicates that the region annually generates approximately 22 million tons of freight, at a total value of just over \$17 billion. (This production of freight contrasts with the nearly 8 million tons received by the region.) The growth in freight being shipped from the region is expected to increase to over 30 million tons by the plan horizon year of 2040 and is depicted in **Table 26**.

Among Pennsylvania counties, Warren County currently ranks 13th in the amount of freight tonnage (and ninth in value) being generated. The remaining counties in the Northwestern region all rank among the bottom half of Pennsylvania counties in freight tonnage.

Table 26: Value and Tonnage of Goods Originating in the Northwest Region by County, 2011, 2040

County	Originating Tons (000s)		Originating Value (in Billions)	
	2011	2040	2011	2040
Clarion	2,045	2,746	\$0.52	\$0.93
Crawford	4,720	7,186	\$2.49	\$4.53
Forest	188	494	\$0.08	\$0.22
Venango	1,563	9,023	\$1.97	\$11.02
Warren	13,275	11,025	\$12.35	\$10.75
NW Region	21,791	30,474	\$17.41	\$27.45

Source: IHS Global Insight

As noted previously, the amount of freight being received by the region is much less. Nearly 40 percent of all goods received in the region are in Warren County, making it the region's largest freight generator and receiver, by tonnage and value. **Table 27** depicts the region's counties and the share of freight being received by each.

Table 27: Value and Tonnage of Goods Received in the Northwest Region by County, 2011, 2040

County	Receiving Tons (in 000s)		Receiving Value (in Billions)	
	2011	2040	2011	2040
Clarion	915	1,568	\$0.55	\$1.08
Crawford	2,179	4,170	\$1.64	\$3.55
Forest	136	355	\$0.06	\$0.14
Venango	1,693	4,256	\$2.00	\$8.23
Warren	2,886	3,502	\$3.08	\$4.17
NW Region	7,809	13,851	\$7.33	\$17.17

Source: IHS Global Insight

In terms of freight moving within the region's counties, Warren County ranks eighth in the state in the value of goods being moved within the county, at an estimated \$309 million.

Table 28: Value and Tonnage of Goods Moving within Respective Counties in the Region 2011, 2040

County	Tons (in 000s)		Value (in Millions)	
	2011	2040	2011	2040
Clarion	127.3	115.6	\$1.99	\$2.18
Crawford	420.1	664.3	\$9.09	\$14.75
Forest	0.7	2.6	\$0.20	\$0.63
Venango	8.5	52.3	\$2.49	\$30.63
Warren	340.6	163.3	\$309.32	\$149.54
NW Region	897.2	998.1	\$323.09	\$197.73

Source: IHS Global Insight

Freight moving within the region can be described as freight originating in one of the five counties of the region and either staying within that county or destined for one of the other four counties in the region. In terms of freight moving within the region from one county to another or within a single county, Crawford County has the most in terms of tonnage in 2011 with over 727,000 tons. Warren County has the most in terms of value for the same period with over \$518 million.

Table 29: Value and Tonnage of Goods Moving within the Northwest Region 2011, 2040

County	Tons (in 000s)		Value (in Millions)	
	2011	2040	2011	2040
Clarion	204.9	223.8	\$6.49	\$11.73
Crawford	727.9	990.2	\$33.95	\$50.73
Forest	32.9	101.6	\$3.27	\$10.03
Venango	50.6	246.4	\$12.72	\$98.23
Warren	577.1	512.61	\$518.99	\$458.27
NW Region	1593.4	2074.61	\$575.42	\$628.99

Source: IHS Global Insight

IHS Global Insight data also provides information related to freight generators in the region by identifying locations that produce or attract a high volume of freight. These locations are shown in Figure 12. Relating these locations geographically helps to understand routes which may carry large amounts of freight traffic either produced in these locations or being distributed to these locations.

Figure 12: Northwest PA Freight Generator Locations



Source: IHS Global Insight, 2011

Appendix B: Interstate Management Program Overview

For general awareness, a listing of projects representing the region's share of PennDOT's Interstate Management Program (IM) is depicted in Table 24 for the FFY 2021 IM TYP, while Table 25 depicts interstate projects remaining from the 2019 TYP (as of April 8, 2020). The Interstate Management Program includes PennDOT's listing of statewide interstate maintenance (non-capacity-adding) projects. It is a separate, centrally-managed program, based on statewide needs. Only 55.2 linear miles of interstate highway (or 3 percent of the state's total) are located within the Northwest planning region.

PennDOT's Program Center works with the Districts, the Bureau of Maintenance and Operations, the Bureau of Project Delivery, and the Planning Partners in establishing a relative project ranking based on field views and asset management principles.

Table 25: Interstate Management Program Projects, FFY 2021-33 TYP - Northwest Region

County	S.R.	Sec.	Project Title	Ph.	Four-Year Period		
					First	Second	Third
Clarion	80	RPR	I-80 Strattenville resurf	C	\$9,589,803	0	0
Clarion	80	365	I-80 Canoe Creek Bridges	F	\$2,000,000	0	0
Clarion	80	365	I-80 Canoe Creek Bridges	U	\$200,000	0	0
Clarion	80	365	I-80 Canoe Creek Bridges	R	\$265,226	0	0
Clarion	80	365	I-80 Canoe Creek Bridges	C	\$60,000,000	\$43,809,065	0
Crawford	79	A09	MP136 – MP 141	C	0	\$10,450,853	0
Venango	80	A11	MP27 to MP34	C	\$11,000,000	0	0
Total					\$83,055,029	\$54,259,918	0

Source: PennDOT Program Center, April 8, 2020

Table 26: Interstate Management Program Projects, FFY 2020 - Northwest Region

County	S.R.	Sec.	Project Title	Ph.	Cost
Clarion	80	34A	I-80 Emlenton PM	+C	\$290,326
Clarion	80	365	Canoe Creek bridges	F	\$521,800
Clarion	80	365	Canoe Creek bridges	U	\$65,226
Clarion	80	365	Canoe Creek bridges	R	\$65,226
Crawford	79	A02	Crawford I-79 Centerline Joint #10	C	\$2,500,000

Source: PennDOT Program Center, April 8, 2020

Notes: F = Final Design; U = Utilities; R = Right-of-Way; C = Construction

Appendix C: Summary and Disposition of Public Comments on the Draft LRTP

The following table documents a summary and disposition of all the public comments the Commission received on the draft LRTP.

Page	Comment	Disposition
29	In second paragraph of main text, line 2, change page 27 to become page 32.	Comment addressed
33	In second paragraph of main text, line 3, change page 23 to become page 29.	Comment addressed
34	See Crawford – Rank #14 – in right-hand column, line 3, change “truck” to “trucks”	Comment addressed
34	See Crawford Rank #20 – in right-hand column, lines 1 and 4, change spelling from “burms” and “burm” to become “berms” and “berm.”	Comment addressed
35-36	Throughout Table 10 on both of these pages please for each project insert the town names.	Comment addressed
37	In Table 12, Venango, Rank #4...in the right-hand column, please insert “in Barkeyville.”	Comment addressed
42	Within the write-up for the 2019-32045 Investment Plan above Table 17, the narrative regarding local bridge spending for the out years should be changed from “\$90 million” to read “nearly \$39 million”	Comment addressed

Appendix D: LRTP Project Evaluation Criteria

Safety (30.12%)			
%	Criterion Description	Value	Source
8.74%	Is the project HSIP eligible based on the Pennsylvania Strategic Highway Safety Plan? ¹⁰	Yes = 1 No = 0	CPDM - Strategic Highway Safety Plan
10.35%	Network Screening - What is the excess safety value of the roadway or intersection?	> 0.25 = 1 0.1 - 0.25 = .5 -0.1 - 0.1 = .25 < -0.1 = 0	BOMO - Highway Network Screening Tool
11.03%	Is the project supported by RSA/Safety Study? (if documentable) ¹¹	Yes = 1 No = 0	County planners; RPO
Infrastructure Condition (23.29%)			
%	Criterion Description	Value	Source
3.2%	Condition - IRI	Poor = 1 Fair = 0.5 Good = 0	One Map
3.53%	Condition - OPI	Poor = 1 Fair = 0.5 Good = 0	One Map
2.18%	Condition - Is the pavement out of cycle? <i>Use current year, not projected year</i>	Yes = 1 No = 0	Maintenance IQ
7.51%	Is bridge good/fair/poor condition?	Poor = 1 Fair = 0.5 Good = 0	BAMS
3.12%	Is the project located on a roadway segment prone to flooding (assist with stormwater management)?	Yes = 1 No = 0	PennDOT system resiliency data & flooding reports from Districts
3.74%	Does the project support a state of good repair of NHS?	Yes = 1 No = 0	One Map

¹⁰ Can be any public roadway

¹¹ There are studies dating back to 2006

Performance and Operations (12.39%)			
%	Criterion Description	Value	Source
4.90%	Is the project included in the ROP?	Yes = 1 No = 0	MBI
7.49%	Is project located on a corridor that is deemed unreliable? (PM3)	Yes = 1 No = 0	INRIX – MBI
Sustainability and Smart Growth (10.06%)			
%	Criterion Description	Value	Source
1.28%	Economic Development - Is the project located in a Federal Opportunity Zone (“OZones”)?	Yes = 1 No = 0	DCED
2.03%	Land Use – Does the project negatively affect surrounding land uses?	Yes = 1 No = 0	County planners
3.65%	Is the project consistent with the county/regional Comprehensive Plans?	Yes = 1 No = 0	County planners
1.58%	Is it within 5 miles of a major freight generator?	Yes = 1 No = 0	PennDOT Freight Finder
1.53%	Freight Access to interstate interchange? (within 5 miles)	Yes = 1 No = 0	GIS – MBI
Traffic Congestion and Network Classification (9.97%)			
%	Criterion Description	Value	Source
1.81%	Traffic volume - what is the average annual daily traffic (AADT)	> 20K = 1 15K-20K = 0.8 10K-15K = 0.6 5K-10K = 0.4 < 5K = 0.2	RMS
1.34%	Percent Trucks – What is the overall percentage of medium/heavy duty commercial trucks?	> 15% = 1 10 – 14% = 0.75 5 – 9% = 0.5 0 – 4% = 0.25	RMS
1.12%	Is the project on a LFAR or BOF eligible?	Yes = 0.5 No = 0	BMS2

Traffic Congestion and Network Classification (9.97%) - Continued			
%	Criterion Description	Value	Source
1.37%	What is the Business Plan Network?	NHS = 1 Non-NHS, >2,000 ADT = 0.5 Non-NHS, < 2,000 ADT = 0	RMS
1.36%	Is the proposed project on a segment identified as a CRFC ?	Yes = 1 No = 0	RMS
0.70%	Is the proposed project on a Pennsylvania Byway?	Yes = 1 No = 0	RMS
0.68%	Is the proposed project on a BicyclePA route?	Yes = 1 No = 0	RMS
1.59%	Is project on an Interstate emergency detour route?	Yes = 1 No = 0	BOMO
Multimodal Accessibility and Mobility (7.32%)			
%	Criterion Description	Value	Source
2.93%	How many of the following modes are affected by the project? (A.) Bus B.) Bicycle C.) Ped. D.) Rail E.) Air F.) Auto	Three-plus = 1 Two = 0.75 One = 0.5 None = 0	MBI
2.84%	Is the project supported by any plans or studies? DCNR Trail Gaps, Titusville bike/ped study, Rt 6 master plan, county rec plans, US 6 interchange, etc.	Yes = 1 No = 0	MBI; county planners; RPO
1.55%	Recreational Access – Does the project provide access to or provide additional recreational or tourism opportunities?	Yes = 1 No = 0	MBI; county planners; RPO
Project Impact/Benefit (Environmental) (6.85%)			
%	Criterion Description	Value	Source
4.66%	Is the project located within any disadvantaged/EJ population areas? (We will assume ALL projects have a positive impact.)	Yes = 1 No = 0	GIS - MBI
2.19%	Environmental Impacts/number of resources affected? • Value ranges were based off ACM buffer analysis; equal intervals were used (~45 projects had 12 to 18 resources impacted, ~45 projects had 9 to 11 resources impacted, ~45 projects had 2 to 8 resources impacted)	12 to 18 = 1 9 to 11 = 0.5 2 to 8 = 0	PennDOT Connects

Appendix E: Historic Transportation Funding in Northwest Pennsylvania

Federal Funding

MAP-21 differs in three significant ways from its predecessors in that it was preceded by many months of uncertainty, which hampered long range planning efforts. It also did not provide an appreciable increase in funding over SAFETEA-LU. As a \$109 billion bill, MAP-21 maintained funding only at an average annual rate of its predecessor legislation. Most critically, the act was only for a two-year duration, with an expiration date of September 30, 2014. From a financial perspective, MAP-21 has at times been considered as a tenth continuing resolution following SAFETEA-LU.

State Funding

Since July 2007, there have been no fewer than *three* major transportation funding packages that have been passed by the General Assembly, along with several major funding studies that have been conducted by the state's Transportation Advisory Committee, and the governor's Transportation Funding and Advisory Commission.

The same month the RPO adopted its 2007 LRTP, the General Assembly enacted Act 44 of 2007. This act originally generated up to \$750 million annually in new revenue and allowed for toll proceeds to be used for regional and statewide use. In subsequent years however, FHWA denied Pennsylvania's request to toll Interstate 80, which was to be a major element critical to funding the act.

A second, more minor act affecting funding for transportation included that of Act 13 of 2012. Also known as the unconventional gas well fee, the act provides new money on an annual basis from impact fee revenues to the state, counties and municipalities. Act 13 requires owners of wells to pay a fee based on the average price of natural gas during that calendar year. Once these distributions have been made, a portion of the remaining monies deposited into the Marcellus Legacy Fund are allocated to the Highway Bridge Improvement Restricted Account in the state's Motor License Fund. This allocation is in turn distributed to the state's counties to fund the cost of the replacement or repair of locally-owned at-risk bridges. In August 2014, PennDOT allocated \$20.5 million to the state's counties, an increase from the \$17.9 million appropriated a year earlier. (Each county receives a minimum distribution of \$40,000 as long as there are available funds.)

Most significant to Northwest PA's fortunes was the passage of Act 89 of 2013. The General Assembly enacted Act 89, which will bring an additional \$2.3 billion for the state's transportation infrastructure within its first 5 years. Modal allocations include funding for state roads and bridges, public transportation, local roads and bridges, Pennsylvania Turnpike expansion projects, multi-modal projects, and dirt/gravel low-volume roadways. Among other things, the act restructured how gasoline taxes are collected, eliminating the 12-cent state retail gas tax paid at the pump. The act superseded Act 44 and was Pennsylvania's first major transportation funding legislation since Act 3 of 1997.

Another significant feature of the funding act includes the inflation-resistant nature, as certain elements are indexed against inflation. This includes the creation of a Multi-modal Fund, which will provide

investment grants that, beginning in 2015, will grow indexed to inflation. The Multi-modal Fund is being funded through \$30 million of the Act 44 Turnpike obligation being redirected from transit, \$35 million from the Oil Company Franchise Tax revenue, redirected from the Motor License Fund; and a portion of the revenue derived from the 8 “unprotected” fees (\$30 million in first year; \$79 million a year by year 5). One of these revenue streams relates to “unprotected fees,” which previously went to the Motor License Fund but have since been redirected to the new Multi-modal Fund. (The best example of this is for a vehicle title.) Act 89 requires an inflation adjustment for all the unprotected fees every two years based on the Consumer Price Index.

Appendix F: LRTP “Eligible but Unfunded” Project Evaluation Scoring Results

LRTP Candidate Projects were identified through a combination of the following: STC feedback, public survey results, and public listening sessions. Through the interactive mapping exercises, many survey respondents identified transportation issues throughout the region in need of being addressed. The project steering committee vetted all public input received and developed the LRTP’s financially-unconstrained project listing using that feedback.

Northwest Region Project Evaluation Results

Rank	County	Project Name	Description
1	Clarion	Bike/Pedestrian Improvements along PA 68	Bicycle/pedestrian facilities connecting commercial district, hospital, and YMCA to downtown Clarion (MTF grant received for YMCA). Project to include safety and landscape improvements, bike signage and pavement markings, and replacing rumble strips.
2	Venango	Liberty Street Multimodal Improvements	Multimodal improvements along Liberty Street in Franklin
3	Venango	Front St and Second St Intersection Improvements	Front Street and Second Street Intersection Improvements in Oil City
4	Clarion	Bike/Pedestrian Connectivity between Clarion and Trail 66	Improved bicycle/pedestrian facilities connecting downtown Clarion to Trail 66 trailhead, including safety improvements, sidewalks, curbing, ADA accessibility, bike signage and pavement markings, and landscape improvements.
5	Venango	Various Multimodal Improvements for Adult Living Community	Proposed adult living community - need sidewalks and transit in Cranberry
6	Venango	SR 3024 and PA 8 Intersection	Unsafe intersection - multiple fatalities, severe injuries, and near misses in Polk
7	Crawford	North Main Street Safety Improvements	Safety study completed by D-1 with many recommendations that don't require programming on TIP in Meadville. Complete small improvements first, include in TIP for safety improvements.
8	Clarion	PA 208 Pavement Conditions	Poor road condition, minimal shoulders between Shippensburg and Knox
9	Clarion	Main Street and 5th Ave Intersection	Intersection is unsafe for pedestrians in Clarion
10	Venango	13th Street Multimodal Improvements	Multimodal improvements to 13th Street and 13th Street Bridge in Franklin
11	Venango	PA 8 Betterment	Widen roadway and add sidewalks (Rouseville Study with Rt. 8)

Rank	County	Project Name	Description
12	Warren	Safety Study US 62	US 62 between Youngsville and Tidioute is dangerous and many drivers use PA 27 as an alternate route. Currently programmed for slide repairs.
13	Crawford	1996 Safety Study Intersection Improvements	Improvements to the intersection of PA 8 and PA 27 were originally identified as a recommendation in the 1996 study in Titusville.
14	Venango	Liberty Street and PA 8 Intersection Improvements	Pedestrian safety improvements in Franklin
15	Warren	Pennsylvania Avenue and Conewango Avenue Signal	Signal improvements in Warren
16	Venango	Franklin Bicycle Sharrows and Signage Improvements	Sharrows and bicycle signage
17	Warren	PA 957 Widening and Resurfacing	Widening and resurfacing of PA 957 in Columbus
18	Warren	Bicycle Trail from Youngsville to PA 62	Possible bike trail to east side of Irvine
19	Warren	5th Ave and Conewango St Intersection	Intersection safety improvements - additional left turn lanes and safety features in Warren
20	Venango	PA 8 and Front Street Intersection Improvements	PA 8 and Front Street Intersection Improvements in Oil City
21	Venango	Front Street (Oil City) Multimodal Improvements	Multimodal improvements along Front Street corridor
22	Venango	Front St, Wilson Ave, First St Intersection Improvements	Intersection Improvements in Oil City
23	Warren	US 62 and PA 957 Intersection	Unsafe intersection - poor sight distance (high bank) in Russell
24	Clarion	Upgraded Trail 66 Facilities	Trail 66 road crossing safety improvements in Shippensburg and Lucinda (signage, advanced warning signals) - possible TAP application.
25	Forest	US 62 Geometry in Tionesta	Roadway geometry and turning radii cause truck backups
26	Warren	On-road Bicycle Improvements along US 62	Improved bicycle facilities connecting North Warren to the Hike Bike Trail
27	Clarion	US 322 and PA 66 Roundabout	Potential roundabout location in Shippensburg. Traffic can get backed up easily, especially when there is an accident on I-80. 2 manufacturing sites are located south of the intersection and trucks need a wider turning radius.
28	Venango	Add Capacity PA 8 to I-80	Extend 4-lane to I-80 interchange in Barkeyville
29	Clarion	I-80 Interchange (Exit 70) Safety Improvements	Eastbound exit onto I-80 in Corsica has poor visibility and is unsafe (short merge lane mixed with heavy truck traffic). Project to include accel ramp improvements and funded via Interstate Management Program.

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Rank	County	Project Name	Description
30	Venango	8th Street Multimodal Improvements	Riverfront Park Bike Path and 8th Street mid-block crossing in Franklin
31	Clarion	PA 68 to I-80 Improvements	Various roadway/signal improvements to accommodate new traffic from approved developments off of Commerce Road (add turning lanes or new pavement markings, adding stop sign, etc.) in Clarion
32	Crawford	PA 77 and PA 8 Roundabout	Intersection improvement in Centerville
33	Venango	Front Street (Franklin) Multimodal Improvements	Multimodal improvements along Front Street
34	Venango	Pittsburgh Rd and Pone Ln Intersection	Dangerous to make a left turn onto 15th Street in Franklin
35	Venango	9th Street Bicycle Improvements	Sharrows and signs on 9th Street in Franklin
36	Crawford	Titusville Trail Town Master Plan	Implement infrastructure projects from Titusville Trail Town Master Plan
37	Crawford	Mead Ave and French Creek Pkwy Intersection	Possible road diet in Meadville
38	Venango	PA 8 and SR 3013 Intersection	Offset intersection with poor line of sight and geometric issues in Polk
39	Warren	US 6 Bike/Ped Connectivity	Local business at intersection of US6 and Kinzua Rd and could be better connected to Warren via bike/ped improvements along US6
40	Venango	US 322, PA 417 and Meadville Pike Intersection Improvements	Multimodal improvements at US 322, PA 417, and Meadville Pike intersection in Franklin
41	Crawford	Connect Ernst Trail and Bicentennial Park	Connect Ernst Trail in Vernon Twp with Meadville's Bicentennial Park, crossing Poplar Street Bridge.
42	Crawford	French Creek Pkwy Road Diet	District just completed a study on this corridor and may eliminate at least one lane (possible road-diet) in Meadville.
43	Crawford	At-grade Crossing in Cambridge Springs	At-grade crossing is unsafe; recommend application for RRR funding from PennDOT Central Office.
44	Crawford	Erie-to-Pittsburgh East Branch Trail Extension - Spartansburg to Centerville	Erie-to-Pittsburgh East Branch Trail Extension - Spartansburg to Centerville (remove conflict between cars and Amish buggies)
45	Crawford	SR 408 and Main Street Intersection	Intersection improvements in Hydetown
46	Crawford	PA 27 Truck Climbing Lane	Construction of a climbing lane in the vicinity of the Wayland Road intersections in Meadville was originally identified as a recommendation in the 1996 study.
47	Forest	PA 899 and PA 66 Intersection	Needs to be realigned to 90-degree angle in Marienville

Rank	County	Project Name	Description
48	Venango	Elk Street Shared Lanes	Elk Street Extension - Shared Lanes in Franklin
49	Venango	Sandy Creek/Clarion Highlands Trail Crossing Improvements	Sandy Creek Trail/Clarion Highlands Trail Crossing - improved crossing facilities in Cranberry
50	Venango	PA 8 and Dollar General Intersection	In Oil City, Dollar General at this location has caused an increase in accidents
51	Clarion	PA 338 Sight Distance	Difficult to see oncoming traffic when turning onto SR 338 due to elevation in Knox. Project to include bank cutting at Knox Road and narrowing the intersection; possibly HSIP eligible.
52	Warren	Youngsville Revitalization Plan Streetscape Improvements and Bike/Ped	Downtown streetscape & ped facility upgrades (see Youngsville Revitalization Plan - 2008)
53	Warren	SR 4019 Shoulders	Widen shoulders along SR 4019 to accommodate Amish buggy traffic in Sugar Grove
54	Warren	PA 957 Pavement Conditions	Poor pavement conditions, plowing has removed top coat, 7'x2'x4" pothole) in Russell
55	Warren	US 6 and Main Avenue Interchange	Construct missing access ramps on east side of overpass in Warren
56	Crawford	SR 2040 Flooding	Spring Street Extension prone to flooding - option to elevate roadway in Meadville
57	Venango	PA 27 and Lesh Road Intersection Improvements	PA 27 and Lesh Road Intersection Improvements in Cooperstown
58	Warren	SR 4009 Betterment	Narrow roadway in need of resurfacing, lacking shoulders in Sugar Grove. Deep ditching in the road could disable a vehicle.
59	Venango	Erie to Pittsburgh Trail Gap Closure in Oil Creek State Park	Worst trail gap in Venango County - bicycle/pedestrian improvements along SR1007 to improve safety for Erie to Pittsburgh trail users. Also, debris from trees, slides, rocks.
60	Crawford	Clinton Court over Mill Run (ID 20730188074012)	Lacking properly sized riprap along far abutment to prevent additional undermining caused by high velocity flow being directed toward far side; exposed steel on downstream fascia beam; voids around storm sewer pipe penetrations in Meadville
61	Crawford	US 322 and SR 2005 Intersection	Intersection poses significant danger. This is verifiable by the number of accidents, including fatalities, that have occurred at this intersection in Cochranon.
62	Crawford	PA 102 and Pennsylvania Ave Intersection	Pennsylvania Ave and SR 102 offset intersection - sight distance issues in Meadville

Rank	County	Project Name	Description
63	Crawford	PA 77 and SR 1024 Intersection	Widening south side of Canadohta Lake Road for horse and buggy safety in Spartansburg. Site clearance on southern side of Rt 77 on curve heading east.
64	Crawford	Walnut Street and North Cottage over Mill Run (ID 20730188294107)	Spalls and overlay deck need patched with approved material; near abutment and far abutments need underpinned; bearing seats along the near and far abutments need repaired' 9 steel beams need replaced or repaired in Meadville
65	Crawford	PA 27 and PA 173 Intersection	The addition of an eastbound left turn lane at the intersection of PA 173 and PA 27 was originally recommended in the 1996 study.
66	Venango	Central Elementary School Pedestrian Improvements	Pedestrian safety improvements around Central Elementary School in Franklin
67	Crawford	Delano Rd and Perry Hwy Intersection	Visibility poor in Greenwood Township
68	Venango	Rouseville Signal	Is the traffic signal needed at this location anymore? Not much traffic at this location. A stop sign may be better.
69	Warren	US 6 and PA 27 Intersection	Intersection Improvements in Rouseville
70	Venango	SR 1007 Flooding	Beaver dams cause flooding in Oil City
71	Crawford	Sportsman Road County Bridge Replacement (ID 20722208963028)	Complete replacement of bridge in Spartansburg. Priority #3
72	Warren	North Road over Little Brokenstraw Creek (Bridge ID 61-7210-0561-4001)	Bridge replacement in Sugar Grove
73	Crawford	Bicycle/Pedestrian Connectivity in Titusville	Pedestrians and bicyclists need passage over the Oil Creek at South Perry St
74	Warren	PA 59 Truck Climbing Lane	Truck climbing lane in Mead Township
75	Crawford	Erie to Pittsburgh East Branch Trail Extension - Centerville to Hydetown	Erie to Pittsburgh East Branch Trail Extension - Centerville to Hydetown
76	Crawford	Erie-to-Pittsburgh East Branch Trail Extension - Hydetown to Titusville	Erie-to-Pittsburgh East Branch Trail Extension - Hydetown to Titusville (Connect ETP Trail with existing Queen City Trail)
77	Clarion	Armstrong Trail Brady Tunnel Trail Gap	Armstrong Trail Brady Tunnel Trail Gap - DCNR Top 10 Trail Gap in Rimersburg
78	Clarion	Improved on-road bicycle facilities for Clarion Highlands Trail detour	Improved on-road bicycle facilities for Clarion Highlands Trail detour in Kossuth

Rank	County	Project Name	Description
79	Crawford	US 322 and PA 173 Intersection	Intersection configuration - lumber trucks turning left onto 322, tight turning radius, sight distance in Cochranon
80	Crawford	PA 198 Pavement Conditions	There has been an increase in freight traffic on this route. There is a weight restriction south of the fairgrounds that forces truck onto this road segment. Poor pavement conditions in Blooming Valley.
81	Warren	Kidder Road over Little Brokenstraw Creek (Bridge ID 61-7210-0551-4004)	Bridge replacement in Freehold Township
82	Warren	SR 1019 and Quaker Hill Road Intersection	Intersection improvement necessary due to sharp bend on SR 1019 and poor line of sight at intersection in Warren
83	Crawford	Grove Street over Mill Run (ID 20730188124001)	Needs completely replaced. D-1 has inspected the structure and concluded it is beyond its useful lifespan in Meadville.
84	Warren	Depot Road (Bridge ID 61-7216-0378-4009)	Bridge replacement in Irvine
85	Crawford	Waylands Corner Intersection	Intersection improvements in Meadville
86	Crawford	Erie-to-Pittsburgh East Branch Trail Extension - Black Bridge to Spartansburg	Erie-to-Pittsburgh East Branch Trail Extension - Black Bridge to Spartansburg
87	Warren	Baker Hill Road over Brokenstraw Creek (Bridge ID 61-7203-0521-4000)	Bridge replacement in Corry
88	Crawford	Hogback Road Bridge (ID 20721808404000)	As recommended in the 2012 Annual Routine Bridge Inspection Report, this project covers the entire bridge structure replacement in Cambridge Springs.
89	Clarion	Bicycle/Pedestrian Connectivity to ATA Bus Stop	ATA has a bus stop near cottages in this area. Trails could connect the development to the hospital and serve as emergency access in Clarion.
90	Venango	SR 3024 Drainage Issues	Dip in the road with drainage issues in Polk
91	Warren	Eureka Road over West Branch Caldwell Creek (Bridge ID 61-7207-0377-4005)	Bridge replacement in Eldred Township
92	Crawford	PA 408 and SR 1010 Roundabout	Intersection improvement in Townville
93	Crawford	SR 3004 and Victory Blvd Intersection	Greatly improve safety of vehicles entering the PGW plant as well as traffic traveling on Adamsville Rd in Cochranon.
94	Venango	PA 427 Flooding	Flooding during rainfall in Plum Township

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Rank	County	Project Name	Description
95	Warren	Mount Hope Road (Bridge ID 61-7219-0306-4003)	Bridge replacement in Southwest Township
96	Warren	PA 59 Bike/Ped Connectivity to Jakes Rocks	There is community desire to link the newly constructed mountain bike trails (Jakes Rocks) to downtown via PA 59.
97	Clarion	Erie to Pittsburgh Trail Gap Closure Emlenton to Foxburg	High priority trail gap in Erie to Pittsburgh Trail System
98	Crawford	Creek Road County Bridge Replacement (ID 20720607513008)	Complete replacement of bridge in Cooperstown. Priority #1.
99	Venango	Rail Bridge Improvement - Oil City	Bridge has a weight limit - should be upgraded to accommodate movement of freight (on 2015 LRTP and should be carried forward)
100	Crawford	Joiner Road Bridge Replacement Project (ID 20720208834003)	In Springboro, the project involves the complete replacement of the bridge, which was deficient in load-carrying capacity and in generally poor condition with a new two-lane bridge that meets current PennDOT design standards. Min approach roadway work will be required.
101	Crawford	Jerusalem Road County Bridge Replacement (ID 20720408993004)	Complete replacement of bridge in Springboro. Priority #2
102	Crawford	SR 2014 sight distance	Line of sight issues that would be beneficial to resolve in East Fairfield Township.
103	Warren	Gossville Road over West Caldwell Creek (Bridge ID 61-7207-0355-4004)	Bridge replacement in Eldred Township
104	Venango	SR 4003 Drainage Issues	Erosion of roadway, undercut on right hand side, drainage issues in Sugarcreek
105	Venango	SR 3026 Drainage Issues	Drainage issues - road washouts in Frenchcreek Township
106	Warren	Chappel Hill Road over Caldwell Creek (Bridge ID 61-7207-0355-4001)	Bridge replacement in Eldred Township
107	Warren	Western Road over Little Brokenstraw Creek (Bridge ID 61-7210-0547-4005)	Bridge replacement in Pittsfield
108	Venango	State Bridge Replacement SR 2004 over Deer Lick Run	Bridge is weight posted - concerned it won't be replaced, there is no good detour
109	Warren	Werner Park Entrance (US 62)	Intersection Improvements in Russell
110	Crawford	Racop Road Bridge (ID 20722908734002)	Carryover bridge replacement project from 2015 NW LRTP in Cambridge Springs
111	Warren	Valastiak Road over Railroad (Bridge ID 61-7210-0539-8007)	Bridge replacement in Bear Lake

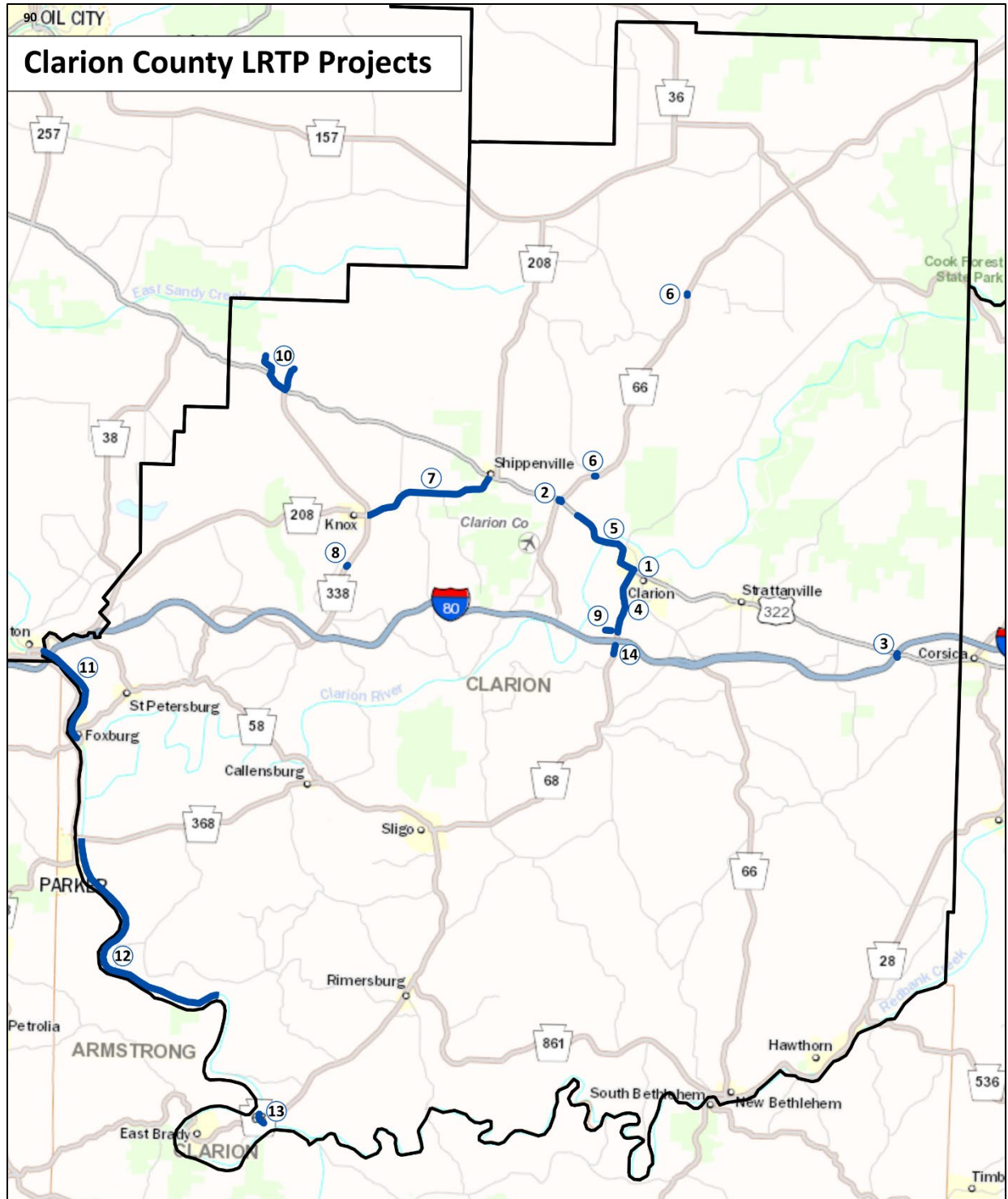
Rank	County	Project Name	Description
112	Warren	Schell Road over Gar Run (Bridge ID 61-7216-0397-4006)	Bridge replacement in Pittsfield Township
113	Venango	PA 27 and Cherrytree Plumline Road Intersection Improvements	PA 27 and Cherrytree Plumline Road Intersection Improvements in Titusville
114	Clarion	Allegheny River Trail - Parker to Upper Hillville	Trail gap in Allegheny River Trail - Parker to Upper Hillville
115	Crawford	West Road over Linesville Creek (ID 20720506054001)	Carryover bridge replacement project from 2015 NW LRTP in Conneaut Township
116	Forest	Guitonville Road Flooding	Flooding issues in Tionesta
117	Warren	Barton Run Road over Little Brokenstraw Creek (Bridge ID 61-7216-0441-4003)	Bridge replacement in Pittsfield
118	Warren	Stoddard Road over Stillwater Creek (Bridge ID 61-7221-0460-4007)	Bridge replacement in Sugar Grove Township
119	Venango	Rail Bridge Improvement - Sugar Creek	Railroad bridge should be upgraded to accommodate heavier trains (on 2015 LRTP and should be carried forward) in Sugarcreek
120	Warren	Old State Road over Kiantone Creek (Bridge ID 61-7209-0589-4003)	Bridge replacement in Farmington Township
121	Warren	Ludwick Road over Kiantone Creek (Bridge ID 61-7209-0508-4002)	Bridge replacement in Farmington Township
122	Venango	PA 417 Multimodal Improvements	Multimodal improvements along PA 417 in Rocky Grove
123	Crawford	Plank Road Bridge Replacement (ID 20720905173011)	This request is for a full bridge replacement. The Sufficiency Rating computed for this structure is 17.4, which is well below the threshold for replacement eligibility. County Priority #4 in Venango Township.
124	Crawford	Hamilton Road over Muddy Creek (ID 20720107433001)	Carryover bridge replacement project from 2015 NW LRTP in Centerville
125	Crawford	East Spring Road Bridge (ID 20722304664002)	Carryover bridge replacement project from 2015 NW LRTP in Spring Township
126	Crawford	Jay Road Bridge (ID 20722704774002)	Carryover bridge replacement project from 2015 NW LRTP in Troy Township
127	Crawford	Rocky Glen Rd Drainage	Restore roadway drainage ditch and berms. Line drainage ditch with the appropriate stone, concrete, culverts, or other method necessary to correct the constant erosion of ditch and berm in West Fallowfield Township.
128	Warren	Marshianne Road (Bridge ID 61-7216-0395-4008)	Bridge replacement

Rank	County	Project Name	Description
129	Crawford	Deeter Hill Road Bridge (ID 20722704254003)	Carryover bridge replacement project from 2015 NW LRTP in Guys Mills
130	Crawford	New Access Road in Vernon Twp	The access road would connect in east-west fashion Baco Road, Moss Road, Port Road and Airport Road for approximately .946 miles on new articulation, running between SR 98 and Cotton Road
131	Warren	Local Bridge Replacement Creek Road over Brokenstraw Creek (Bridge ID 61-3012-0030-0000)	Bridge replacement
132	Warren	Hyde Road over Spring Creek (Bridge ID 61-7219-0306-4003)	Bridge replacement in Spring Creek Township
133	Warren	Creek Road over Brokenstraw Creek (Bridge ID 61-3012-0030-0000)	Bridge replacement
134	Warren	Youngsville Road over Tidioute Creek (Bridge ID 61-7222-0362-4001)	Bridge replacement in Triumph Township
135	Crawford	Stitzerville Bridge (ID 20720703993010)	Bridge is in dire need of repair on approach from both sides in Wayne Township.

Clarion County Project Evaluation Results

Map ID	Ranking Score	Project Name	Description
4	56.8	Bike/Pedestrian Improvements along PA 68	Bicycle/pedestrian facilities connecting commercial district, hospital, and YMCA to downtown Clarion (MTF grant received for YMCA). Project to include safety and landscape improvements, bike signage and pavement markings, and replacing rumble strips.
5	50.2	Bike/Pedestrian Connectivity between Clarion and Trail 66	Improved bicycle/pedestrian facilities connecting downtown Clarion to Trail 66 trailhead, including safety improvements, sidewalks, curbing, ADA accessibility, bike signage and pavement markings, and landscape improvements.
7	47.5	PA 208 Pavement Conditions	Poor road condition, minimal shoulders
1	46.3	Main Street and 5th Ave Intersection	Intersection is unsafe for pedestrians
6	37.2	Upgraded Trail 66 Facilities	Trail 66 road crossing safety improvements (signage, advanced warning signals) - possible TAP application.

Map ID	Ranking Score	Project Name	Description
2	35.9	US 322 and PA 66 Roundabout	Potential roundabout location. Traffic can get backed up easily, especially when there is an accident on I-80. 2 manufacturing sites are located south of the intersection and trucks need a wider turning radius.
3	35.1	I-80 Interchange (Exit 70) Safety Improvements	Eastbound exit onto I-80 has poor visibility and is unsafe (short merge lane mixed with heavy truck traffic). Project to include accel ramp improvements and funded via Interstate Management Program.
14	34.2	PA 68 to I-80 Improvements	Various roadway/signal improvements to accommodate new traffic from approved developments off Commerce Road (add turning lanes or new pavement markings, adding stop sign, etc.)
8	25.0	PA 338 Sight Distance	Difficult to see oncoming traffic when turning onto SR 338 due to elevation. Project to include bank cutting at Knox Road and narrowing the intersection; possibly HSIP eligible.
13	18.9	Armstrong Trail Brady Tunnel Trail Gap	Armstrong Trail Brady Tunnel Trail Gap - DCNR Top 10 Trail Gap
10	18.7	Improved on-road bicycle facilities for Clarion Highlands Trail detour	Improved on-road bicycle facilities for Clarion Highlands Trail detour
9	16.7	Bicycle/Pedestrian Connectivity to ATA Bus Stop	ATA has a bus stop near cottages in this area. Trails could connect the development to the hospital and serve as emergency access.
11	15.1	Erie to Pittsburgh Trail Gap Closure Emlenton to Foxburg	High priority trail gap in Erie to Pittsburgh Trail System
12	13.5	Allegheny River Trail - Parker to Upper Hillville	Trail gap in Allegheny River Trail - Parker to Upper Hillville



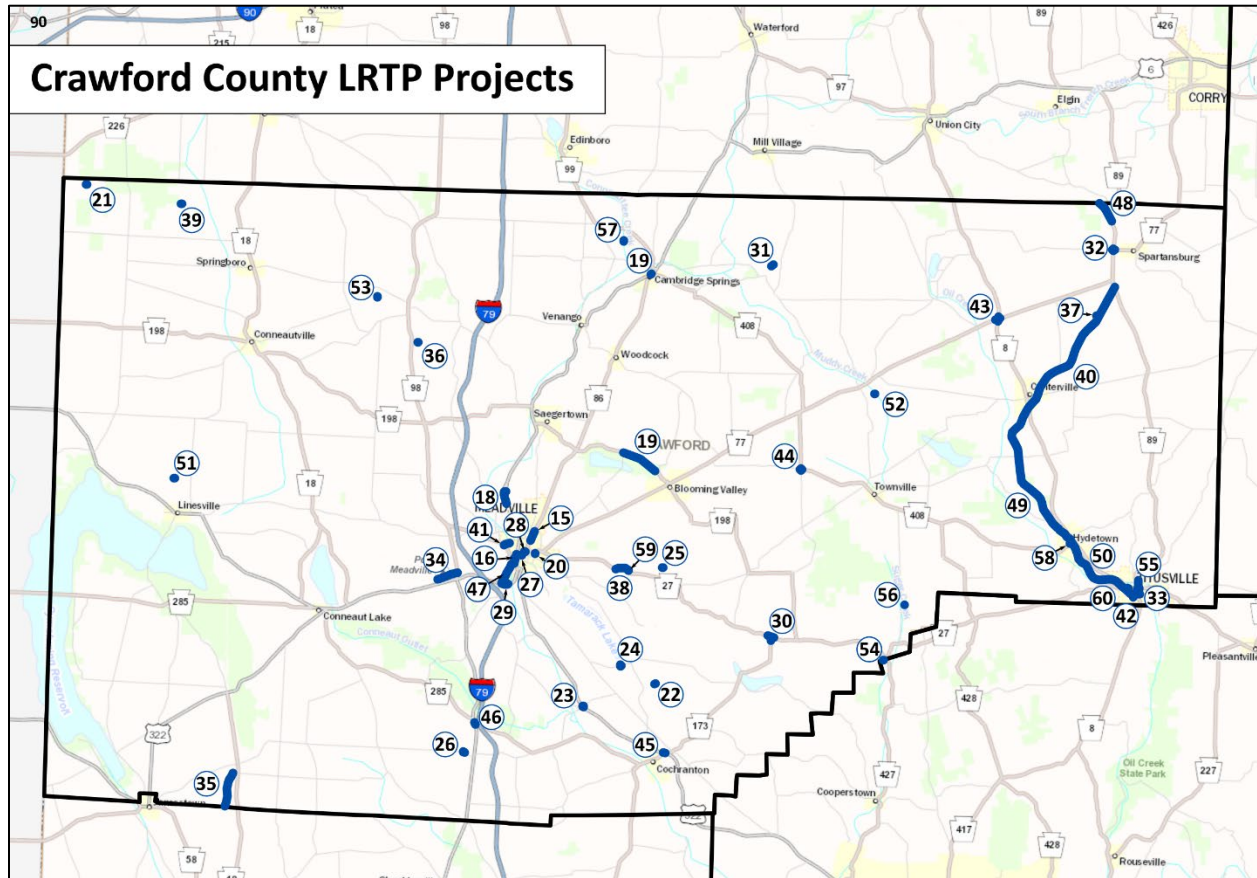
Crawford County Project Evaluation Results

Map ID	Ranking Score	Project Name	Description
15	48.6	North Main Street Safety Improvements	Safety study completed by D-1 with many recommendations that don't require programming on TIP. Complete small improvements first, include in TIP for safety improvements.
33	41.9	1996 Safety Study Intersection Improvements	Improvements to the intersection of PA 8 and PA 27 were originally identified as a recommendation in the 1996 study.
43	34.1	PA 77 and PA 8 Roundabout	Intersection improvement
55	32.9	Titusville Trail Town Master Plan	Implement infrastructure projects from Titusville Trail Town Master Plan
16	30.9	Mead Ave and French Creek Pkwy Intersection	Possible road diet
29	30.0	Connect Ernst Trail and Bicentennial Park	Connect Ernst Trail in Vernon Twp with Meadville's Bicentennial Park, crossing Poplar Street Bridge.
18	26.9	French Creek Pkwy Road Diet	District just completed a study on this corridor and may eliminate at least one lane (possible road-diet).
17	26.7	At-grade Crossing in Cambridge Springs	At-grade crossing is unsafe; recommend application for RRX funding from PennDOT Central Office.
40	26.6	Erie to Pittsburgh East Branch Trail Extension - Spartansburg to Centerville	Erie to Pittsburgh East Branch Trail Extension - Spartansburg to Centerville (remove conflict between cars and Amish buggies)
58	26.5	SR 408 and Main Street Intersection	Intersection improvements
38	26.2	PA 27 Truck Climbing Lane	Construction of a climbing lane in the vicinity of the Wayland Road intersections was originally identified as a recommendation in the 1996 study.
60	25.5	PA 27 and PA 8 Intersection	Intersection improvements
41	24.2	SR 2040 Flooding	Spring Street Extension prone to flooding - option to elevate roadway
27	22.3	Clinton Court over Mill Run (ID 20730188074012)	Lacking properly sized riprap along far abutment to prevent additional undermining caused by high velocity flow being directed toward far side; exposed steel on downstream fascia beam; voids around storm sewer pipe penetrations
23	22.2	US 322 and SR 2005 Intersection	Intersection poses significant danger. This is verifiable by the number of accidents, including fatalities, that have occurred at this intersection.

Map ID	Ranking Score	Project Name	Description
47	21.9	PA 102 and Pennsylvania Ave Intersection	Pennsylvania Ave and SR 102 offset intersection - sight distance issues
32	21.3	PS 77 and SR 1024 Intersection	Widening south side of Canadohta Lake Road for horse and buggy safety. Site clearance on southern side of Rt 77 on curve heading east.
28	21.2	Walnut Street and North Cottage over Mill Run (ID 20730188294107)	Spalls and overlay deck need patched with approved material; near abutment and far abutments need underpinned; bearing seats along the near and far abutments need repaired' 9 steel beams need replaced or repaired
30	21.0	PA 27 and PA 173 Intersection	The addition of an eastbound left turn lane at the intersection of PA 173 and PA 27 was originally recommended in the 1996 study.
46	20.7	Delano Rd and Perry Hwy Intersection	Visibility poor
37	19.7	Sportsman Road County Bridge Replacement (ID 20722208963028)	Complete replacement of bridge. Priority #3
42	19.5	Bicycle/Pedestrian Connectivity in Titusville	Pedestrians and bicyclists need passage over the Oil Creek at South Perry St
49	18.9	Erie to Pittsburgh East Branch Trail Extension - Centerville to Hydetown	Erie to Pittsburgh East Branch Trail Extension - Centerville to Hydetown
50	18.9	Erie to Pittsburgh East Branch Trail Extension - Hydetown to Titusville	Erie to Pittsburgh East Branch Trail Extension - Hydetown to Titusville (Connect ETP Trail with existing Queen City Trail)
45	18.4	US 322 and PA 173 Intersection	Intersection configuration - lumber trucks turning left onto 322, tight turning radius, sight distance
19	18.3	PA 198 Pavement Conditions	There has been an increase in freight traffic on this route. There is a weight restriction south of the fairgrounds that forces truck onto this road segment. Poor pavement conditions.
20	17.9	Grove Street over Mill Run (ID 20730188124001)	Needs completely replaced. D-1 has inspected the structure and concluded it is beyond its useful lifespan.
59	17.2	Waylands Corner Intersection	Intersection improvements
48	17.1	Erie to Pittsburgh East Branch Trail Extension - Black Bridge to Spartansburg	Erie to Pittsburgh East Branch Trail Extension - Black Bridge to Spartansburg
31	17.0	Hogback Road Bridge (ID 20721808404000)	As recommended in the 2012 Annual Routine Bridge Inspection Report, this project covers the entire bridge structure replacement.
44	15.8	PA 408 and SR 1010 Roundabout	Intersection improvement

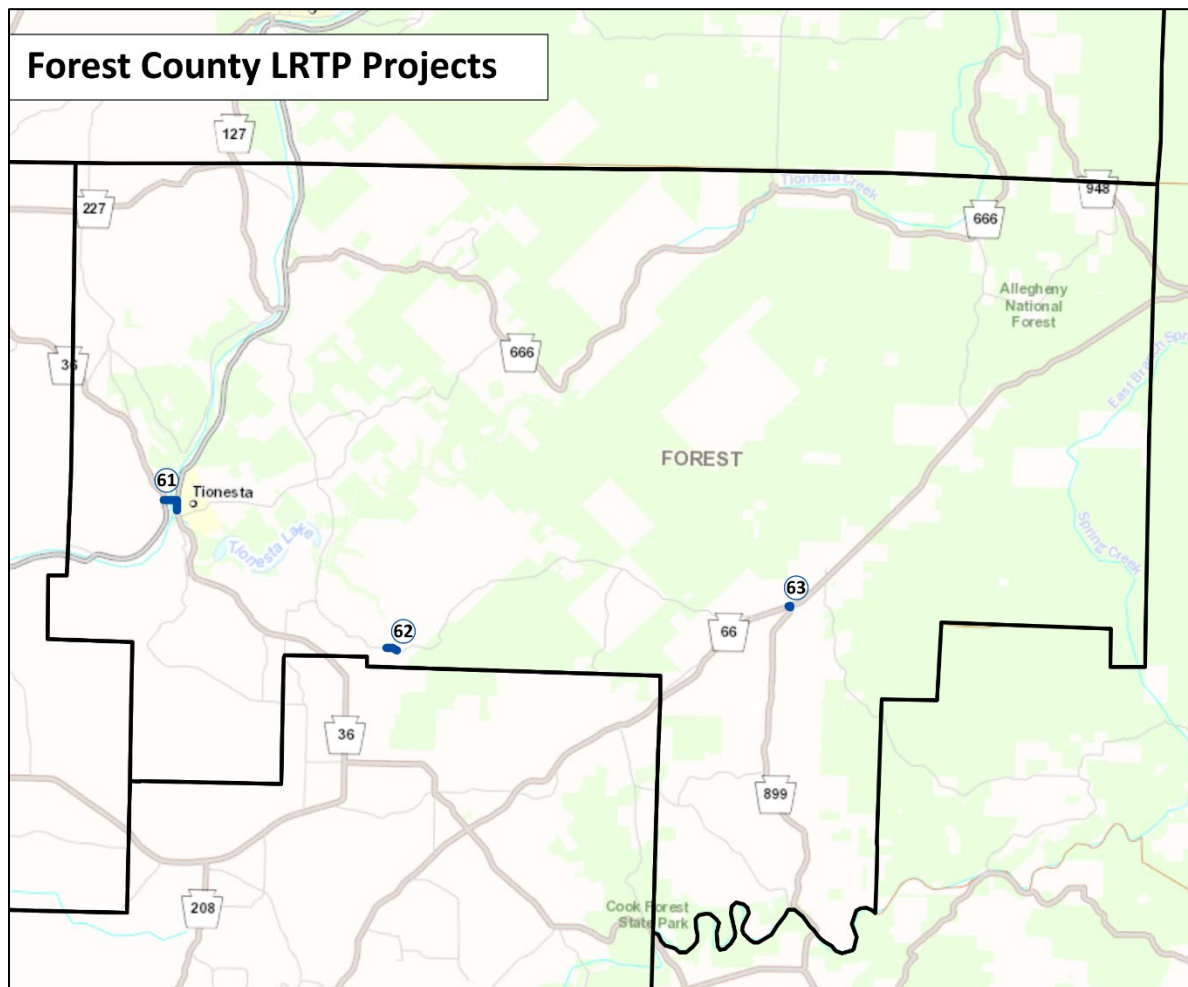
Map ID	Ranking Score	Project Name	Description
26	15.7	SR 3004 and Victory Blvd Intersection	Greatly improve safety of vehicles entering the PGW plant as well as traffic traveling on Adamsville Rd.
36	15.0	Creek Road County Bridge Replacement (ID 20720607513008)	Complete replacement of bridge. Priority #1.
21	14.8	Joiner Road Bridge Replacement Project (ID 20720208834003)	The project involves the complete replacement of the bridge, which was deficient in load-carrying capacity and in generally poor condition with a new two-lane bridge that meets current PennDOT design standards. Min approach roadway work will be required.
39	14.8	Jerusalem Road County Bridge Replacement (ID 20720408993004)	Complete replacement of bridge. Priority #2
24	14.8	SR 2014 sight distance	Line of sight issues that would be beneficial to resolve.
57	13.9	Racop Road Bridge (ID 20722908734002)	Carryover bridge replacement project from 2015 NW LRTP
51	13.3	West Road over Linesville Creek (ID 20720506054001)	Carryover bridge replacement project from 2015 NW LRTP
25	10.3	Plank Road Bridge Replacement (ID 20720905173011)	This request is for a full bridge replacement. The Sufficiency Rating computed for this structure is 17.4, which is well below the threshold for replacement eligibility. County Priority #4.
52	10.2	Hamilton Road over Muddy Creek (ID 20720107433001)	Carryover bridge replacement project from 2015 NW LRTP
53	10.2	East Spring Road Bridge (ID 20722304664002)	Carryover bridge replacement project from 2015 NW LRTP
56	10.2	Jay Road Bridge (ID 20722704774002)	Carryover bridge replacement project from 2015 NW LRTP
35	10.1	Rocky Glen Rd Drainage	Restore roadway drainage ditch and berms. Line drainage ditch with the appropriate stone, concrete, culverts, or other method necessary to correct the constant erosion of ditch and berm.
54	8.6	Deeter Hill Road Bridge (ID 20722704254003)	Carryover bridge replacement project from 2015 NW LRTP
34	8.6	New Access Road in Vernon Twp	The access road would connect in east-west fashion Baco Road, Moss Road, Port Road and Airport Road for approximately .946 miles on new articulation, running between SR 98 and Cotton Road

Map ID	Ranking Score	Project Name	Description
22	6.5	Stitzerville Bridge (ID 20720703993010)	Bridge is in dire need of repair on approach from both sides.



Forest County Project Evaluation Results

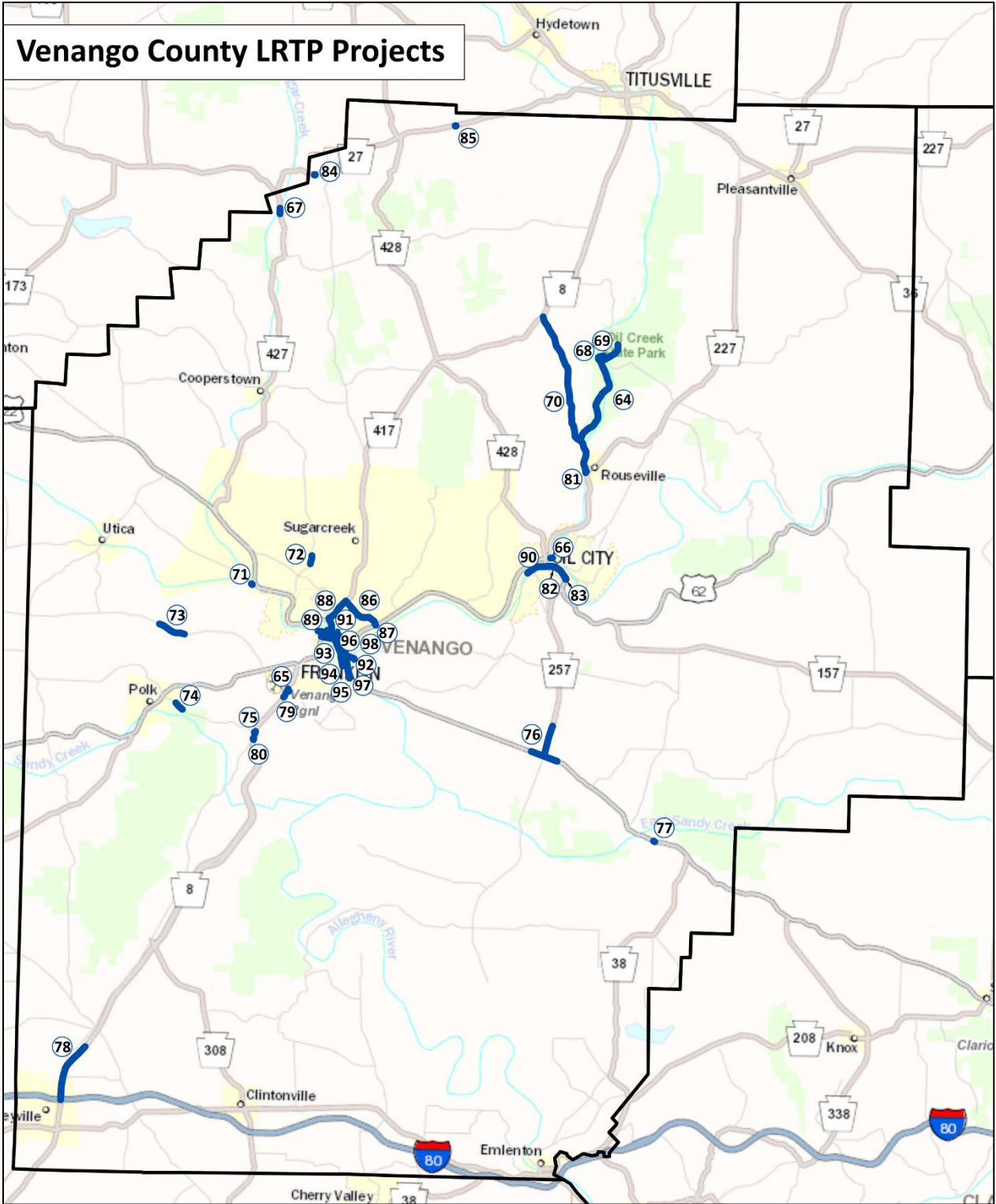
Map ID	Ranking Score	Project Name	Description
61	36.5	US 62 Geometry in Tionesta	Roadway geometry and turning radii cause truck backups
62	26.0	PA 899 and PA 66 Intersection	Needs to be realigned to 90-degree angle
63	13.2	Guitonville Road Flooding	Flooding issues



Venango County Project Evaluation Results

Map ID	Ranking Score	Project Name	Description
95	55.4	Liberty Street Multimodal Improvements	Multimodal improvements along Liberty Street
83	51.0	Front St and Second St Intersection Improvements	Front Street and Second Street Intersection Improvements
76	49.4	Various Multimodal Improvements for Adult Living Community	Proposed adult living community - need sidewalks and transit
75	48.9	SR 3024 and PA 8 Intersection	Unsafe intersection - multiple fatalities, severe injuries, and near misses
96	45.1	13th Street Multimodal Improvements	Multimodal improvements to 13th Street and 13th Street Bridge
70	43.3	PA 8 Betterment	Widen roadway and add sidewalks (Rouseville Study with Rt. 8)
98	41.3	Liberty Street and PA 8 Intersection Improvements	Pedestrian safety improvements
94	40.9	Franklin Bicycle Sharrows and Signage Improvements	Sharrows and bicycle signage
87	39.3	PA 8 and Front Street Intersection Improvements	PA 8 and Front Street Intersection Improvements
90	38.3	Front Street (Oil City) Multimodal Improvements	Multimodal improvements along Front Street corridor
82	37.9	Front St, Wilson Ave, First St Intersection Improvements	Intersection Improvements
78	35.5	Add Capacity PA 8 to I-80	Extend 4-lane to I-80 interchange
92	34.7	8th Street Multimodal Improvements	Riverfront Park Bike Path and 8th Street mid-block crossing
86	33.9	Front Street (Franklin) Multimodal Improvements	Multimodal improvements along Front Street
65	33.0	Pittsburgh Rd and Pone Ln Intersection	Dangerous to make a left turn onto 15th Street
93	32.9	9th Street Bicycle Improvements	Sharrows and signs on 9th Street
80	30.8	PA 8 and SR 3013 Intersection	Offset intersection with poor line of sight and geometric issues
89	30.3	US 322, PA 417 and Meadville Pike Intersection Improvements	Multimodal improvements at US 322, PA 417, and Meadville Pike intersection
97	26.0	Elk Street Shared Lanes	Elk Street Extension - Shared Lanes
77	25.4	Sandy Creek/Clarion Highlands Trail Crossing Improvements	Sandy Creek Trail/Clarion Highlands Trail Crossing - improved crossing facilities

Map ID	Ranking Score	Project Name	Description
79	25.3	PA 8 and Dollar General Intersection	Dollar General at this location has caused an increase in accidents
84	23.8	PA 27 and Lesh Road Intersection Improvements	PA 27 and Lesh Road Intersection Improvements
64	22.7	Erie to Pittsburgh Trail Gap Closure in Oil Creek State Park	Worst trail gap in Venango County - bicycle/pedestrian improvements along SR1007 to improve safety for Erie to Pittsburgh trail users. Also, debris from trees, slides, rocks.
91	20.8	Central Elementary School Pedestrian Improvements	Pedestrian safety improvements around Central Elementary School
81	20.2	Rouseville Signal	Is the traffic signal needed at this location anymore? Not much traffic at this location. A stop sign may be better.
68	19.9	SR 1007 Flooding	Beaver dams cause flooding
74	16.7	SR 3024 Drainage Issues	Dip in the road with drainage issues
67	15.6	PA 427 Flooding	Flooding during rainfall
66	14.9	Rail Bridge Improvement - Oil City	Bridge has a weight limit - should be upgraded to accommodate movement of freight (on 2015 LRTP and should be carried forward)
72	14.5	SR 4003 Drainage Issues	Erosion of roadway, undercut on right hand side, drainage issues
73	14.4	SR 3026 Drainage Issues	Drainage issues - road washouts
69	14.1	State Bridge Replacement SR 2004 over Deer Lick Run	Bridge is weight posted - concerned it won't be replaced, there is no good detour
85	13.7	PA 27 and Cherrytree Plumline Road Intersection Improvements	PA 27 and Cherrytree Plumline Road Intersection Improvements
71	12.5	Rail Bridge Improvement - Sugar Creek	Railroad bridge should be upgraded to accommodate heavier trains (on 2015 LRTP and should be carried forward)
88	10.5	PA 417 Multimodal Improvements	Multimodal improvements along PA 417 in Rocky Grove

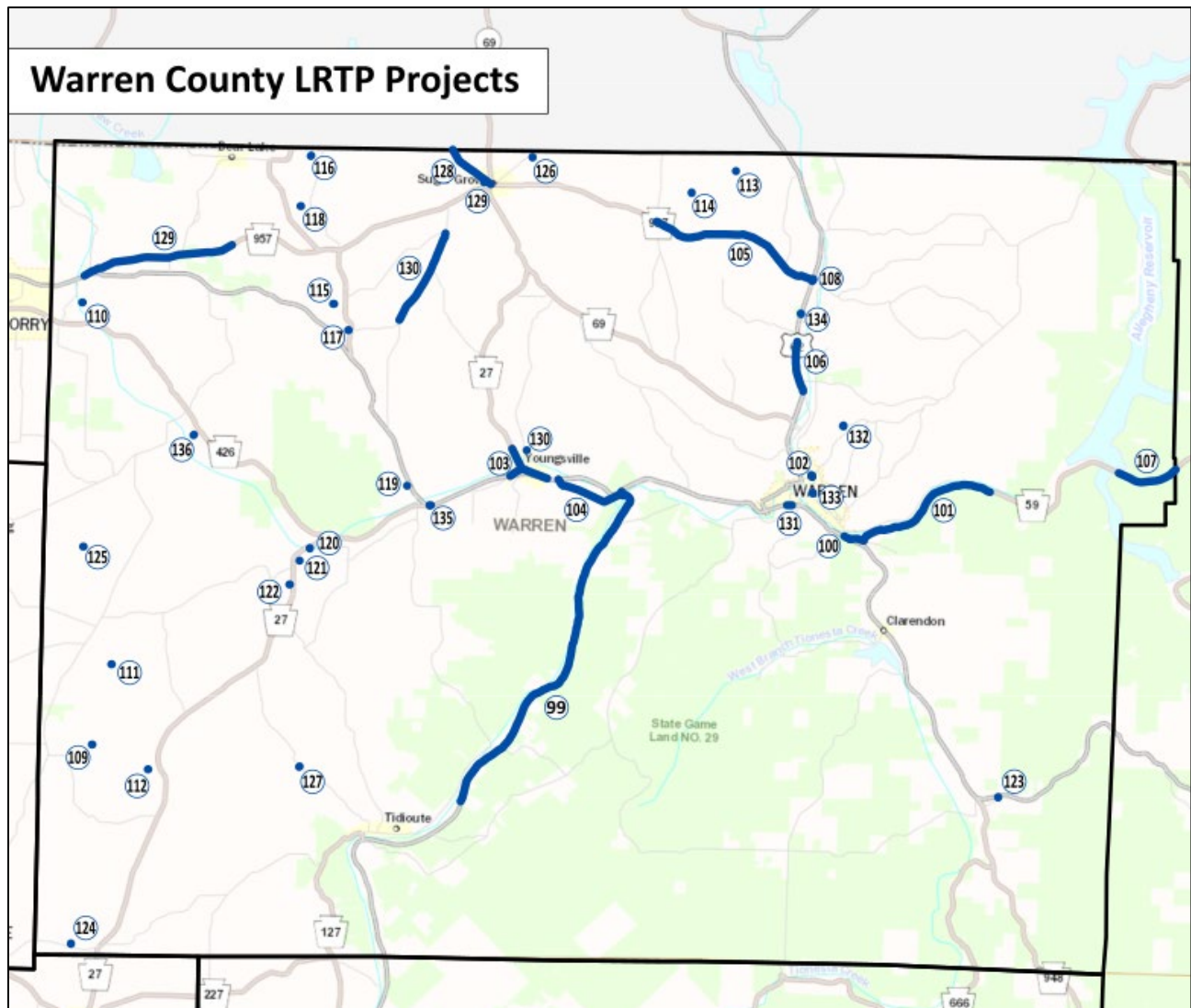


Warren County Project Evaluation Results

Map ID	Ranking Score	Project Name	Description
99	42.3	Safety Study US 62	US 62 is dangerous and many drivers use PA 27 as an alternate route. Currently programmed for slide repairs.
133	41.1	Pennsylvania Avenue and Conewango Avenue Signal	Signal improvements
129	40.7	PA 957 Widening and Resurfacing	Widening and resurfacing of PA 957
104	40.1	Bicycle Trail from Youngsville to PA 62	Possible bike trail to east side of Irvine
102	39.5	5th Ave and Conewango St Intersection	Intersection safety improvements - additional left turn lanes and safety features
108	37.3	US 62 and PA 957 Intersection	Unsafe intersection - poor sight distance (high bank)
106	36.5	On-road Bicycle Improvements along US 62	Improved bicycle facilities connecting North Warren to the Hike Bike Trail
100	30.5	US 6 Bike/Ped Connectivity	Local business at intersection of US6 and Kinzua Rd and could be better connected to Warren via bike/ped improvements along US6
103	24.7	Youngsville Revitalization Plan Streetscape Improvements and Bike/Ped	Downtown streetscape & ped facility upgrades (see Youngsville Revitalization Plan - 2008)
128	24.6	SR 4019 Shoulders	Widen shoulders along SR 4019 to accommodate Amish buggy traffic
105	24.5	PA 957 Pavement Conditions	Poor pavement conditions, plowing has removed top coat, 7'x2'x4" pothole)
131	24.2	US 6 and Main Avenue Interchange	Construct missing access ramps on east side of overpass
130	23.4	SR 4009 Betterment	Narrow roadway in need of resurfacing, lacking shoulders; Deep ditching in the road could disable a vehicle
135	20.1	US 6 and PA 27 Intersection	Intersection Improvements
116	19.7	North Road over Little Brokenstraw Creek (Bridge ID 61-7210-0561-4001)	Bridge replacement
107	19.4	PA 59 Truck Climbing Lane	Truck climbing lane
115	18.1	Kidder Road over Little Brokenstraw Creek (Bridge ID 61-7210-0551-4004)	Bridge replacement
132	18.0	SR 1019 and Quaker Hill Road Intersection	Intersection improvement necessary due to sharp bend on SR 1019 and poor line of sight at intersection

Map ID	Ranking Score	Project Name	Description
120	17.7	Depot Road (Bridge ID 61-7216-0378-4009)	Bridge replacement
110	17.0	Baker Hill Road over Brokenstraw Creek (Bridge ID 61-7203-0521-4000)	Bridge replacement
111	15.9	Eureka Road over West Branch Caldwell Creek (Bridge ID 61-7207-0377-4005)	Bridge replacement
123	15.5	Mount Hope Road (Bridge ID 61-7219-0306-4003)	Bridge replacement
101	15.3	PA 59 Bike/Ped Connectivity to Jakes Rocks	There is community desire to link the newly constructed mountain bike trails (Jakes Rocks) to downtown via PA 59.
109	14.8	Gossville Road over West Caldwell Creek (Bridge ID 61-7207-0355-4004)	Bridge replacement
112	14.4	Chappel Hill Road over Caldwell Creek (Bridge ID 61-7207-0355-4001)	Bridge replacement
117	14.4	Western Road over Little Brokenstraw Creek (Bridge ID 61-7210-0547-4005)	Bridge replacement
134	14.0	Werner Park Entrance (US 62)	Intersection Improvements
118	13.9	Valastiak Road over Railroad (Bridge ID 61-7210-0539-8007)	Bridge replacement
122	13.9	Schell Road over Gar Run (Bridge ID 61-7216-0397-4006)	Bridge replacement
119	13.0	Barton Run Road over Little Brokenstraw Creek (Bridge ID 61-7216-0441-4003)	Bridge replacement
125	12.8	Stoddard Road over Stillwater Creek (Bridge ID 61-7221-0460-4007)	Bridge replacement
113	11.3	Old State Road over Kiantone Creek (Bridge ID 61-7209-0589-4003)	Bridge replacement
114	11.3	Ludwick Road over Kiantone Creek (Bridge ID 61-7209-0508-4002)	Bridge replacement
121	9.3	Marshianne Road (Bridge ID 61-7216-0395-4008)	Bridge replacement

Map ID	Ranking Score	Project Name	Description
136	8.5	Local Bridge Replacement Creek Road over Brokenstraw Creek (Bridge ID 61-3012- 0030-0000)	Bridge replacement
124	8.2	Hyde Road over Spring Creek (Bridge ID 61-7219-0306- 4003)	Bridge replacement
127	7.0	Creek Road over Brokenstraw Creek (Bridge ID 61-3012- 0030-0000)	Bridge replacement
126	6.6	Youngsville Road over Tidioute Creek (Bridge ID 61-7222- 0362-4001)	Bridge replacement



Appendix G: Fiscally Constrained Project Listing

The Northwest LRTP uses the 2021 TYP as its fiscally-constrained project listing, and includes regional line items to address spending needs beyond Year 12. These line items include forecasted budgets for Betterments, Slide Repairs, Local Bridges, and Local Federal-aid Routes. Projects not included in the TYP are considered beyond fiscal constraint, and should be considered as illustrative, or “eligible but unfunded projects.” As the RPO and PennDOT work to develop future TIPs and TYPs, they will consider projects from this listing.

This appendix also includes projects remaining from the 2019 Program as of April 8, 2020. The Program is outside of fiscal constraint from the original 2019 Financial Guidance documentation with the addition of de-obligations to the program. They are included here for reference.

S.R.	Section	Project	Project Title	Phase	Area	FFY 2020* Total	FFY 2021-24 TIP Total	FFY 2035-32 Mid-Range Total	FFY 2033-45 Long Range Total
			Betterments						413,564,229
			Slide Repairs						6,000,000
			Local Federal Aid Routes						6,000,000
			Local Bridges						38,698,271
			Regional Line Item Totals						464,262,500
Clarion County									
		70209	Clarion Hwy/Bridge Line	C	HRST	14,283			
		70209	Clarion Hwy/Bridge Line	C	HRST	507,784			
28		111828	Clarion Co. Department Force Bridge Maintenance	C	BRDG	611,100			
58	358	103249	Turnip Hole Bridge #3	C	BRDG	12,239			
58	359	83218	Hodil Run Bridge	C	BRDG	492,000			
66	302	106569	Arthurs PM	P	HRST	4,800			
66	302	106569	Arthurs PM	U	HRST	105,000			
66	302	106569	Arthurs PM	R	HRST	30,847			
66	302	106569	Arthurs PM	C	HRST	2,546,000			
66	310	112946	SR 66 PM Phase 2	R	HRST	15,000			
68	360	75962	Reidsburg Bridge Curve	C	BRDG	177,297			
68	361	109635	Craggs Run Bridge #3	U	BRDG	125,600			
68	361	109635	Craggs Run Bridge #3	C	BRDG	564,000			
68	375	24890	PA 68/Dolby Street Intersection	R	SAMI	23,034			
68	375	24890	PA 68/Dolby Street Intersection	C	SAMI	1,066,049			
68	375	24890	PA 68/Dolby Street Intersection	C	SAMI	1,771,697			
68	376	106502	PA 68 Dolby Street to Trout Run	+P	HRST	511,579			
861	350	74288	South Leatherwood Bridge	+C	BRDG	846,407			
2003	353	106520	Jack Run Bridge	C	BRDG	75,124			
2003	353	106520	Jack Run Bridge	C	BRDG	534,332			
2007	350	25005	Curlsville Bridge #2	C	BRDG	985,776			
3006	350	95845	SR 3006 Catfish Run Br	+C	BRDG	509,858			
3020	351	92664	Kahle Bridge	+C	BRDG	144,324			
		70209	Clarion Hwy/Bridge Line	C	HRST		723,264		
28	0	111828	Clarion Co. Department Force Bridge Maintenance	C	BRDG		431,000		
36	0	91309	PA 36 Resurfacing	+C	HRST			1,823,666	
36	0	100156	PA 36 Frills Corner North	C	HRST			2,566,902	
58	0	99837	PA 58: AlumRock to Callensburg	C	HRST			1,639,433	
58	0	99839	PA 58: Callensburg to Sligo	C	HRST			1,550,000	
58	0	100140	PA 58 St. Petersburg West	C	HRST			2,710,395	
58	0	100147	PA58 SligoEastResurfacing	C	HRST			2,342,448	
58	359	83218	Hodil Run Bridge	C	BRDG		506,800		
66	0	99461	Greenville Pike Bridge #2	P	BRDG			400,000	
66	0	99461	Greenville Pike Bridge #2	F	BRDG			350,000	
66	0	99461	Greenville Pike Bridge #2	U	BRDG			50,000	
66	0	99461	Greenville Pike Bridge #2	R	BRDG			50,000	
66	0	99461	Greenville Pike Bridge #2	C	BRDG			2,000,758	

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66	302	106569	Arthurs PM	C	HRST	3,789,000	
66	311	100175	PA66-Snydersburg North	C	HRST	2,711,943	
68	0	25172	Reidsburg Bridge #1	F	BRDG		250,000
68	0	25172	Reidsburg Bridge #1	R	BRDG		50,000
68	0	25172	Reidsburg Bridge #1	C	BRDG		1,012,650
68	0	99515	PA 68/2007 Safety Improvements	C	SAMI		3,842,750
68	0	106627	PA 68 Trout Run to Boundary Street	P	HRST		400,000
68	0	106627	PA 68 Trout Run to Boundary Street	F	HRST		400,000
68	0	106627	PA 68 Trout Run to Boundary Street	U	HRST		174,521
68	0	106627	PA 68 Trout Run to Boundary Street	R	HRST		1,400,000
68	0	106627	PA 68 Trout Run to Boundary Street	C	HRST		2,872,125
68	361	109635	Craggs Run Bridge #3	C	BRDG	710,300	
68	362	25170	Little Licking Creek Bridge #1	P	BRDG		461,269
68	362	25170	Little Licking Creek Bridge #1	F	BRDG		468,865
68	362	25170	Little Licking Creek Bridge #1	U	BRDG		50,000
68	362	25170	Little Licking Creek Bridge #1	R	BRDG		50,700
68	362	25170	Little Licking Creek Bridge #1	C	BRDG		1,228,072
68	376	106502	PA 68 Dolby Street to Trout Run	+F	HRST	916,498	
68	376	106502	PA 68 Dolby Street to Trout Run	U	HRST	1,026,900	
68	376	106502	PA 68 Dolby Street to Trout Run	R	HRST	338,419	
68	376	106502	PA 68 Dolby Street to Trout Run	+C	HRST	2,149,972	3,016,589
68	376	106502	PA 68 Dolby Street to Trout Run	+C	HRST	270,735	1,168,839
322	0	99659	US 322 Clarion Resurface	C	HRST		2,189,261
322	352	99710	Elmo Bridge	C	BRDG	1,338,100	
322	353	110093	US 322 Paint Creek Bridge	F	BRDG	232,387	
322	353	110093	US 322 Paint Creek Bridge	+U	BRDG	24,700	
322	353	110093	US 322 Paint Creek Bridge	+R	BRDG	37,000	
322	353	110093	US 322 Paint Creek Bridge	+C	BRDG	590,505	
322	353	110093	US 322 Paint Creek Bridge	+C	HRST	229,095	
338	0	91307	Knox Resurfacing	C	HRST		1,790,335
338	0	99588	Knox North PM	+C	HRST		1,823,108
338	302	114510	SR 338 Alum Rock East	C	HRST	2,736,536	
861	0	99597	New Bethlehem West PM	C	HRST		1,790,433
861	302	99596	Leatherwood East PM	C	HRST	4,604,332	
861	350	74288	South Leatherwood Bridge	+C	BRDG	637,793	
1007	0	98386	Greenville Pike Culvert	+C	BRDG		2,648,051
1009	0	99840	SR 1009 Stoney Lonesome	C	HRST		2,069,085
2007	0	99462	Piney Bridge #3	P	BRDG		400,000
2007	0	99462	Piney Bridge #3	F	BRDG		341,922
2007	0	99462	Piney Bridge #3	U	BRDG		50,000
2007	0	99462	Piney Bridge #3	R	BRDG		50,000
2007	0	99462	Piney Bridge #3	C	BRDG		4,127,465
2009	0	114395	Cherry Run Camp Bridge #1	+P	BRDG		300,057
2009	0	114395	Cherry Run Camp Bridge #1	+F	BRDG		300,057
2009	0	114395	Cherry Run Camp Bridge #1	+U	BRDG		50,000
2009	0	114395	Cherry Run Camp Bridge #1	+R	BRDG		50,000
2009	0	114395	Cherry Run Camp Bridge #1	+C	BRDG		1,500,228
2009	0	114396	Cherry Run Camp Bridge #2	+P	BRDG		340,567
2009	0	114396	Cherry Run Camp Bridge #2	+F	BRDG		314,196

2009	0	114396	Cherry Run Camp Bridge #2	+C	BRDG		1,364,175
2009	351	110092	SR 2009 Rimersburg Bridge	P	BRDG	451,900	
2009	351	110092	SR 2009 Rimersburg Bridge	F	BRDG	327,900	
2009	351	110092	SR 2009 Rimersburg Bridge	U	BRDG	12,700	
2009	351	110092	SR 2009 Rimersburg Bridge	R	BRDG	25,400	
2009	351	110092	SR 2009 Rimersburg Bridge	C	BRDG	1,148,830	300,000
2012	350	114077	SR 2012 McGuire Road Bridge Rehab	+C	BRDG	772,500	
2019	0	99838	SR 2019 Oak Ridge Road	C	HRST		1,803,661
4004	350	83250	Lickingville Bridge #2	+U	BRDG	80,324	
4004	350	83250	Lickingville Bridge #2	+R	BRDG	104,124	
4004	350	83250	Lickingville Bridge #2	+C	BRDG	1,309,526	
4004	351	83251	Tylersburg Bridge #2	+U	BRDG	75,024	
4004	351	83251	Tylersburg Bridge #2	+R	BRDG	87,324	
4004	351	83251	Tylersburg Bridge #2	C	BRDG	786,613	
7201	0	103405	T-865 Coffman Road Bridge	+C	BRDG		1,018,824
Totals for: Clarion						11,674,130	29,187,444
							56,951,407
Crawford County							
L00	281		South Perry St. Bridge	P	BRDG	100,000	
L00	281		South Perry St. Bridge	F	BRDG	100,000	
L00	281		South Perry St. Bridge	R	BRDG	5,000	
L00	323		Wightman Rd (T-620) Br	P	BRDG	50,000	
L00	534		Spring Road ovr Carr Run Trib	C	BRDG	130,000	
L00	110948		City of Meadville Local Fed Aid Routes	C	HRST	998,539	
T14	108096		Porter St Ped Bridge	C	TENH	219,940	
T15	111430		Pymatuning State Park Spillway Trail Ext	P	TENH	226,457	
T15	111430		Pymatuning State Park Spillway Trail Ext	C	TENH	958,461	
6	B12	57945	US 6 French Ck Br #3	P	BRDG	61,133	
6	B13	573	US 6 French Creek Br #1	F	BRDG	200,000	
6	B13	573	US 6 French Creek Br #1	R	BRDG	100,000	
6	S01	106367	Big "I" Roundabout	C	HRST	495,718	
6	S01	106367	Big "I" Roundabout	C	HRST	383,138	
18	B09	479	PA 18 over Cemetery Run	U	BRDG	25,000	
18	B09	479	PA 18 over Cemetery Run	R	BRDG	15,000	
18	DF1	93590	PA 18 ov Conneaut Ck Trib	R	BRDG	15,000	
18	08M	98720	PA 18: Summerhill to Springboro Rd	P	HRST	150,000	
27	15M	98901	PA 27: North St. & 27 to Townline Road	P	HRST	65,000	
27	15M	98901	PA 27: North St. & 27 to Townline Road	C	HRST	3,100,000	
27	21M	109112	PA 27: PA 173 to Venango Cty Line	F	HRST		
27	21M	109112	PA 27: PA 173 to Venango Cty Line	+C	HRST	1,112,229	
198	B05	88444	PA 198 over Woodcock Ck	C	BRDG	1,345,577	
198	B15	114405	PA 198 Bridge over Conneaut Creek	P	BRDG	25,000	
408	B08	93591	PA 408/Sugar Ck E. Branch	U	BRDG	25,000	
408	B08	93591	PA 408/Sugar Ck E. Branch	R	BRDG	10,000	
408	B08	93591	PA 408/Sugar Ck E. Branch	C	BRDG	150,000	
408	B10	97051	PA 408 Thompson Street	F	BRDG	43,000	
618	B00	89106	PA 618 Bridge/Conneaut Lake Trib	C	BRDG	200,000	
1003	B00	93169	SR 1003/Woodcock Ck Trib	C	BRDG	1,081,572	
1006	DF1	97064	SR 1006 Bridge/Coulter Run	P	BRDG	75,000	
1016	R14	106283	Cambridge Springs RR Corridor	+C	SAMI	450,000	

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1037	DF1	97086	SR 1037 Brdg/Lil Fed Run	C	BRDG	350,000	
2005	B00	74698	SR 2005 over Conneaut Ck.	F	BRDG	100,000	
2005	B00	74698	SR 2005 over Conneaut Ck.	R	BRDG	10,000	
2031	B00	78854	SR 2031 over Thompson Run	C	BRDG	800,000	
2034	B02	413	SR 2034: Spring Street Viaduct	F	BRDG	150,000	
2034	B02	413	SR 2034: Spring Street Viaduct	R	BRDG	100,000	
2034	01M	98950	Crawford Co. SR 2034 & SR 2040	C	HRST	106,112	
2039	B00	516	SR 2039: Dunham Rd Br	R	BRDG	50,000	
4008	B03	78857	SR 4008 over Conneaut Ck	C	BRDG	306,905	
4008	DF1	74579	SR 4008/Conneaut Ck E. Brch	P	BRDG	75,000	
4009	B01	90152	SR 4009 over Hubert Run	R	BRDG	20,000	
	L00	281	South Perry St. Bridge	C	BRDG		1,525,228
	L00	323	Wightman Rd (T-620) Br	P	BRDG		50,000
	L00	323	Wightman Rd (T-620) Br	F	BRDG		210,000
	L00	323	Wightman Rd (T-620) Br	U	BRDG		5,000
	L00	323	Wightman Rd (T-620) Br	R	BRDG		25,000
	L00	328	Dotyville Rd (T-926) Br	F	BRDG		175,000
	L00	328	Dotyville Rd (T-926) Br	U	BRDG		5,000
	L00	328	Dotyville Rd (T-926) Br	R	BRDG		25,000
	L00	534	Spring Road ovr Carr Run Trib	C	BRDG		600,000
	R01	111140	Mead Ave RR Crossing	+C	SAMI		250,000
	R13	106162	Mt Pleasant Rd RR Crossing	+C	SAMI		318,500
6	A06	85776	US 6: Reynolds St - Baldwin St Ext	C	HRST		7,000,000
6	B08	78836	US 6 over West NY & PA RR	P	BRDG		80,000
6	B08	78836	US 6 over West NY & PA RR	R	BRDG		50,000
6	B08	78836	US 6 over West NY & PA RR	C	BRDG		650,000
6	B10	82113	Cussewago St/French Creek	P	BRDG	100,000	100,000
6	B10	82113	Cussewago St/French Creek	F	BRDG		200,000
6	B10	82113	Cussewago St/French Creek	R	BRDG		100,000
6	B10	82113	Cussewago St/French Creek	C	BRDG		5,000,000
6	B12	57945	US 6 French Ck Br #3	+F	BRDG	200,000	
6	B12	57945	US 6 French Ck Br #3	+R	BRDG	100,000	
6	B12	57945	US 6 French Ck Br #3	C	BRDG	3,900,000	
6	B13	573	US 6 French Creek Br #1	C	BRDG	4,000,000	
6	B15	89125	US 6 Bridge ov Fr Ck Trib	C	BRDG		760,000
6	B21	97088	SR 6 Br/Sheng River Trib	C	BRDG		300,000
6	01M	110842	US 6: Conneaut Lake to Murray Road	P	HCON	100,000	
6	01M	110842	US 6: Conneaut Lake to Murray Road	C	HCON	5,678,436	7,023,564
6	20M	98690	US 6: 9th St - Cnnt Boro	C	HRST		1,150,000
6	24M	98960	SR 6 Baldwin St-2 Ln SR 6	C	HRST		800,000
8	B03	514	PA 8 Bridge over Thompson Ck	P	BRDG	100,000	
8	B03	514	PA 8 Bridge over Thompson Ck	R	BRDG		50,000

8	B03	514	PA 8 Bridge over Thompson Ck	C	BRDG	
						650,000
8	S01	109996	PA 8 and PA 77 Intersection	+C	SAMI	1,000,000
8	S01	109996	PA 8 and PA 77 Intersection	+C	HRST	1,032,561
18	B09	479	PA 18 over Cemetery Run	+C	BRDG	169,696
18	B10	97107	PA 18 Brdg/Conneaut Ck Trib	P	BRDG	50,000
18	B10	97107	PA 18 Brdg/Conneaut Ck Trib	F	BRDG	20,000
18	B10	97107	PA 18 Brdg/Conneaut Ck Trib	R	BRDG	10,000
18	B10	97107	PA 18 Brdg/Conneaut Ck Trib	C	BRDG	400,000
18	DF1	93590	PA 18 ov Conneaut Ck Trib	C	BRDG	160,000
18	08M	98720	PA 18: Summerhill to Springboro Rd	C	HRST	1,500,000
18	09M	98746	PA 18: SR 3016-Cnntville	C	HRST	200,000
18	10M	98897	PA 18: Cntvile-Springboro	C	HRST	1,300,000
19	04M	109138	US 19: Mercer Co Line - PA 285	C	HRST	2,630,000
27	B08	97054	SR 27 Brdg/Church Run	C	BRDG	150,000
27	B09	97057	SR 27 Brdg over Mill Run	C	BRDG	150,000
27	B10	97101	SR 27 Br #1/Lil Sugar Ck	C	BRDG	150,000
27	S01	98307	PA 27: Wayland's Curve	C	HRST	3,750,000
27	11M	97874	PA 27: Venango Co Line - Oil Ck Bridge	P	HRST	100,000
27	11M	97874	PA 27: Venango Co Line - Oil Ck Bridge	C	HRST	2,800,000
27	12M	97879	SR 27: N. Street/State St	C	HRST	400,680
27	18M	99657	SR 27: Washington Street	C	HRST	800,000
27	19M	99658	SR 27: Mdvile-Townline	C	HRST	490,000
77	B03	78841	PA 77 over Trib Muddy Ck	+F	BRDG	80,000
77	B03	78841	PA 77 over Trib Muddy Ck	R	BRDG	50,000
77	B03	78841	PA 77 over Trib Muddy Ck	C	BRDG	650,000
77	14M	98918	PA 77/SR 408 intersection	C	HRST	200,000
77	16M	99654	SR 77: SR 408 - seg. 300	C	HRST	116,000
79	TS1	114784	I-79 Northern Crawford County ITS Addition - TSMO	P	SAMI	10,000
79	TS1	114784	I-79 Northern Crawford County ITS Addition - TSMO	F	SAMI	5,000
79	TS1	114784	I-79 Northern Crawford County ITS Addition - TSMO	U	HRST	20,000
79	TS1	114784	I-79 Northern Crawford County ITS Addition - TSMO	C	SAMI	55,000
79	TS1	114784	I-79 Northern Crawford County ITS Addition - TSMO	C	SAMI	175,000
79	TS1	114784	I-79 Northern Crawford County ITS Addition - TSMO	C	HRST	85,000
89	B02	74659	SR 89 over Church Run	C	BRDG	150,000
89	B04	97058	SR 89 Brdg/Church Run #4	C	BRDG	150,000
89	B05	97059	SR 89 Brdg/Church Run #3	C	BRDG	150,000
89	07M	97880	SR 89: Cntrl Ave-Titsvill	C	HRST	1,000,000
98	B01	576	PA 98 Bridge/Van Horne Run	F	BRDG	140,000
98	B01	576	PA 98 Bridge/Van Horne Run	R	BRDG	10,000
98	B01	576	PA 98 Bridge/Van Horne Run	+C	BRDG	940,000

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98	B02	97090	PA 98 Bridge/Cuswgo Ck Trib	C	BRDG		600,000
102	01M	114035	PA 102: US 6 to PA 98	P	HRST	100,000	
102	01M	114035	PA 102: US 6 to PA 98	C	HRST	4,625,971	2,222,029
198	B15	114405	PA 198 Bridge over Conneaut Creek	C	BRDG	500,000	
198	04M	98976	PA 198: SR 4007 - PA 98	C	HRST		1,550,000
285	B07	97060	PA 285 Bridge/Turkey Run	C	BRDG		350,000
322	B02	97115	US 322 Bridge/Cnnt Ck Trib	C	BRDG		175,000
322	14M	99603	US 322: Pine Rd to US 6	C	HRST		1,900,000
322	15M	99640	US 322: West Mead-Cochran	C	HRST		1,100,000
408	B10	97051	PA 408 Thompson Street	C	BRDG	1,000,000	
408	06M	98593	PA 408:Guys Mills Rd-Troy	C	HRST		200,000
408	10M	99637	PA 408: Shriner Rd - Hydtwn	C	HRST		2,000,000
699	B01	97061	SR 699 Brdg/Tory Run #3	C	BRDG		150,000
699	B02	97062	SR 699/Torry Run Branch	C	BRDG		450,000
699	01M	98839	SR 699: US 6 - Forest St	C	HRST		200,000
1001	B03	97063	SR 1001 Bridge over Mill Run	+F	BRDG	10,000	
1001	B03	97063	SR 1001 Bridge over Mill Run	+C	BRDG	240,000	
1003	B00	93169	SR 1003/Woodcock Ck Trib	C	BRDG	140,000	
1006	DF1	97064	SR 1006 Bridge/Coulter Run	R	BRDG	15,000	
1006	DF1	97064	SR 1006 Bridge/Coulter Run	C	BRDG	150,000	
1011	B00	97091	SR 1011 Brdg/Oil Creek	C	BRDG		400,000
1015	B00	57971	SR 1015: Hotch Kiss Run	C	BRDG		150,000
1018	B03	97092	SR 1018 Brdg/Woodcock Ck	C	BRDG		600,000
1018	B04	97093	SR 1018 Brdg/Muddy Creek	C	BRDG		600,000
1024	B02	585	SR 1024 Bridge over Britton Run	+F	BRDG	10,000	
1024	B02	585	SR 1024 Bridge over Britton Run	+C	BRDG	150,000	100,000
1024	111	99644	SR 1024: Lake Road	C	HRST		650,000
1026	171	99643	SR 1026: Danner Drive	C	HRST		100,000
1031	01M	98974	SR 1031: SR 1012 - PA 408	C	HRST		247,658
1032	B00	114138	SR 1032 Bridge over Shirley Run	P	BRDG	150,000	
1032	B00	114138	SR 1032 Bridge over Shirley Run	R	BRDG	25,000	
1032	B00	114138	SR 1032 Bridge over Shirley Run	+C	BRDG	650,000	
1033	B01	57972	SR 1033: Muddy Ck Brdg	F	BRDG	100,000	
1033	B01	57972	SR 1033: Muddy Ck Brdg	R	BRDG	10,000	
1033	B01	57972	SR 1033: Muddy Ck Brdg	C	BRDG	995,000	
1035	B00	82116	Brown Hill Rd Br/Muddy Ck	C	BRDG		780,000
1035	171	99639	SR 1035: Mackey Hill Rd	C	HRST		907,000
1037	01M	99650	SR 1037: Little Cooley Rd	C	HRST		1,100,000
1039	B01	57975	SR 1039: Mosey Run Brdg	C	BRDG		930,000
2005	B00	74698	SR 2005 over Conneaut Ck.	C	BRDG	775,000	

2005	RRX	113216	Shaw's Landing RRX	C	SAMI		
						375,000	
2007	B00	74664	SR 2007 over Mud Run	F	BRDG	80,000	
2007	B00	74664	SR 2007 over Mud Run	R	BRDG	10,000	
2007	B00	74664	SR 2007 over Mud Run	+C	BRDG	400,000	
2007	112	32165	SR 2007:Thurston Road	C	HRST		400,000
2010	B01	141	SR 2010: Pwdr Mill Run Br	C	BRDG		350,000
2012	B00	74672	SR 2012 over Hunter Run	C	BRDG		570,000
2012	01M	98728	Chestnut: Diamond-Porter	C	HRST		297,928
2012	01M	99605	SR 2012: Porter St-Barton	C	HRST		620,000
2012	02M	98751	Hunter Rd: Hill-Waylon Rd	C	HRST		1,153,280
2019	B01	57979	East Br Sugar Ck Brdg	P	BRDG	100,000	
2019	B01	57979	East Br Sugar Ck Brdg	F	BRDG	50,000	
2019	B01	57979	East Br Sugar Ck Brdg	C	BRDG	450,000	200,000
2024	02M	98607	Bloss St: Frklin-Drake	C	HRST		47,700
2029	01M	98929	SR 2029: Hasbrouck-PA 408	C	HRST		100,000
2031	01M	98731	Perry St: PA 89-Warner Rd	C	HRST		35,648
2033	01M	98739	Sprg Ck Rd: PA 89-Warren	C	HRST		1,438,712
2034	B02	413	SR 2034: Spring Street Viaduct	C	BRDG	3,000,000	
2034	B03	97095	SR 2034 Brdg/I-79	C	BRDG		1,460,000
2037	02M	98959	SR 2037: 4 lanes to SR 6	C	HRST		100,000
2039	B00	516	SR 2039: Dunham Rd Br	C	BRDG	2,000,000	
2101	B00	97096	SR 2101 Bridge over US 6	C	BRDG	1,000,000	
3004	B00	97056	SR 3004 Bridge over I-79	F	BRDG	55,000	
3004	B00	97056	SR 3004 Bridge over I-79	R	BRDG		10,000
3004	B00	97056	SR 3004 Bridge over I-79	C	BRDG		1,000,000
3004	B02	97122	SR 3004 Brdg/Crooked Ck	P	BRDG	260,000	
3004	B02	97122	SR 3004 Brdg/Crooked Ck	R	BRDG	10,000	
3004	B02	97122	SR 3004 Brdg/Crooked Ck	C	BRDG	450,000	450,000
3005	B00	78782	SR 3005/Bennetts Run Trib	C	BRDG		450,000
3011	B01	57984	Pymatuning Reservoir Br	R	BRDG	20,000	
3011	B01	57984	Pymatuning Reservoir Br	C	BRDG	500,000	
3013	172	99649	SR 3013: Lake Road	C	HRST		1,243,000
3016	B00	88440	Harmonsburg Rd Br/I-79	C	BRDG		1,350,000
3016	B03	589	SR 3016 Brdg/B&LE RR	F	BRDG	90,000	
3016	B03	589	SR 3016 Brdg/B&LE RR	R	BRDG	10,000	
3016	B03	589	SR 3016 Brdg/B&LE RR	C	BRDG	400,000	400,000
3018	01M	98759	Erie St: Erie St Ext-Pine	C	HRST		196,400
4001	B01	88461	SR 4001/Conneaut Ck E Brch	C	BRDG		810,000
4004	B00	74563	SR 4004 over Summit Run	C	BRDG		150,000
4008	DF1	74579	SR 4008/Conneaut Ck E. Brch	R	BRDG	15,000	

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4008	DF1	74579	SR 4008/Conneaut Ck E. Brch	C	BRDG		
4009	B01	90152	SR 4009 over Hubert Run	C	BRDG	100,000	
4009	B01	90152	SR 4009 over Hubert Run	C	BRDG	530,000	
4009	B03	97053	SR 4009 Brdg/Stebins Run	C	BRDG	170,000	
4010	B06	97079	SR 4010 Brdg/Cussewago Ck	C	BRDG		150,000
4011	B00	90158	SR 4011/Cussewago Ck Trib	C	BRDG		190,000
4011	B04	97087	SR 4011Brdg/Skelly Run	C	BRDG		150,000
4013	B01	97083	SR 4013 Brdg/Carr Run	C	BRDG		200,000
4013	01M	98995	SR 4013: SR 4018-SR 4010	C	HRST		160,000
Totals for: Crawford						13,983,781	55,180,392
							58,737,639

Forest County

T03		111431	4 Seasons Trail & Trail Hub Project	C	TENH	1,196,169	
36	B00	74693	PA 36 over Tionesta Creek	R	BRDG	50,000	
62	10M	109111	Hunter's Station to PA 36	C	HRST	2,400,000	
66	10M	109134	PA 66: PA 899 to Forest St.	P	HRST	20,000	
36	B00	74693	PA 36 over Tionesta Creek	C	BRDG		2,800,000
36	0	114139	PA 36 Bridge over Hunter Run	F	BRDG		25,000
36	0	114139	PA 36 Bridge over Hunter Run	R	BRDG		25,000
36	0	114139	PA 36 Bridge over Hunter Run	C	BRDG		250,000
66	10M	109134	PA 66: PA 899 to Forest St.	C	HRST		1,200,000
127	B01	97247	PA 127 Bridge/Allegheny River	F	BRDG		250,000
127	B01	97247	PA 127 Bridge/Allegheny River	C	BRDG		3,000,000
899	02M	99811	PA 899: Jefferson Co-Bear Run	C	HRST		3,000,000
1005	B00	97248	SR 1005 Bridge over Bogus Run	F	BRDG		10,000
1005	B00	97248	SR 1005 Bridge over Bogus Run	C	BRDG		65,000
2001	01M	99819	SR 2001: SR 89 to Coon Rd	C	HRST		520,000
2005	01M	99834	SR 2005: Loleta Road	C	HRST		1,000,000
3003	371	99849	SR 3003: Waltonbaugh Rd	C	HRST		300,000
4001	311	91023	Forest Resurfacing 2	C	HRST		1,991,699
4002	311	99823	Forest Group 311	C	HRST		738,389
4008	01M	99825	SR 4008: Grange Hall Road	C	HRST		310,000
Totals for: Forest						3,666,169	4,375,000
							12,395,088

Venango County

		106422	NW Highway/Bridge Line Item	C	HRST	1,225,030	
		106422	NW Highway/Bridge Line Item	C	HRST	724,773	
		106422	NW Highway/Bridge Line Item	C	SAMI	250,000	
		106422	NW Highway/Bridge Line Item	C	BRDG	710,581	
		106577	Northwest 2020 AWP	+C	SAMI	160,000	
		106581	NW Local Fed Aid Rt Line Item	+C	HRST	1,461	
L00		2161	Dean Road ovr Little Sandy Creek	F	BRDG	175,000	
L00		2161	Dean Road ovr Little Sandy Creek	U	BRDG	5,000	
L00		2161	Dean Road ovr Little Sandy Creek	R	BRDG	25,000	

	L00	2208	Dotter Rd (T-522) Brdg	C	BRDG	340,000
	L00	2263	Miller Farm (T-635) Br	F	BRDG	22,500
	L00	2263	Miller Farm (T-635) Br	R	BRDG	3,750
	L00	2263	Miller Farm (T-635) Br	C	BRDG	1,031,422
8	A10	61354	PA 8: Barkeyville to Franklin	C	HRST	14,050,000
8	B16	97375	PA 8 Bridge/PA 308	R	BRDG	10,000
8	S01	114909	SR 8/SR 62 Intersection Safety Audit - Venango	S	SAMI	150,000
36	01M	100162	SR 36: Forest Co-SR 27	C	HRST	1,018,444
36	02M	114036	PA 36: Pleasantville to PA 27	P	HRST	10,000
38	B06	97367	PA 38 Bridge Grp	C	BRDG	190,000
62	B07	84946	US 62 over Lil Sandy Ck	C	BRDG	1,300,000
62	B18	58244	US 62 Bridge/Sage Run #2	F	BRDG	6,670
62	S00	98571	Allegheny Blvd. Multimodal Trail Project	P	HRST	37,245
62	13M	109153	US 62: PA 8 to 8th Street	F	HRST	250,000
62	13M	109153	US 62: PA 8 to 8th Street	U	HRST	100,000
62	13M	109153	US 62: PA 8 to 8th Street	R	HRST	100,000
322	B06	110409	2019 Venango & Warren Shotcrete Group	C	BRDG	175,000
322	RRX	113217	13th Street Franklin RRX	C	SAMI	359,270
322	R01	107915	Franklin 13th Street RR Crossing	+C	SAMI	38,000
428	501	100213	Venango County Group 501	C	BRDG	197,689
1006	B03	58263	SR 1006: Pithole Creek Bridge	P	BRDG	120,000
1006	B03	58263	SR 1006: Pithole Creek Bridge	C	BRDG	40,753
2004	B00	78872	SR 2004 over Tarklin Run	C	BRDG	350,000
3006	B00	110077	SR 3006 Rankin Chapel Road Bridge	C	BRDG	60,000
7220	L00	78465	Fisherman's Cove (T-370) Bridge	F	BRDG	1,972
		98262	NW Local Brdg Line Item	C	BRDG	688,750
		106422	NW Highway/Bridge Line Item	C	HRST	713,263
		106422	NW Highway/Bridge Line Item	C	SAMI	29,197,078
		106422	NW Highway/Bridge Line Item	C	BRDG	4,924,736
		106422	NW Highway/Bridge Line Item	C	BRDG	11,295,000
		106422	NW Highway/Bridge Line Item	C	BRDG	1,264,961
		106422	NW Highway/Bridge Line Item	C	BRDG	1,423,845
		106422	NW Highway/Bridge Line Item	C	BRDG	90,473
		106422	NW Highway/Bridge Line Item	C	HRST	1,086,885
		106581	NW Local Fed Aid Rt Line Item	+C	HRST	7,737,329
		110477	Northwest 2021 AWPM	C	HRST	2,850,000
		110478	Northwest 2022 AWPM	C	HRST	8,000,000
		113720	Northwest 2023 AWPM	C	HRST	160,000
		113721	Northwest 2024 AWPM	C	HRST	160,000
		113721	Northwest 2024 AWPM	C	HRST	160,000
		113721	Northwest 2024 AWPM	C	HRST	160,000
	L00	2150	McClelland Ave Bridge	C	BRDG	160,000
	L00	2161	Dean Road ovr Little Sandy Creek	C	BRDG	750,000
	L00	2208	Dotter Rd (T-522) Brdg	C	BRDG	900,000
	L00	2263	Miller Farm (T-635) Br	C	BRDG	250,000
	L00	78464	Williams Road over Middle Branch of Sugar Creek	F	BRDG	775,000
	L00	78464	Williams Road over Middle Branch of Sugar Creek	F	BRDG	190,000

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	L00	78464	Williams Road over Middle Branch of Sugar Creek	R	BRDG	25,000	
8	A10	61354	PA 8: Barkeyville to Franklin	C	HRST	3,737,192	
8	B13	88510	PA 8 Bridge over Cherry Run	C	BRDG		160,000
8	B14	97365	PA 8 Bridge/Oil Creek	C	BRDG		460,000
8	10M	76890	PA 8: Polk Cutoff to US 62	+C	HRST	3,000,000	
8	13M	98519	PA 8: Brdg/T-371 - Polk	C	HRST		5,017,726
8	14M	98527	PA 8: Barkeyville-Exprway	C	HRST		4,350,000
8	15M	100148	SR 8: Cross Ck-Sopher Rd	C	HRST		1,000,000
27	B01	97410	PA 27 Bridge/Pine Ck Trib	C	BRDG		460,000
36	02M	114036	PA 36: Pleasantville to PA 27	C	HRST	912,000	
38	B04	97361	PA 38 Bridge/Richey Run 2	C	BRDG		510,000
38	B05	97362	PA 38 Bridge/Bear Run	C	BRDG		400,000
62	B10	97363	US 62 Bridge/Sage Run #3	C	BRDG		230,000
62	B12	58247	US 62 Bridge/Sage Run #8	C	BRDG		230,000
62	B13	97391	US 62 Bridge/Sage Run #7	C	BRDG		230,000
62	B14	97396	US 62 Bridge/Sage Run #4	C	BRDG		270,000
62	B15	97397	US 62 Bridge/Sage Run #9	C	BRDG		230,000
62	B16	97399	US 62 Bridge/Sage Run #5	C	BRDG		230,000
62	B17	97400	US 62 Bridge/Sage Run #6	C	BRDG		230,000
62	B18	58244	US 62 Bridge/Sage Run #2	C	BRDG		230,000
62	S00	98571	Allegheny Blvd. Multimodal Trail Project	C	HRST	2,225,000	
62	S00	98571	Allegheny Blvd. Multimodal Trail Project	C	HRST	1,000,000	
62	T21	111433	Franklin Ped Streetscape Safety Project	C	TENH	896,760	
62	13M	109153	US 62: PA 8 to 8th Street	+C	HRST	3,049,344	
80	B04	97377	I-80 EB Brdg/Coal Vly Rd	C	BRDG		650,000
80	TS2	114785	I-80 Barkeyville ITS Addition - TSMO	P	SAMI	10,000	
80	TS2	114785	I-80 Barkeyville ITS Addition - TSMO	F	SAMI	5,000	
80	TS2	114785	I-80 Barkeyville ITS Addition - TSMO	U	SAMI	10,000	
80	TS2	114785	I-80 Barkeyville ITS Addition - TSMO	C	SAMI	25,000	
80	TS2	114785	I-80 Barkeyville ITS Addition - TSMO	C	SAMI	50,000	
157	DF1	97389	PA 157 Bridge over Horse Creek Branch	F	BRDG	10,000	
157	DF1	97389	PA 157 Bridge over Horse Creek Branch	C	BRDG	150,000	150,000
157	04M	100152	SR 157: SR 62-Co Line Rd	C	HRST		2,500,000
208	B03	97401	PA 208 Bridge over I-80	F	BRDG	140,000	
208	B03	97401	PA 208 Bridge over I-80	R	BRDG	10,000	
208	B03	97401	PA 208 Bridge over I-80	C	BRDG		1,750,000
227	B03	97369	PA 227 Bridge/Cherry Run #3	C	BRDG		510,000
257	571	90271	Venango Group 571	C	HRST		2,200,000
322	RRX	113217	13th Street Franklin RRX	C	SAMI	500,000	
417	03M	98532	PA 417: Keeley Rd - PA 8	C	HRST		6,000,000

427	B03	97402	PA 427 Bridge/Sugar Ck #2	F	BRDG	50,000	
427	B03	97402	PA 427 Bridge/Sugar Ck #2	+R	BRDG	10,000	
427	B03	97402	PA 427 Bridge/Sugar Ck #2	+C	BRDG	400,000	
427	05M	98524	PA 427: Factory-Deeter	P	HRST	100,000	
427	05M	98524	PA 427: Factory-Deeter	C	HRST	2,100,000	
428	02M	109151	PA 428: PA 8 to Cherrytree Rd	R	HRST	50,000	
428	02M	109151	PA 428: PA 8 to Cherrytree Rd	C	HRST	3,850,993	
1004	B00	2107	Petroleum Center Bridge	P	BRDG	400,000	
1004	B01	97343	SR 1004 Bridge over Cherry Run	+F	BRDG	10,000	
1004	B01	97343	SR 1004 Bridge over Cherry Run	+C	BRDG	75,000	75,000
1004	B02	97344	SR 1004 Bridge over Muskrat Run	F	BRDG	10,000	
1004	B02	97344	SR 1004 Bridge over Muskrat Run	C	BRDG		150,000
1006	B01	58266	SR 1006 Brdg/Allender Run	C	BRDG		150,000
1009	B01	92508	SR 1009 Brdg/Benghof Run	C	BRDG		150,000
2008	583	109149	East 2nd St - Oil City	C	HRST		143,000
2013	B01	72661	SR 2013 Brdg/Shulls Run	C	BRDG		150,000
2025	581	108442	Henry's Bend Road	C	HRST		750,000
3001	531	107900	Group 531	C	HRST		943,500
3003	B00	97364	SR 3003 Bridge over I-80 EB	F	BRDG	100,000	
3003	B00	97364	SR 3003 Bridge over I-80 EB	R	BRDG	10,000	
3003	B00	97364	SR 3003 Bridge over I-80 EB	+C	BRDG		600,000
3003	B01	98177	SR 3003 Bridge over I-80 WB	F	BRDG	100,000	
3003	B01	98177	SR 3003 Bridge over I-80 WB	R	BRDG	20,000	
3003	B01	98177	SR 3003 Bridge over I-80 WB	C	BRDG	400,000	500,000
3008	02M	97916	SR 3008:Bulion Rd-Rkld Rd	C	HRST		2,218,000
3011	B00	58269	SR 3011: S. Sandy Ck Brdg	C	BRDG		150,000
3013	511	107898	State Route 3013 from Victory Rd to Route 8	C	HRST		1,789,837
3015	B01	74573	SR 3015 ov Sandy Ck. Trib	C	BRDG		150,000
3017	B01	78934	SR 3017 over L. Sandy Ck.	C	BRDG		450,000
3017	B03	97352	SR 3017 Brdg/Mill Creek	C	BRDG		160,000
3017	B04	97379	SR 3017 Brdg/Lil Sandy Ck	C	BRDG		510,000
3017	B05	97384	SR 3017 Bridge over French Creek	F	BRDG	10,000	
3017	B05	97384	SR 3017 Bridge over French Creek	C	BRDG		600,000
3023	B00	1979	SR 3023: Whipperwill Road Bridge	F	BRDG	150,000	
3023	B00	1979	SR 3023: Whipperwill Road Bridge	R	BRDG	50,000	
3023	B00	1979	SR 3023: Whipperwill Road Bridge	C	BRDG	850,000	
3024	B02	97354	SR 3024/Lil Sandy Ck Trib	C	BRDG		160,000
3101	B00	97340	SR 3101 Bridge over I-80	C	BRDG		710,000
3102	B00	97380	SR 3102 Bridge over PA 8	F	BRDG		100,000
3102	B00	97380	SR 3102 Bridge over PA 8	R	BRDG		10,000

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3102	B00	97380	SR 3102 Bridge over PA 8	C	BRDG	
						600,000
4002	A00	98551	PA 8 & SR 4002 Intersect	C	XRST	500,000
4003	B00	97355	SR 4003 Brdg/Patchel Run	C	BRDG	160,000
4003	B01	97405	SR 4003 Bridge/Wolf Run	C	BRDG	150,000
4003	511	112620	Venango County Group 511	C	HRST	1,830,000
4009	502	114334	Venango SR 4009	C	HRST	800,000
4011	B01	97356	SR 4011 Brdg/Prather Ck	C	BRDG	160,000
4016	B00	97358	SR 4016 Brdg/Beatty Run	C	BRDG	160,000
4020	B00	74614	SR 4020 over Kane Run	C	BRDG	150,000
7220	L00	78465	Fisherman's Cove (T-370) Bridge	C	BRDG	800,000
Totals for: Venango					23,239,560	40,425,357
						115,980,315
Warren County						
	L00	2566	Jones Hill Rd (T-458) Br	C	BRDG	100,000
6	A09	100318	US 6: Sheffield to McKean Co	+C	HRST	329,113
6	A09	100318	US 6: Sheffield to McKean Co	+C	HRST	481,450
6	B14	97413	US 6 over Roystone Run	C	BRDG	651,843
6	B18	97449	US 6 Bridge/A&E Railroad	F	BRDG	200,000
6	30M	2327	SR 6: Gibson to Forest Ranger Rd	P	HRST	5,000
6	30M	2327	SR 6: Gibson to Forest Ranger Rd	C	HRST	500,000
27	B03	74612	PA 27 over Browns Run	U	BRDG	25,000
27	B03	74612	PA 27 over Browns Run	R	BRDG	10,000
27	B03	74612	PA 27 over Browns Run	C	BRDG	800,000
27	B10	57185	PA 27 Bridge/B&P Railroad	C	HRST	21,042
27	B14	57184	PA 27 Bridge over Telic Run	F	BRDG	100,000
27	B14	57184	PA 27 Bridge over Telic Run	R	BRDG	25,000
27	03M	97920	PA 27: Hosmer Rn Rd - PA 426	C	HRST	21,042
27	601	110856	Warren County Group 601	C	BRDG	180,000
59	B04	97459	James Morrison Bridge Rehab Phase 1	C	BRDG	1,735,092
59	B06	110411	2019 Warren Shotcrete Group	C	BRDG	325,000
62	B08	106585	US 62 over Conrail RR	C	BRDG	1,141,762
62	23M	109137	US 62: Betts Park to Market St	C	HRST	2,117,895
127	B01	97419	PA 127 Bridge/Allegheny River	F	BRDG	200,000
426	B02	2523	PA 426 Br/Brokenstraw Ck.	C	BRDG	891,120
426	DF1	74610	PA 426/Brokenstraw Br #3	P	BRDG	75,000
1017	A00	100323	Pennsylvania Ave/Market St Intersection	P	HRST	150,000
1017	A00	100323	Pennsylvania Ave/Market St Intersection	F	HRST	150,000
1017	A00	100323	Pennsylvania Ave/Market St Intersection	U	HRST	100,000
1017	A00	100323	Pennsylvania Ave/Market St Intersection	R	HRST	100,000
4007	DF1	97444	SR 4007/Little Brokenstraw Trib	U	BRDG	25,000

4007	DF1	97444	SR 4007/Little Brokenstraw Trib	R	BRDG	15,000	
	L00	2560	Stewart Rd (T-639) Br	F	BRDG	150,000	
	L00	2560	Stewart Rd (T-639) Br	U	BRDG	5,000	
	L00	2560	Stewart Rd (T-639) Br	R	BRDG	25,000	
	L00	2560	Stewart Rd (T-639) Br	C	BRDG	250,000	
	L00	78474	Ludwick Rd Bridge T-508	C	BRDG	650,000	
6	A06	98580	US 6 & RR St Intersection	C	XRST	1,486,895	
6	B08	84950	US 6 over Ott Run	C	BRDG	200,000	
6	B12	57178	US 6 Bridge/Dtchman Run #1	C	BRDG	310,000	
6	B13	97411	US 6 Bridge/Stone Run	C	BRDG	610,000	
6	B15	97426	US 6 Bridge/Coffee Run Brch	C	BRDG	400,000	
6	B16	97427	SR 6 Brdg/2 Mi Run Brch 2	C	BRDG	80,000	
6	B17	97445	US 6 Bridge/Private Drive	C	BRDG	560,000	
6	B18	97449	US 6 Bridge/A&E Railroad	R	BRDG	10,000	
6	B18	97449	US 6 Bridge/A&E Railroad	C	BRDG	1,200,000	
6	B20	97458	US 6 Br/Dutchmans Run #1	C	BRDG	350,000	
6	24M	98032	US 6: Youngsville to Railroad Street	P	HRST	100,000	
6	24M	98032	US 6: Youngsville to Railroad Street	+C	HRST	1,363,464	
6	28M	109626	US 6: Yankee Bush - Main Ave	P	HRST	100,000	
6	28M	109626	US 6: Yankee Bush - Main Ave	C	HRST	1,862,706	
6	28M	109626	US 6: Yankee Bush - Main Ave	C	HRST	4,441,294	
6	29M	87639	US 6: Retaining Wall to Warren Kinzua Rd	P	HRST	100,000	
6	29M	87639	US 6: Retaining Wall to Warren Kinzua Rd	C	HRST	500,000	
27	A00	98579	PA 27 & US 6 Intersection	C	XRST	1,722,550	
27	B08	88512	SR 27 over Garland Run	C	BRDG	350,000	
27	B11	58298	PA 27: Mathews Run Bridge	C	BRDG	450,000	
27	B12	2477	PA 27: Grand Street Bridge	F	BRDG	150,000	
27	B12	2477	PA 27: Grand Street Bridge	R	BRDG	50,000	
27	B12	2477	PA 27: Grand Street Bridge	C	BRDG	500,000	
27	B14	57184	PA 27 Bridge over Telic Run	C	BRDG	750,000	
27	DF1	97412	PA 27 Bridge over Browns Run	F	BRDG	80,000	
27	DF1	97412	PA 27 Bridge over Browns Run	R	BRDG	10,000	
27	DF1	97412	PA 27 Bridge over Browns Run	C	BRDG	480,000	
27	06M	32412	PA 27: US 6 to Matthews Run	C	HRST	936,000	
62	B02	74673	US 62 Bridge/Valentine Ck.	C	BRDG	310,000	
62	B04	97415	US 62 Bridge/Dale Run	C	BRDG	300,000	
62	22M	106658	US 62: Main Street - NY Line	P	HRST	100,000	
62	22M	106658	US 62: Main Street - NY Line	C	HRST	5,420,000	
62	24M	47291	SR 62: Forest County to Myres Run	F	HRST	100,000	
62	24M	47291	SR 62: Forest County to Myres Run	C	HRST	2,111,394	1,128,606
69	B01	74602	PA 69/Jaksn Run Brch #2	C	BRDG	510,000	
69	B02	97433	SR 69/StillH2O Ck Brch #1	C	BRDG	150,000	
69	B03	97434	PA 69/StillH2O Ck Brch #2	C	BRDG	160,000	
69	B04	97435	PA 69 Bridge/Stillwater Ck	C	BRDG	190,000	
69	B05	97451	PA 69 Bridge over Jackson Run #2	P	BRDG	150,000	
69	B05	97451	PA 69 Bridge over Jackson Run #2	R	BRDG	50,000	
69	B05	97451	PA 69 Bridge over Jackson Run #2	C	BRDG	1,200,000	
69	B06	97456	SR 69 Bridge/Mud Run	C	BRDG	50,000	

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127	B01	97419	PA 127 Bridge/Allegheny River	C	BRDG	4,250,000
346	B01	97428	SR 346 Brdg/Alleg Rsv Trb	C	BRDG	350,000
346	01M	100524	SR 346: NY - McKean Co	C	HRST	500,000
426	B00	74601	PA 426/Brokenstraw Br. #1	C	BRDG	510,000
426	B04	2474	PA 426: Corry Road Bridge	C	BRDG	710,000
426	DF1	74610	PA 426/Brokenstraw Br #3	U	BRDG	30,000
426	DF1	74610	PA 426/Brokenstraw Br #3	R	BRDG	15,000
426	DF1	74610	PA 426/Brokenstraw Br #3	C	BRDG	200,000
666	B02	97429	SR 666 Br/Messengers Run	C	BRDG	450,000
666	B03	97436	PA 666 Bridge/Tionesta Ck	C	BRDG	310,000
948	B00	97430	SR 948 Brdg/Hartons Run	C	BRDG	450,000
948	04M	100313	SR 948: SR 666-Forest Co	C	HRST	720,000
957	B00	78939	PA 957 Bridge over Stillwater Creek	P	BRDG	10,000
957	B00	78939	PA 957 Bridge over Stillwater Creek	C	BRDG	200,000
957	B02	92514	PA 957 Bridge over Kianetone Creek	C	BRDG	50,000
957	B03	58306	PA 957: Kianetone Creek Bridge	F	BRDG	150,000
957	B03	58306	PA 957: Kianetone Creek Bridge	C	BRDG	640,000
957	B05	97437	PA 957 Bridge / Brokenstraw Ck	C	BRDG	250,000
957	B06	97438	PA 957/Cool Springs Brook	C	BRDG	310,000
1005	B00	97439	SR 1005 Br/Kiantone Ck #1	C	BRDG	160,000
1006	B00	97450	SR 1006 Brdg/Hemlock Run	+F	BRDG	150,000
1006	B00	97450	SR 1006 Brdg/Hemlock Run	+R	BRDG	50,000
1006	B00	97450	SR 1006 Brdg/Hemlock Run	+C	BRDG	1,120,000
1007	01M	100442	SR 1007: Dutch Hill Road	C	HRST	525,000
1012	B03	97446	SR 1012 Brdg/Akeley Run	F	BRDG	10,000
1012	B03	97446	SR 1012 Brdg/Akeley Run	R	BRDG	10,000
1012	B03	97446	SR 1012 Brdg/Akeley Run	+C	BRDG	700,000
1012	01M	100371	SR 1012: SR 62-Fox Hill	C	HRST	150,000
1013	B03	84955	SR 1013 over Fishburn Run	F	BRDG	100,000
1013	B03	84955	SR 1013 over Fishburn Run	C	BRDG	350,000
1013	01M	100375	SR 1013: Park Avenue	C	HRST	625,000
1015	B01	88511	SR 1015 over Conewango Ck	C	BRDG	450,000
1015	B02	97440	SR 1015/Store House Run	C	BRDG	160,000
1016	B00	97441	SR 1016 Br/Vanarsdale Run	C	BRDG	160,000
1017	A00	100323	Pennsylvania Ave/Market St Intersection	C	HRST	1,720,000
1017	A00	100323	Pennsylvania Ave/Market St Intersection	C	HRST	1,780,000
1025	01M	100453	SR 1025: Page Hollow Rd	C	HRST	600,000
1027	B00	88492	SR 1027 Bridge over US 6	C	BRDG	360,000
1029	01M	100325	SR 1029	C	HRST	262,500
2002	B00	97442	SR 2002 Br/Lwr Sherif Run	C	BRDG	60,000
2012	01M	100459	SR 2012: Grunderville Rd	C	HRST	770,000
3004	01M	100478	SR 3004: Selkirk Road	C	HRST	1,000,000
3008	01M	100485	SR 3008: Sundback Road	C	HRST	625,000
3009	B05	78962	SR 3009 Brdg/Gilmore Run	C	BRDG	510,000
3009	B06	78976	SR 3009 Brdg/Tidioute Ck	C	BRDG	600,000
3009	B10	97462	SR 3009 Br/Tidioute Ck #2	C	BRDG	600,000
3009	01M	100361	SR 3009: Main Street	C	HRST	525,000
3009	612	100520	SR 3009: Tidioute Ck Rd	C	HRST	1,069,000

3010	B02	97425	SR 3010 Brdg/Brknstrw Ck	C	BRDG	240,000		
3010	01M	100509	SR 3010: Crawford Co Line to Blue Eye Rd	C	HRST	1,575,000		
3011	01M	100512	SR 3011: McGuire Street	C	HRST	2,100,000		
3012	B00	2343	SR 3012: Cemetery Rd Brdg	C	BRDG	400,000		
3014	B01	97448	SR 3014 Br/Brokenstraw Ck	F	BRDG	50,000		
3014	B01	97448	SR 3014 Br/Brokenstraw Ck	R	BRDG	10,000		
3014	B01	97448	SR 3014 Br/Brokenstraw Ck	C	BRDG	1,184,000		
3014	01M	100515	SR 3014: Old Garland Rd	C	HRST	1,200,000		
3015	B01	97461	SR 3015 Br/Caldwell Ck #1	C	BRDG	570,000		
3015	02M	100519	SR 3015: Sanford Road	C	HRST	910,000		
3016	B01	97432	SR 3016 Bridge over Brokenstraw Creek	F	BRDG	100,000		
3016	B01	97432	SR 3016 Bridge over Brokenstraw Creek	R	BRDG	10,000		
3016	B01	97432	SR 3016 Bridge over Brokenstraw Creek	C	BRDG	900,000		
3016	01M	100490	SR 3016: Couvers Xing Rd	C	HRST	700,000		
3017	WAL	97049	SR 3017 Wall	C	HRST	600,000		
3022	B04	88491	SR 3022 Bridge over Brokenstraw Creek	+F	BRDG	150,000		
3022	B04	88491	SR 3022 Bridge over Brokenstraw Creek	R	BRDG	10,000		
3022	B04	88491	SR 3022 Bridge over Brokenstraw Creek	C	BRDG	1,000,000		
3022	B05	97443	SR 3022 Brdg/Brknstrw Ck	C	BRDG	460,000		
3022	B06	97447	SR 3022 Brdg/B&P Railroad	C	BRDG	220,000		
3022	01M	100363	SR 3022: East Main Street	C	HRST	625,000		
3022	02M	100521	SR 3022: National Forge Rd	C	HRST	3,031,220		
4004	B00	78945	SR 4004 Brdg/Pine Valley	C	BRDG	470,000		
4015	B00	78952	SR 4015 Brdg/ Mill Brook	+C	BRDG	660,000		
4023	B00	97460	SR 4023 Brdg/Brknstraw Ck	C	BRDG	640,000		
4025	01M	100494	SR 4025: Old Pine Vly Rd	C	HRST	280,000		
Totals for: Warren						10,475,359	27,731,078	47,833,551
Overall Totals:						63,038,999*	156,899,271	291,898,000
2021 Financial Guidance Control Totals:							151,996,000	290,001,000

Additional Discretionary Funding Received (over and above Financial Guidance)

Total	Projects
\$1,443,500	Rail Yearly – FED (Mt Pleasant RRX MPMS 106162; Shaw's Landing RRX MPMS 113216)
\$1,000,000	Safety Spike/Earmark PA 8 and PA 77 intersection MPMS 109996
\$225,000	STP Spike/Earmark (I-80 <u>Barkeyville</u> ITS addition)
\$1,896,760	TAP (Allegheny Blvd Trail MPMS 98571)
\$337,011	LOC (added to TIP as a local match)
\$1,900,000	s581 (year 5)
\$6,802,271	TOTAL

Source: PennDOT Program Center

* Project listing from 2020 includes fiscal constraint in addition to funds (e.g., Spike, Deobligations, etc.) made available to the region in FFY 2020 as of April 8, 2020. These additional projects adhered to the agreed upon principles of fiscal constraint for TIP and LRTP development, and specifically followed all regulations, federal and state, that directed fiscal constraint for the development of the 2019 TIP.

Appendix H: Pavement and Bridge Performance Reports (2018)

2018 Performance Measures Annual Report -- Pavements

Northwest

Current MAP-21 Pavement Performance by Business Plan Network (Based on Total PA Miles)

Business Plan Network	MAP-21 Pavement Performance Measure										
	Good				Fair		Poor				Missing (Max 5%)
	Miles	%	2020 Target	2022 Target	Miles	%	Miles	%	2020 Target	2022 Target	Miles
Interstate	110.6	82.62%	-	70%	23.3	17.38%	0.0	0.00%	-	1%	0.0
NHS, Non-Interstate	84.1	30.41%	38%	31%	178.0	64.33%	14.6	5.26%	3%	4%	3.2

- MAP-21 pavement performance measures required for FHWA reporting include four distress components which translate to good, fair, or poor condition scores. See table on reverse of this page for distresses and thresholds. Three conditions apply to each pavement type. A pavement segment is considered in good condition if all three distress components are rated as good. A pavement segment is considered in poor condition if two or more of its three distress components are rated as poor.
- FHWA requires that no more than 5 percent of a state's NHS Interstate lane-miles be in poor condition. Additionally, state DOTs are required to establish targets.
- FHWA has not established a minimum condition for NHS non-Interstate roadways, but requires the state DOT to establish targets.
- FHWA requires that no more than 5 percent of a state's mileage be unreported or missing.
- Conditions are assessed and analyzed for pavement "sections" that cannot exceed 0.10 miles in length, which differs from PennDOT's historic segment level data.
- MAP-21 performance measures apply to all Interstate and NHS Non-Interstate miles in PA, regardless of ownership. Therefore, PA Turnpike and local-owned miles are in Statewide totals, but not in each District's totals. Local-owned miles are included in MPO/RPO totals as appropriate.
- MAP-21 rulemaking requires that states develop and implement a risk-based asset management plan to achieve and sustain a state of good repair over the life cycle of transportation assets and to improve or preserve the condition of the NHS. Asset Management encompasses two related means of doing so: making infrastructure last as long as reasonably possible, and keeping up on preservation activities to minimize costlier major repairs. Together, these practices extend the life of assets and reduce the cost of maintaining them in the desired state of good repair. This is known as operating the network at the lowest life-cycle cost (LLCC).
- MAP-21 performance measures are not to drive planning and programming, but rather be an indication of performance achieved by states operating at the LLCC.

Current Pavement Smoothness (IRI) Summary by Business Plan Network (Based on PennDOT Miles)

Business Plan Network	Excellent		Good		Fair		Poor		Median	Tested
	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%	IRI	Seg-Mi
Interstate	118.9	85.04%	19.6	14.01%	1.3	0.95%	0.0	0.00%	55	139.9
NHS, Non-Interstate	121.4	42.83%	102.1	36.02%	37.2	13.14%	22.7	8.01%	84	283.5
Non-NHS, ≥ 2000 ADT	256.2	61.17%	113.1	27.01%	30.2	7.21%	19.3	4.61%	94	418.9
Non-NHS, < 2000 ADT	468.3	24.63%	469.9	24.71%	472.4	24.84%	491.1	25.82%	172	1,901.8
Total - Roadway	964.9	35.16%	704.7	25.68%	541.2	19.72%	533.1	19.43%	123	2,743.9

Current Overall Pavement Index (OPI) Summary by Business Plan Network (Based on PennDOT Miles)

Business Plan Network	Excellent		Good		Fair		Poor		Median
	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%	Seg-Mi	%	OPI
Interstate	61.1	44.73%	72.5	53.08%	3.0	2.20%	0.0	0.00%	95
NHS, Non-Interstate	26.3	9.37%	159.9	56.88%	75.7	26.93%	19.2	6.83%	84
Non-NHS, ≥ 2000 ADT	124.0	29.66%	171.5	41.02%	113.6	27.17%	9.0	2.15%	84
Non-NHS, < 2000 ADT	456.5	24.04%	982.7	51.75%	356.6	18.78%	103.2	5.43%	79
Total - Roadway	667.9	24.42%	1,386.6	50.70%	548.9	20.07%	131.4	4.80%	82

Total Miles

PennDOT Seg-Mi	PA Miles
139.9	133.9
285.0	279.9
421.4	
1,908.0	
2,734.8	

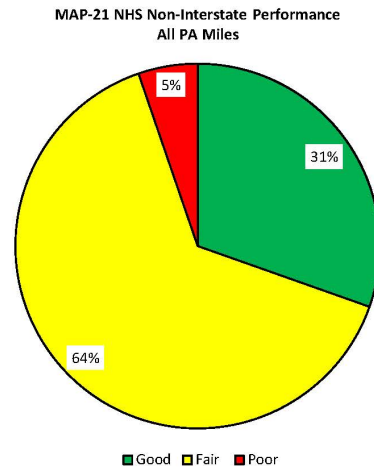
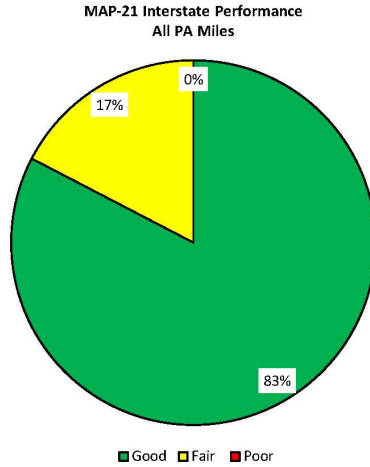
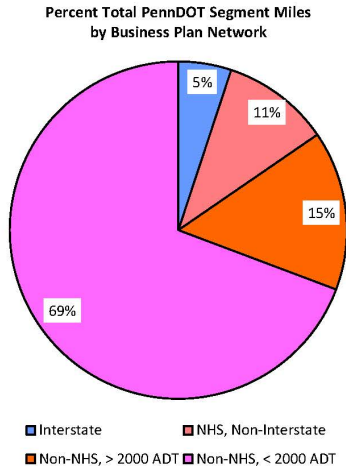
- The IRI and OPI data presented herein is segment level.
- For the Interstate and NHS, Non-Interstate Business Plan Networks, the IRI and OPI data is for 2018. For the Non-NHS Business Plan Networks, the IRI and OPI data for recent year captured, either 2017 or 2018.
- PennDOT has historically classified Good Interstate IRI as ≤100, and Poor Interstate IRI as >150; for NHS Non-Interstate, Good is ≤120 and Poor is >170. This practice is maintained in the IRI data presented herein, but differs from the MAP-21 definitions defined in the table on the reverse of this page.

Current Out-Of-Cycle (OOC) Assessment by Business Plan Network (Based on PennDOT Miles)

Business Plan Network	High Level Bituminous		Low Level Bituminous				Concrete				Potentially Past DSL
	Seg-Mi	OOC Mi ¹	Seg-Mi	OOC Mi ²	OOC Mi ³	Total	Seg-Mi	OOC Mi ⁴	OOC Mi ⁵	Total	Seg-Mi
Interstate	139.20	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
NHS, Non-Interstate	277.86	81.44	0.00	0.00	0.00	0.00	21.18	17.24	19.42	17.24	110.52
Non-NHS, ≥ 2000 ADT	403.56	133.49	16.27	1.83	0.82	1.83	1.67	0.00	0.00	0.00	
Non-NHS, < 2000 ADT	376.87	123.35	1,462.14	43.51	447.65	43.51	1.86	1.86	1.86	1.86	
Total - Roadway	1,197.49	338.35	1,478.41	45.34	448.46	45.34	24.71	19.10	21.28	19.10	

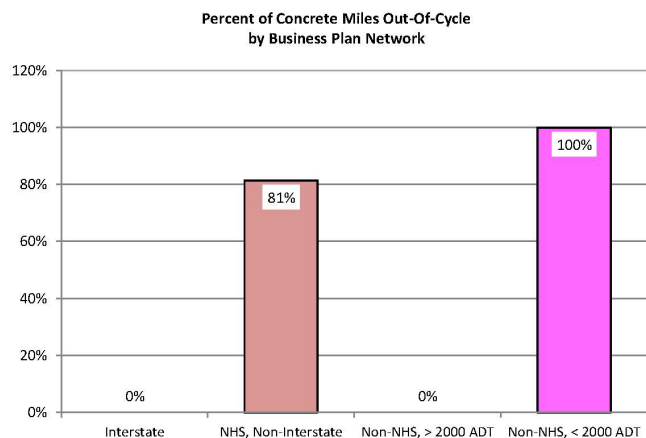
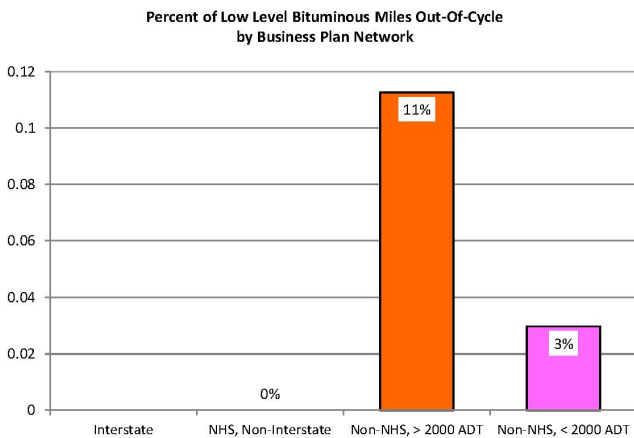
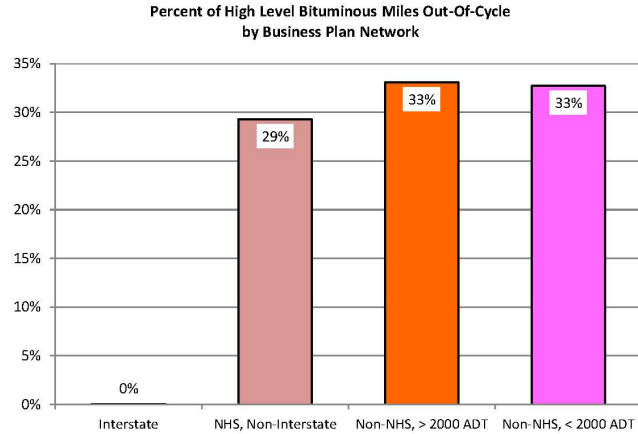
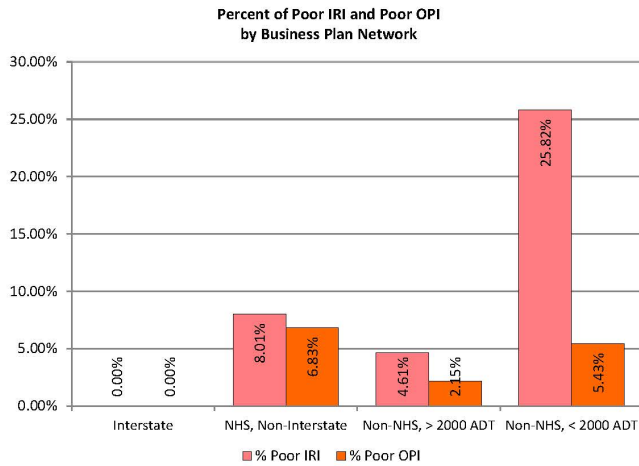
- Out-Of-Cycle Categories:
 - High Level Bituminous Pavement with Age > 12 Years or > 17 Years with Interim Surface Seal
 - Low Level Bituminous Surface with Age > 7 Years
 - Low Level Bituminous Pavement with Age > 20 Years or no Structural Layers
 - Concrete Pavements with Age > 30 Years
 - Concrete Pavements with Age > 20 Years and No Concrete Pavement Restoration (CPR)
- Total Low Level OOC represents the miles that are OOC for either Category 2 or 3. Segments that are OOC for both categories are not double counted. Total Concrete OOC represents the miles that are OOC for either Category 4 or 5. Segments that are OOC for both categories are not double counted.
- Pavement Potentially Past Design Service Life is defined a pavement structure age greater than 40 years, and OOC according to any of the categories. This indicates that, even though the surface is OOC, the pavement may be in need of more than resurfacing or CPR due to its overall age.

- The IRI miles and Total PennDOT miles include bridge lengths.
- The Total PA miles, used for MAP-21, do not include bridge lengths.
- The Treatment Network miles do not include bridge lengths.



MAP-21 Pavement Conditions and Thresholds

Rating	Good	Fair	Poor
IRI (inches/mile)	<95	95–170	>170
Cracking Percentage	<5	CRCP: 5–10 Jointed: 5–15 Asphalt: 5–20	CRCP: >10 Jointed: >15 Asphalt: >20
Rutting (inches)	<0.20	0.20–0.40	>0.40
Faulting (inches)	<0.10	0.10–0.15	>0.15



End of Calendar Year 2018 Performance Measures Annual Report -- Bridges

Northwest

MAP-21 Bridge Performance by Business Plan Network (Based on all NHS Bridge Owners Greater than or Equal to 20' in Length)

MAP-21 Bridge Performance Measure												
Business Plan Network	Good				Fair				Poor			
	Count	Count %	Deck Area (Msft)	Deck Area %	Count	Count %	Deck Area (Msft)	Deck Area %	Count	Count %	Deck Area (Msft)	Deck Area %
Interstate	10	15.87%	0.075	7.29%	52	82.54%	0.912	88.83%	1	1.59%	0.040	3.88%
NHS, Non-Interstate	29	32.58%	0.168	19.96%	57	64.04%	0.652	77.48%	3	3.37%	0.022	2.57%
Total NHS	39	25.66%	0.243	13.00%	109	71.71%	1.564	83.71%	4	2.63%	0.061	3.29%

Total NHS Deck Area Poor %	Map-21 Goal	End of Year 2018 Value	2019 Target	2021 Target
	10.00%	3.29%	4.50%	5.75%

Business Plan Network	Count	Deck Area (Msft)
Interstate	63	1.026
NHS, Non-Interstate	89	0.842
Total NHS	152	1.868

- MAP-21 bridge data is assessed and analyzed by National Bridge Inventory Standards (Bridges 20' and greater), which differs from PennDOT's 8' and greater reporting.
- MAP-21 performance measures apply to all Interstate and NHS Non-Interstate bridges in PA, regardless of ownership. Therefore, PA Turnpike and local-owned bridges are included in totals.

- MAP-21 bridge performance measures required for FHWA reporting include good, fair, or poor condition scores for each bridge. A bridge is considered to be in good condition if the minimum condition rating of the deck, superstructure, substructure, or culvert ratings is 9, 8, or 7, fair if the minimum condition rating is 6 or 5, and poor if the minimum condition rating is 4 or less.
- FHWA requires that no more than 10 percent of a state's total NHS Bridge Deck Area be in poor condition. Additionally, state DOTs are required to establish biennial targets for poor deck area.
- FHWA has not established a minimum condition for Interstate only bridges or NHS non-Interstate bridges, but requires the state DOT to establish targets.
- FHWA requires that no more than 5 percent of a state's bridge data be unreported or missing.
- MAP-21 rulemaking requires that states develop and implement a risk-based asset management plan to achieve and sustain a state of good repair over the life cycle of the asset to improve or preserve the condition of the NHS. Asset Management encompasses two related means of doing so: making infrastructure last as long as reasonably possible through keeping up on preservation activities to minimize costlier major repairs, and utilizing a structure for its entire service life. These practices allow the department to operate to lowest life cycle cost (LLCC) on the network level.
- MAP-21 performance measures are not to explicitly drive planning and programming, but rather be an indication of performance achieved by states operating at the LLCC.

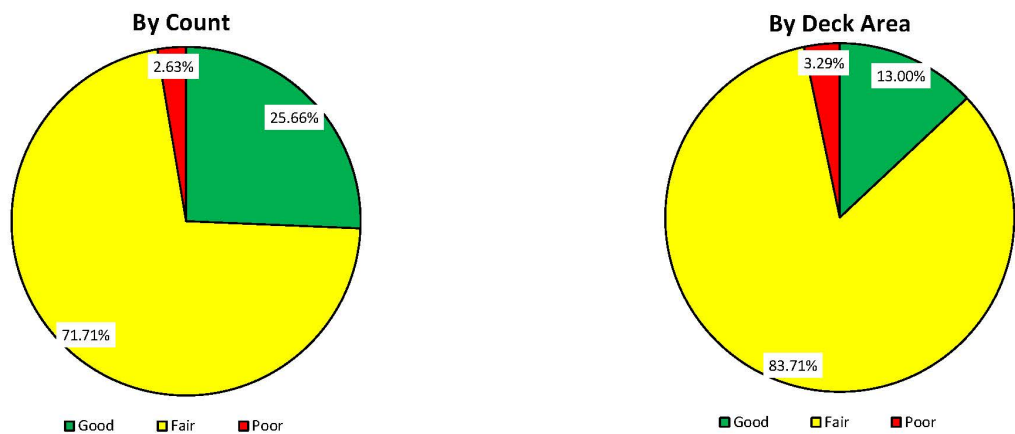
End of Calendar Year 2018 Status of Bridges (Based on 8' and greater)

Business Plan Network	Total Bridge Count	Total Deck Area (Msft)	Aver. Bridge DA (sf)	Closed Bridges	Posted Bridges	Poor Count	% Poor by Count	Poor-Deck Area (Msft)	% Poor by Deck Area	Non-Poor Bridges with a "5" Condition Rating
State ≥8'; Interstate/Ramps	88	1.0531	11,967	0	0	3	3.41%	0.0423	4.02%	42
State ≥8'; NHS (non-Interstate)	162	0.8727	5,387	0	0	7	4.32%	0.0237	2.72%	64
State ≥8'; non-NHS > 2000 ADT	231	0.6834	2,958	0	0	19	8.23%	0.0492	7.19%	82
State ≥8'; non-NHS < 2000 ADT	798	1.4482	1,815	2	9	76	9.52%	0.1230	8.49%	250
Total - State Bridges (≥8')	1,279	4.0574	3,172	2	9	105	8.21%	0.2381	5.87%	438
Local ≥20'	314	0.4896	1,559	13	86	114	36.31%	0.1117	22.82%	86

Reducing Rate of Deterioration through Investment (Non-Replacement) (Based on 8' and greater)

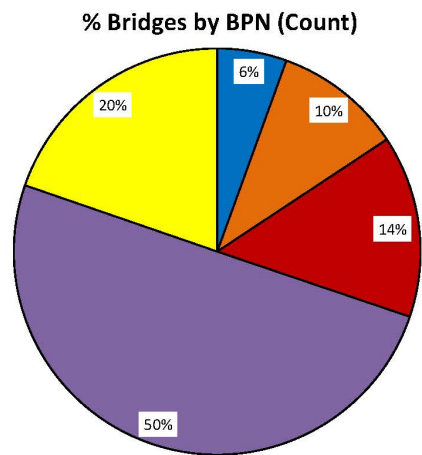
Business Plan Network	Annual New Poor Count (Poor "on")	Annual New Poor Count (Poor "off")	Annual New Poor DA (Poor "on")	Annual New Poor DA (Poor "off")	Preservation (million\$)	Preservation (#bridges)
State ≥8'; Interstate/Ramps	0	0	0.00%	0.00%	\$0.05	1
State ≥8'; NHS (non-Interstate)	1	4	0.11%	0.54%	\$0.00	0
State ≥8'; non-NHS > 2000 ADT	0	6	0.84%	3.90%	\$2.01	2
State ≥8'; non-NHS < 2000 ADT	9	16	0.40%	2.56%	\$1.09	3
Total - State Bridges (≥8')	10	26	0.31%	1.69%	\$3.15	6
Local ≥20'	5	20	0.53%	3.18%	\$0.00	0

MAP-21 Bridge Performance (Based on all NHS Bridge Owners Greater than or Equal to 20' in Length)

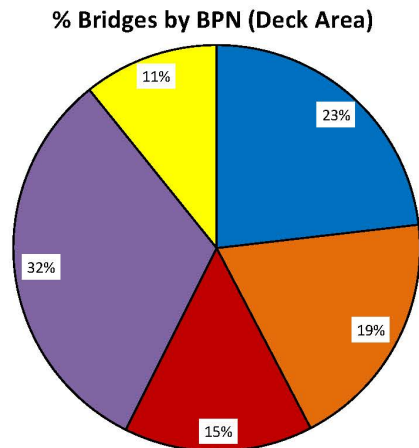


End of Calendar Year 2018 Status of Bridges in Region (Based on 8' and greater)

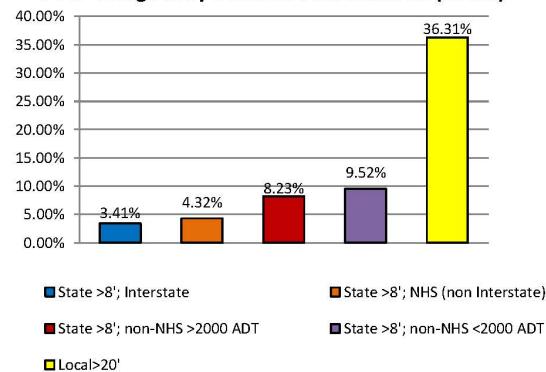
PennDOT Data 8' and Greater By Business Plan Network



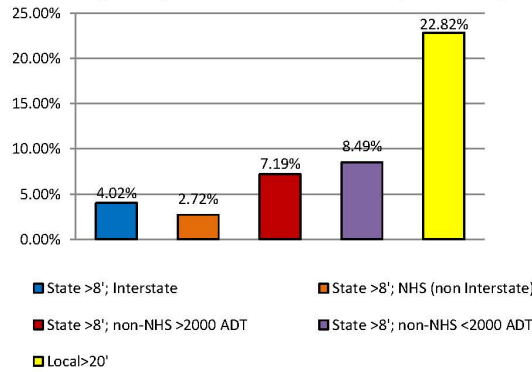
PennDOT Data 8' and Greater By Business Plan Network



Poor Bridge % by Business Plan Network (Count)



Poor Bridge % by Business Plan Network (Deck Area)



Appendix I: Eligible but Unfunded Project Listing

Project Title	Estimated Cost
Clarion County	
Main Street and 5th Ave Intersection	1,497,904
US 322 and PA 66 Roundabout	13,730,790
I-80 Interchange (Exit 70) Safety Improvements	1,248,254
Bike/Pedestrian Improvements along PA 68	7,222,493
Bike/Pedestrian Connectivity between Clarion and Trail 66	673,186
Upgraded Trail 66 Facilities	499,301
PA 208 Pavement Conditions	4,474,292
PA 338 Sight Distance	1,248,254
Bicycle/Pedestrian Connectivity to ATA Bus Stop	2,422,860
Clarion Highlands On-road Detour	673,186
Erie-to-Pittsburgh Trail Gap Closure Emlenton to Foxburg	2,544,003
Allegheny River Trail - Parker to Upper Hillville	6,057,151
Armstrong Trail Brady Tunnel Trail Gap	25,963,676
PA 68 to I-80 Improvements	5,607,450
Total for Clarion:	73,862,800
Crawford County	
North Main Street Safety Improvements	2,278,517
Mead Ave and French Creek Pkwy Intersection	1,497,904
At-grade Crossing in Cambridge Springs	561,966
French Creek Pkwy Road Diet	1,497,904
PA 198 Pavement Conditions	1,743,046
Grove Street over Mill Run (ID 20730188124001)	12,902,760
Joiner Road Bridge Replacement Project (ID 20720208834003)	1,752,548
Stitzerville Bridge (ID 20720703993010)	206,711
US 322 and SR 2005 Intersection	1,997,206
SR 2014 sight distance	1,997,206
Plank Road Bridge Replacement (ID 20720905173011)	1,171,174
SR 3004 and Victory Blvd Intersection	1,497,904
Clinton Court over Mill Run (ID 20730188074012)	116,837
Walnut Street and North Cottage over Mill Run (ID 20730188294107)	251,648
Connect Ernst Trail and Bicentennial Park (PA 102)	499,301
PA 27 and PA 173 Intersection	1,497,904
Hogback Road Bridge (ID 20721808404000)	1,288,572
PS 77 and SR 1024 Intersection	1,497,904
1996 Safety Study Intersection Improvements	1,497,904
New Access Road in Vernon Twp	17,475,551
Rocky Glen Rd Drainage	873,778
Creek Road County Bridge Replacement (ID 20720607513008)	2,156,982
Sportsman Road County Bridge Replacement (ID 20722208963028)	2,212,218
PA 27 Truck Climbing Lane	6,187,088
Jerusalem Road County Bridge Replacement (ID 20720408993004)	5,136,314
Erie-to-Pittsburgh East Branch Trail Extension - Spartansburg to Centerville	4,845,721

2020-45 Long Range Transportation Plan

SR 2040 Flooding	272,951
Bicycle/Pedestrian Connectivity in Titusville	2,278,517
PA 77 and PA 8 Intersection	7,489,522
PA 408 and SR 1010 Intersection	7,489,522
US 322 and PA 173 Intersection	1,497,904
Delano Rd and Perry Hwy Intersection	1,497,904
PA 102 and Pennsylvania Ave Intersection	1,497,904
Erie-to-Pittsburgh East Branch Trail Extension - Black Bridge to Spartansburg	2,960,870
Erie-to-Pittsburgh East Branch Trail Extension - Centerville to Hydetown	24,790,869
Erie-to-Pittsburgh East Branch Trail Extension - Hydetown to Titusville	11,860,979
West Road over Linesville Creek (ID 20720506054001)	909,977
Hamilton Road over Muddy Creek (ID 20720107433001)	1,293,628
East Spring Road Bridge (ID 20722304664002)	1,085,232
Deeter Hill Road Bridge (ID 20722704254003)	99,860
Titusville Trail Town Master Plan	673,186
Jay Road Bridge (ID 20722704774002)	862,793
Racop Road Bridge (ID 20722908734002)	98,862
SR 408 and Main Street Intersection	1,497,904
Waylands Corner Intersection	1,497,904
PA 27 and PA 8 Intersection	1,497,904
Total for Crawford:	145,796,764
Forest County	
US 62 Geometry in Tionesta	716,034
Guiltonville Road Flooding	337,685
PA 899 and PA 6 Intersection	1,497,904
Total for Forest:	2,551,623
Venango County	
Erie-to-Pittsburgh Trail Gap Closure in Oil Creek State Park	22,468,566
Pittsburgh Rd and Pone Ln Intersection	1,497,904
Rail Bridge Improvement - Sugar Creek	998,603
PA 427 Flooding	193,498
SR 1007 Flooding	145,407
State Bridge Replacement SR 2004 over Deer Lick Run	7,159,983
PA 8 Betterment	11,271,680
Rail Bridge Improvement - Oil City	998,603
SR 4003 Drainage Issues	277,774
SR 3026 Drainage Issues	918,310
SR 3024 Drainage Issues	311,187
SR 3024 and PA 8 Intersection	1,997,206
Various Multimodal Improvements for Adult Living Community	2,278,517
Sandy Creek/Clarion Highlands Trail Crossing Improvements	499,301
Add Capacity PA 8 to I-80	41,377,998
PA 8 and Dollar General Intersection	1,497,904
PA 8 and SR 3013 Intersection	1,497,904
Rouseville Signal	1,497,904
Front St, Wilson Ave, First St Intersection Improvements	1,497,904
Front St and Second St Intersection Improvements	1,497,904
PA 27 and Lesh Road Intersection Improvements	1,497,904

PA 27 and Cherrytree Plumline Road Intersection Improvements	1,497,904
Front Street (Franklin) Multimodal Improvements	2,278,517
PA 8 and Front Street Intersection Improvements	1,497,904
PA 417 Multimodal Improvements	1,443,059
US 322, PA 417 and Meadville Pike Intersection Improvements	1,497,904
Front Street (Oil City) Multimodal Improvements	2,627,889
Central Elementary School Pedestrian Improvements	2,496,507
8th Street Multimodal Improvements	379,751
9th Street Bicycle Improvements	410,131
Bicycle Sharrows and Signage Improvements in Franklin	673,186
Liberty Street Multimodal Improvements	1,245,587
13th Street Multimodal Improvements	805,074
Elk Street Shared Lanes	1,275,967
Liberty Street and PA 8 Intersection Improvements	1,497,904
Total for Venango:	
	121,009,250
Warren County	
Safety Study US 62	249,651
US 6 Bike/Ped Connectivity	455,702
PA 59 Bike/Ped Connectivity to Jakes Rocks	1,682,963
5th Ave and Conewango St Intersection	1,497,904
Youngsville Revitalization Plan Streetscape Improvements and Bike/Ped	2,496,507
Bicycle Trail from Youngsville to PA 62 (Old 6)	1,248,254
PA 957 Pavement Conditions	6,633,206
On-road Bicycle Improvements along US 62	841,480
PA 59 Truck Climbing Lane	23,213,605
US 62 and PA 957 Intersection	1,497,904
Local Bridge Replacement Gossville Road over West Caldwell Creek (Bridge ID 61720703554004)	144,797
Local Bridge Replacement Baker Hill Road over Brokenstraw Creek (Bridge ID 61720305214000)	4,830,742
Local Bridge Replacement Eureka Road over West Branch Caldwell Creek (Bridge ID 61720703774005)	137,558
Local Bridge Replacement Chappel Hill Road over Caldwell Creek (Bridge ID 61720703554001)	1,175,481
Local Bridge Replacement Old State Road over Kiantone Creek (Bridge ID 61720905894003)	263,631
Local Bridge Replacement Ludwick Road over Kiantone Creek (Bridge ID 61720905084002)	808,868
Local Bridge Replacement Kidder Road over Little Brokenstraw Creek (Bridge ID 61721005514004)	3,101,037
Local Bridge Replacement North Road over Little Brokenstraw Creek (Bridge ID 61721005614001)	167,765
Local Bridge Replacement Western Road over Little Brokenstraw Creek (Bridge ID 61721005474005)	3,139,982
Local Bridge Replacement Valastiak Road over Railroad (Bridge ID 61-7210-0539-8007)	2,780,485
Local Bridge Replacement Barton Run Road over Little Brokenstraw Creek (Bridge ID 61721604414003)	538,422
Local Bridge Replacement Depot Road (Bridge ID 61721603784009)	1,247,006
Local Bridge Replacement Marshianne Road (Bridge ID 61721603954008)	184,242
Local Bridge Replacement Schell Road over Gar Run (Bridge ID 61721603974006)	928,701
State Bridge Replacement SR 2004 over Deer Lick Run (Bridge ID 61200400103053)	232,425
Local Bridge Replacement Mount Hope Road (Bridge ID 61721903064003)	236,844
Local Bridge Replacement Hyde Road over Spring Creek (Bridge ID 61722003224003)	274,117
Local Bridge Replacement Stoddard Road over Stillwater Creek (Bridge ID 61722105904007)	936,190
Local Bridge Replacement Youngsville Road over Tidioute Creek (Bridge ID 61722203624001)	1,108,449
SR 4019 Shoulders	3,908,482
PA 957 Widening and Resurfacing	5,726,430
SR 4009 Betterment	7,416,846

2020-45 Long Range Transportation Plan

US 6 and Main Avenue Interchange	1,497,904
SR 1019 and Quaker Hill Road Intersection	1,497,904
Pennsylvania Avenue and Conewango Avenue Signal	1,497,904
Werner Park Entrance (US 62)	1,497,904
US 6 and PA 27 Intersection	1,497,904
Local Bridge Removal Creek Road Road over Brokenstraw Creek (Bridge ID 61-3012-0030-0000)	998,603
Total for Warren:	87,593,800
Total for the NW RPO:	430,814,237

Appendix J: Environmental Justice Benefits and Burdens Analysis

Northwest Rural Planning Organization (RPO) Environmental Justice- Benefits and Burdens Summary for 2021-2024 TIP & LRTP Update

INTRODUCTION

The public involvement efforts for the Department of Transportation are guided by several federal mandates to ensure nondiscrimination in federally funded activities. These mandates are designed so that planning and public involvement activities are conducted equitably and in consideration of all citizens, regardless of race, nationality, sex, age, ability, language spoken, or economic status. These mandates include:

- **Title VI of the Civil Rights Act of 1964** - Title VI of the Civil Rights Act states that "No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefit of, or be subjected to discrimination under any program or activity receiving federal financial assistance." PennDOT and its partners are committed to providing open and inclusive access to the transportation decision-making process for all persons, regardless of race, color or national origin.
- **Executive Order on Environmental Justice (Executive Order 12898 February 11, 1994)** - Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. PennDOT and its partners are committed to providing opportunities for full and fair participation by minority and low- income communities in the transportation decision-making process.
- **Americans with Disabilities Act (ADA)** - The Americans with Disabilities Act of 1990 stipulates involving persons with disabilities in the development and improvement of services. Sites of public involvement activities as well as the information presented must be accessible to persons with disabilities. PennDOT and its partners are committed to providing full access to public involvement programs and information for persons with disabilities. All public meetings are held in ADA-accessible locations. With advance notice, special provisions can be made for hearing-impaired or visually-impaired participants.
- **Executive Order on Limited English Proficiency** - Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency," was signed on August 11, 2000. Recipients of federal funding "are required to take reasonable steps to ensure meaningful access to programs and activities by LEP person." PennDOT and its partners will make special arrangements for the provision of interpretative services upon request.

ENVIRONMENTAL JUSTICE BENEFITS AND BURDENS ANALYSIS

In development of the LRTP, the Northwest RPO conducted an Environmental Justice Benefits and Burdens analysis. A distributive geographic analysis was conducted to identify the locations and concentrations of minority, low-income and other Traditionally Underserved Populations (TUP).

The identification of these populations is essential to establishing effective strategies for engaging them in the transportation planning process. When meaningful opportunities for interaction are established,

the transportation planning process can effectively draw upon the perspectives of communities to identify existing transportation needs, localized deficiencies, and the demand for transportation services. Mapping of these populations not only provides a baseline for assessing impacts of the transportation investment program, but also aids in the development of an effective public involvement program.

Fundamentally, the principles of Environmental Justice are aimed at preventing the denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations. The establishment of transportation funding as a performance measure is consistent with this principle by supporting the evaluation of funding priorities considered for the LRTP, including the 4-year TIP. Mapping and analyzing transportation funding can assist in making the prioritization process more open, transparent and accountable to the public. In developing this funding performance measure, the core issue is whether or not the number and types of projects and the total project investment are equitably distributed throughout the Northwest RPO Region.

IDENTIFYING MINORITY AND LOW-INCOME POPULATIONS

A statistical analysis of Clarion, Crawford, Forest, Venango, and Warren Counties, which make up the Northwest Rural Planning Organization (RPO), was performed to determine thresholds of population, minority population, and low-income population. If necessary, project alternatives will be developed to prevent disproportionately high or adverse effects on any identified minority or low-income populations. An anomaly, the 2009 construction of a state correctional institution in Forest County was identified and should be considered in the analysis of the statistics for the RPO.

Minority population is defined as any readily identifiable group of Black, Hispanic, Asian American, American Indian, and Alaskan Native who live in geographic proximity and who would be similarly affected by a proposed FHWA program, policy, or activity. Based on the 2010-2014 American Community Survey (ACS) Data, the average minority population rate in the Northwest RPO counties is 5.31% as shown in Table 1. To reflect an average that would be more relevant to the five-county region, Forest County was removed from the calculation to arrive at an average of 4.13% for the remaining four counties.

The low-income population is defined as any readily identifiable group of persons at or below the Department of Health and Human Services poverty guidelines who live in a geographic proximity who would be similarly affected by a proposed FHWA program, policy, or activity. The average poverty rate based on the status of all ages in the 2010-2014 ACS Data for the RPO counties is 15.8%.

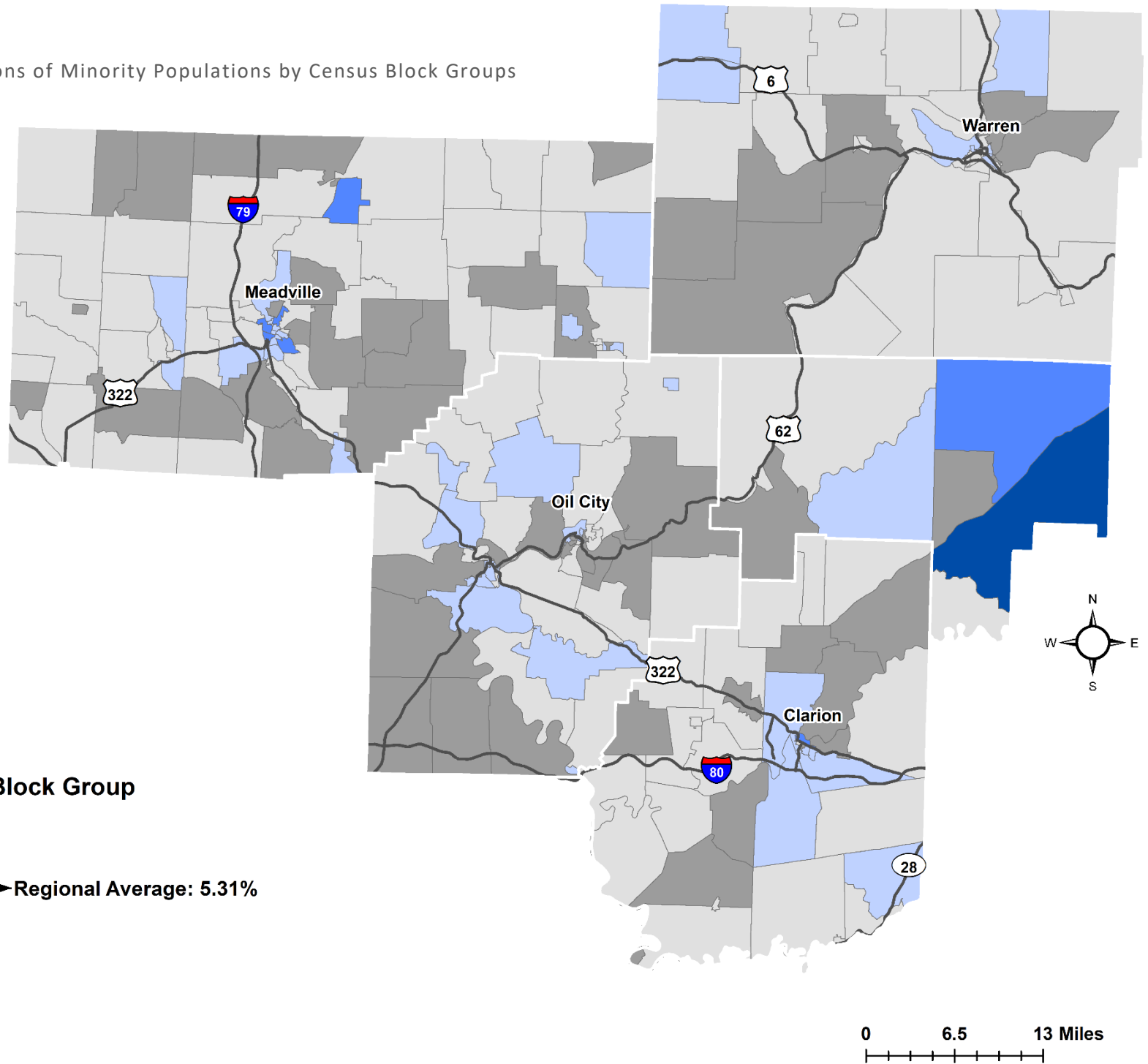
Table 1: Profile of Low-Income and Minority Populations, 2017

Demographic Indicator	Northwest RPO	
	Regional Population	Regional Percentage
Total	226,207	
White, Non-Hispanic	214,196	94.69%
Minority	12,011	5.31%
Black or African American, Non-Hispanic	4,932	2.18%
American Indian and Alaska Native, Non-Hispanic	94	0.09%
Asian alone, Non-Hispanic	1,011	0.45%
Native Hawaiian and Other Pacific Islander, Non-Hispanic	35	0.02%
Some other race, Non-Hispanic	109	0.05%
Two or more races, Non-Hispanic	2,875	1.27%
Hispanic	2,855	1.26%
Low-Income Households	12,485	13.64%
Low-Income Population	31,302	14.61%
Other Potentially Disadvantaged Populations		
Limited English Proficiency (LEP)	2,871	1.34%
Persons with a Disability	37,984	17.39%
Female Head of Household with Child	4,801	5.25%
Elderly (65 years or older)	44,530	19.69%
Carless Households	7,828	8.55%

Source: 2013-2017 American Community Survey 5-Year Estimates

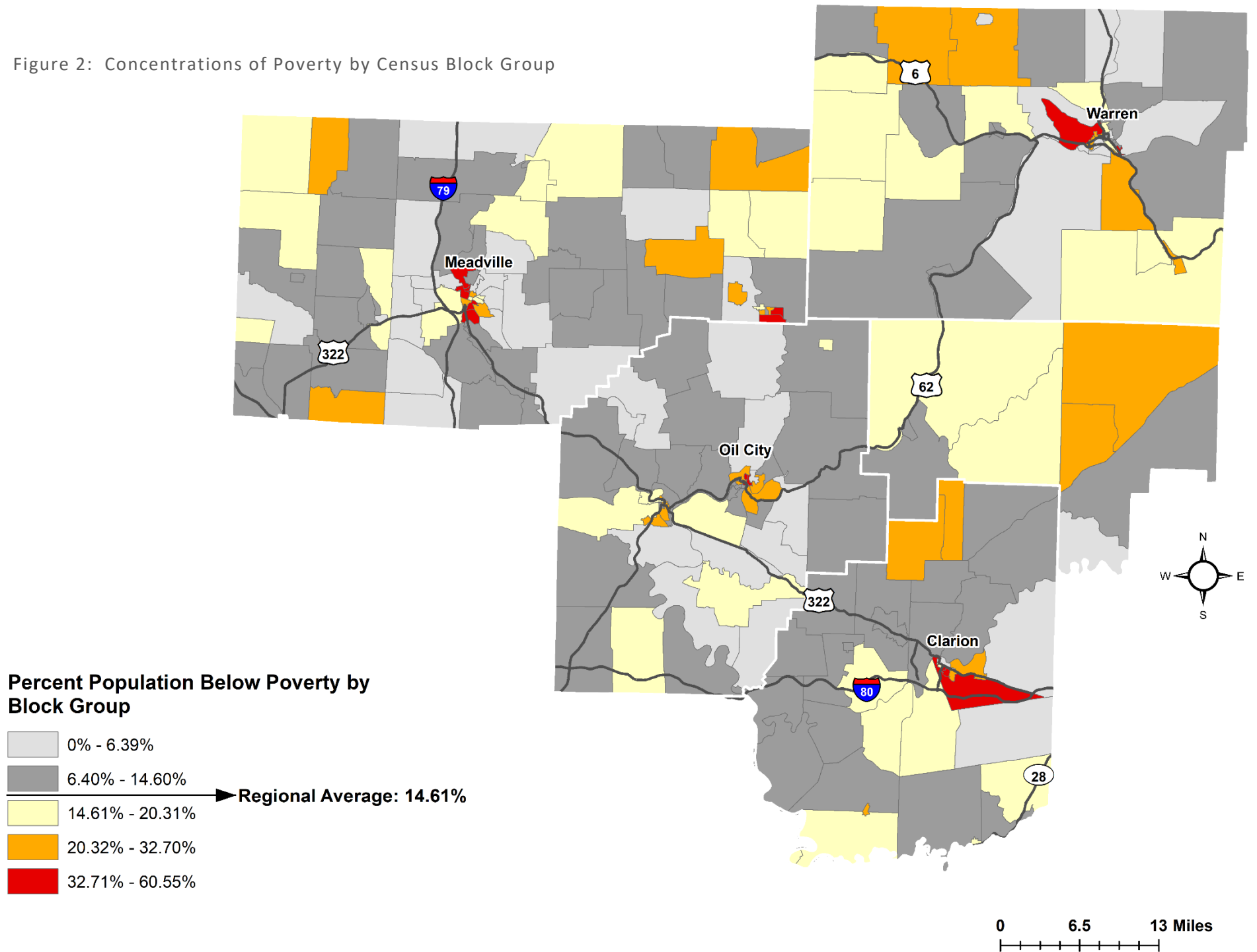
Figure 1 shows the concentrations of minority populations by census block groups based on 2013-2017 American Community Survey data. Figure 2 shows the concentrations of households below the poverty threshold by census block groups, also based on 2013-2017 American Community Survey data.

Figure 1: Concentrations of Minority Populations by Census Block Groups



Source: 2013-2017 American Community Survey 5-Year Estimates

Figure 2: Concentrations of Poverty by Census Block Group



Source: 2013-2017 American Community Survey 5-Year Estimates

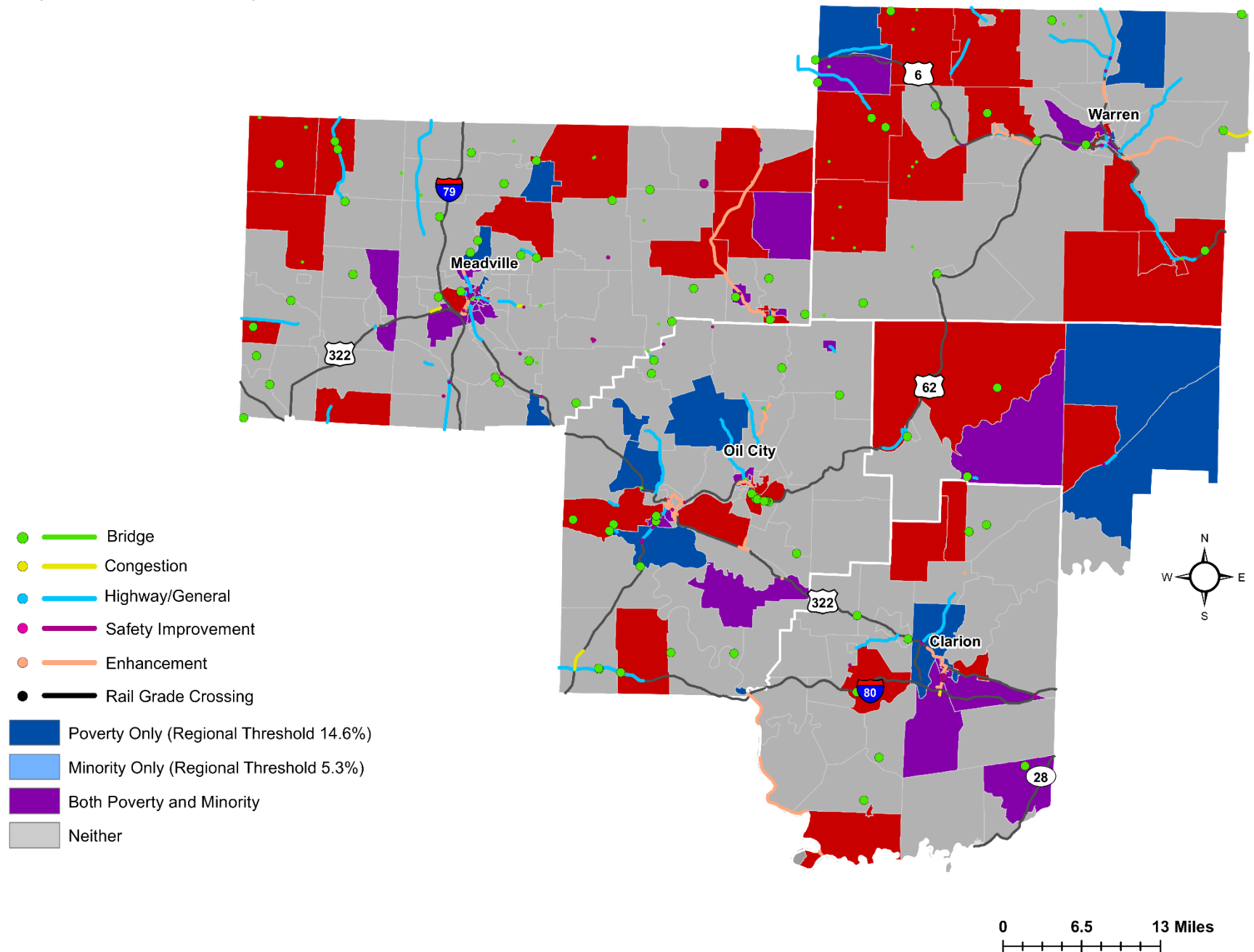
2021-2024 TRANSPORTATION IMPROVEMENT PROGRAM

As part of the development of the 2021-2024 Transportation Improvement Program, the Northwest RPO reviewed transportation projects located in areas that were determined to be “high minority” or “high in-poverty.” “High minority” refers to census block groups that have a concentration of minority persons that is greater than or equal to Northwest RPO regional average of 5.3 percent. “High in-poverty” refers to census block groups that have a concentration of low-income persons that is greater than or equal to the Northwest RPO regional average of 14.6 percent.

This TIP is weighted heavily by the Statewide Investment Plan toward spending on bridge improvements and construction, consistent with the current statewide priority to address poor condition bridges. Bridges located in minority and low-income population areas targeted for improvement will likely be a benefit or burden dependent upon the use of the bridge, access to major roadways, bicycle and pedestrian access, and other important factors of consideration. Project priorities in future TIP cycles may change once the problems with poor condition bridges are addressed.

The below mapping illustrates the geographic proximity between different 2021-2024 TIP project types, LRTP projects, and high minority and high in poverty areas.

Figure 3: 2021-2024 TIP and LRTP Project Locations and Census Block Groups that Exceed the Regional Threshold for Minority and Low-Income Populations



Source: 2013-2017 American Community Survey 5-Year Estimates

CONDITION ASSESSMENT

In order to analyze benefits and adverse effects, the RPO examined the existing conditions of transportation assets throughout the region, as well as determining disparities of safety performance measures among the minority and low-income populations. The use of these tables going forward allow the RPO to track number of crashes, poor condition bridges, and poor pavement mileage in the region and identify safety gaps and distribution disparities between minority and low-income populations and populations that are not minority or low-income.

The Northwest Region currently has 246 bridges in poor condition. Of those bridges, 55, or 22.3 percent, are location within High Minority block groups and 88, or 35.8 percent, are within High Poverty block groups.

Table 2: Distribution of Poor Condition Bridges by Minority Population Intervals

<i>Population/Asset</i>	Percent Minority Population Intervals					<i>Total</i>
	0% - 2.6%	2.61% - 5.3%	5.31% - 13.01%	13.02% - 34.62%	34.63% - 60.87%	
Poor Condition Bridge Count	57	134	20	20	15	246
Percentage	23.2%	54.5%	8.1%	8.1%	6.1%	100%
Total Population	103,096	62,788	46,281	9,115	4,927	226,207
Total Population (in %)	45.6%	27.8%	20.5%	4.0%	2.2%	100%
Minority Population	1,273	2,386	3,852	1,583	2,917	12,011
Minority Population (in %)	10.6%	19.9%	32.1%	13.2%	24.3%	5%

Source: 2013-2017 ACS, PennDOT

Table 3: Distribution of Poor Condition Bridges by Poverty Population Intervals

<i>Population/Asset</i>	Percent Below Poverty Population Intervals					<i>Total</i>
	0% - 6.39%	6.4% - 14.6%	14.61% - 20.31%	20.32% - 32.7%	32.71% - 75.86%	
Poor Condition Bridge Count	39	119	43	32	13	246
Percentage	15.9%	48.4%	17.5%	13.0%	5.3%	100%
Total Population	50,646	91,511	39,962	28,314	15,774	226,207
Total Population (in %)	22.4%	40.5%	17.7%	12.5%	7.0%	100%
Below Poverty Population	12,717	7,790	9,262	1,457	76	31,302
Below Poverty Population (in %)	40.6%	24.9%	29.6%	4.7%	0.2%	14%

Source: 2013-2017 ACS, PennDOT

Northwest Commission RPO 2021-2024 TIP Environmental Justice Analysis

Higher percentages of bicycle and pedestrian crashes in the region take place within block groups of larger populations. 60.7 percent of crashes occur in High Minority block groups while 66.9 percent of crashes occur in High Poverty block groups. The distribution of these crashes is shown in the tables below.

Table 4: Distribution of Bicycle & Pedestrian related crashes by Minority Population Intervals

<i>Population/Asset</i>	Percent Minority Population Intervals					<i>Total</i>
	0% -2.6%	2.61% - 5.3%	5.31% - 13.01%	13.02% - 34.62%	34.63% - 60.87%	
Bike-Pedestrian Crash Count	24	77	40	51	65	257
Percentage	9.3%	30.0%	15.6%	19.8%	25.3%	100%
Total Population	103,096	62,788	46,281	9,115	4,927	226,207
Total Population (in %)	45.6%	27.8%	20.5%	4.0%	2.2%	100%
Minority Population	1,273	2,386	3,852	1,583	2,917	12,011
Minority Population (in %)	10.6%	19.9%	32.1%	13.2%	24.3%	5%

Source: 2013-2017 ACS, PennDOT

Table 5: Distribution of Bicycle & Pedestrian related crashes by Poverty Population Intervals

<i>Population/Asset</i>	Percent Below Poverty Population Intervals					<i>Total</i>
	0% - 6.39%	6.4% - 14.6%	14.61% - 20.31%	20.32% - 32.7%	32.71% - 75.86%	
Bike-Pedestrian Crash Count	19	66	29	64	79	257
Percentage	7.4%	25.7%	11.3%	24.9%	30.7%	100%
Total Population	50,646	91,511	39,962	28,314	15,774	226,207
Total Population (in %)	22.4%	40.5%	17.7%	12.5%	7.0%	100%
Below Poverty Population	12,717	7,790	9,262	1,457	76	31,302
Below Poverty Population (in %)	40.6%	24.9%	29.6%	4.7%	0.2%	14%

Source: 2013-2017 ACS, PennDOT

Pavements Condition Charts, shown below, indicate 27.5 percent of poor pavement in the region is located in High Minority block groups and 30.5 percent is located in High Poverty block groups.

Table 6: Distribution of Poor Pavement by Minority Population Intervals

<i>Population/Asset</i>	Percent Minority Population Intervals					<i>Total</i>
	0% - 2.6%	2.61% - 5.3%	5.31% - 13.01%	13.02% - 34.62%	34.63% - 60.87%	
Poor Pavement Mileage	103.35	284.44	70.48	45.42	30.94	534.63
Percentage	19.3%	53.2%	13.2%	8.5%	5.8%	100%
Total Population	103,096	62,788	46,281	9,115	4,927	226,207
Total Population (in %)	45.6%	27.8%	20.5%	4.0%	2.2%	100%
Minority Population	1,273	2,386	3,852	1,583	2,917	12,011
Minority Population (in %)	10.6%	19.9%	32.1%	13.2%	24.3%	5%

Source: 2013-2017 ACS, PennDOT

Table 7: Distribution of Poor Pavement by Poverty Population Intervals

<i>Population/Asset</i>	Percent Below Poverty Population Intervals					<i>Total</i>
	0% - 6.39%	6.4% - 14.6%	14.61% - 20.31%	20.32% - 32.7%	32.71% - 75.86%	
Poor Pavement Mileage	138.27	233.26	76.37	62.68	24.05	534.63
Percentage	25.9%	43.6%	14.3%	11.7%	4.5%	100%
Total Population	50,646	91,511	39,962	28,314	15,774	226,207
Total Population (in %)	22.4%	40.5%	17.7%	12.5%	7.0%	100%
Below Poverty Population	12,717	7,790	9,262	1,457	76	31,302
Below Poverty Population (in %)	40.6%	24.9%	29.6%	4.7%	0.2%	14%

Source: 2013-2017 ACS, PennDOT

The inclusion of environmental justice principles into regional transportation planning is an evolving process. Anticipated changes to funding requirements, safety measures, and regional needs will continue to be incorporated in the environmental justice analysis, in addition to continued outreach and access to information by minority and low-income communities.

Appendix K: 2021 Transit TIP

Project	Project Title	Sponsor	2021 Total	2022 Total	2023 Total	2024 Total	Total
89724	Revenue Fleet Vehicles	CRATA	720,000	900,000	630,000	900,000	3,150,000
110573	IT Infrastructure	CRATA	20,000	12,000	20,000	20,000	72,000
110574	Revenue Fleet Vehicles	CRATA	90,000	600,000	360,000		1,050,000
110576	Bus Shelters	CRATA		45,000			45,000
110578	Maintenance Equipment	CRATA	50,000				50,000
114974	Support Vehicles	CRATA	45,000	45,000	35,000	35,000	160,000
114975	Oil City Multimodal Facil	CRATA	400,000				400,000
114977	Titusville Operations Fac	CRATA			400,000		400,000
114978	Parking Lot Resurface	CRATA	25,000				25,000
115457	Operating Expense	CRATA	1,500,000	1,537,500	1,575,938	1,615,336	6,228,774
Totals for: Crawford Area Transportation Authority			2,850,000	3,139,500	3,020,938	2,570,336	11,580,774
106432	Shared Ride Bus Procurement	WARREN			120,000		120,000
110572	PARKING LOT	WARREN			20,000		20,000
114980	Mini Van	WARREN		35,000			35,000
114981	Service Vehicle	WARREN	85,000				85,000
114982	Scissor Lift	WARREN	6,000				6,000
Totals for: Warren County Transit Authority			91,000	35,000	140,000		266,000
Overall Totals:			2,941,000	3,174,500	3,160,938	2,570,336	11,846,774



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