Appendix D. 2023 Interim Update

Introduction

Background

The Regional Operations Plan (ROP) completed for the Western Regional Traffic Management Center (RTMC) Region in 2019 was part of a statewide initiative to increase implementation of Transportation Systems Management and Operations (TSMO) projects. This ROP was compiled based on guidance from PennDOT Publication 851 (TSMO Guidebook, Part I: Planning).

This addendum provides an interim update to the 2019 Western RTMC ROP, including the status of existing projects, a discussion of emerging trends related to traffic operations, and identification of new ROP projects which have been proposed during the update process.

Update Process

This interim update was completed through a schedule of approximately six months. A kickoff meeting was held on November 2, 2022, followed by two stakeholder outreach meetings. One with stakeholders and planning partners in the Southwestern Pennsylvania Commission Region and one with stakeholders and planning partners in the greater Western Region. The stakeholder outreach meetings were used to confirm existing project status and gain insight into new traffic operations needs in each respective area. This information was evaluated with the project steering committee – including PennDOT Bureau of Operations (BOO) and PennDOT Districts 1-0, 10-0, 11-0, and 12-0 – and a list of new ROP projects was confirmed. A final meeting of stakeholders was held on March 20th.

This process does not supplant the extensive stakeholder outreach and data analysis completed during the 2019 ROP development. New projects identified within this update process should be considered alongside, and not in place of, previously confirmed projects when funding opportunities arise.

Status of Existing ROP Projects

In the initial 2019 Western RTMC ROP, 65 projects and 23 studies were identified, ranging from intelligent transportation systems (ITS) and traffic signal improvements to incident management and preventive safety technologies. Integrated Corridor Management (ICM) was also a key component of the ROP. These projects take a holistic approach, maximizing existing capacity of parallel routes and emphasizing multimodal approaches to congestion management. Projects were prioritized based on stakeholder input and discussions into “High Priority” and “Normal Priority” groups. A table is attached which shows the status of each of these previously documented projects. Status updates fall into the following categories shown in **Table 1**.

TABLE 1: PROJECT STATUS DEFINITIONS

Project Status	Definition
Documented	Project has been included in the ROP.
Programmed	Project has been included in a planning document, such as a Transportation Improvement Program (TIP), Twelve Year Program (TYP), or Long-Range Transportation Plan (LRTP) and/or another a funding source has been secured. Specific funding sources are noted were applicable.
Partial Progress	Progress has been made on some component of the project. The "Notes" column provides more detail. For example, a project that might have included both traffic signal improvements and ITS devices could have seen the signal work progressed but not the ITS devices, or vice versa.
In Design	Project is currently in design.
In Construction	Project is currently in construction.
Complete	Project has been completed.

A number of ROP projects have progressed in the region, including a few which have moved into the construction phase. These projects include PA-Route 8 Traffic Signal Improvements in Butler County, PA-Route 28 Freeway Service Patrol in Allegheny County, and Bayfront Parkway ITS Improvements in Erie County. Several projects have seen partial progress of varying degrees. This includes partial progress of the Bates Street Interchange Improvements in Allegheny County and the Western Regional Traffic Management Center Upgrades.

There are a few major projects currently under design: I-79 Integrated Corridor Management in Washington County, South Hills Village Smart Parking in Allegheny County, I-80 Fiber Optic Cable Deployment, and I-376 Corridor ITS in Beaver County.

See Table 4 for a full list of previously documented projects status.

Status of Studies and Initiatives

In addition to the projects, there were a total of 20 studies and initiatives that were identified in the previous ROP, two of which were High Priority. These ranged from Freight Management studies to Multimodal Connectivity studies. While specific projects could be determined for many of the issues and needs, others need further study to best determine the correct mitigation to improve operations.

A few of the studies in the region progressed and two were even completed. Completed studies include the US 40 Road Safety Audit in Fayette County and the SR 8 Corridor Operations Planning Study in Allegheny County and Butler County. A table is attached, which shows the status of each of these previously documented projects. Status updates fall into the following categories shown in Table 2. See page 12 for a full list of previously documented studies and initiatives.

TABLE 2: STUDY STATUS DEFINITIONS

Study Status Choices	Definitions
Documented	Project included in the ROP.
Planned	Study is planned for the future.
Partial Progress	Progress has been made on some component of the project/study. See Notes column for more detail.
Complete	Study has been completed.

Emerging Trends

The stakeholder engagement process was also used to discuss noteworthy regional, industry, and technology-related trends in the region which could impact transportation operations. This discussion included discussion of some general trends, including:

- Funding challenges – Transportation agencies throughout the country are grappling with growing gaps in transportation funding, brought on by reduced gas tax funds, as well as other factors. PennDOT completed the PennDOT Pathways Planning and Environmental Linkages (PEL) Study which evaluates the near-term and long-term revenue options and strategies to mitigate this issue and ensure the Commonwealth's highways and bridges are maintained in a state of good repair. The PEL Study can be viewed here: https://www.penndot.pa.gov/about-us/funding/Documents/PennDOT-Pathways_PEL-Study.pdf. One outcome of this process could include an increased focus on TSMO projects – prioritizing more efficient usage of existing capacity could decrease funding needs and ensure available funds are spent on projects that maximize potential benefits to safety and mobility.
- Future of work – As the region shifts into a post-pandemic "new normal," some degree of long-term reduction in peak hour travel is anticipated. Given that capacity-adding projects are generally warranted through analysis of future peak periods, these changes should also result in an increased focus on TSMO solutions which produce improvements within the existing transportation network.

The discussions also included specific planned developments and other location-specific trends, as discussed below.

Erie County MPO

The Erie Metropolitan Planning Organization represents the needs of the 38 municipalities in Erie County as well as the Erie Metropolitan Transit Authority (EMTA), Erie Regional Airport Authority, and the Erie Western Pennsylvania Port Authority. The MPO's vision of is to develop a sustainable transportation system that provides mobility options to all people and the necessary infrastructure to support economic activity and daily life. This is done by prioritizing the maintenance of existing infrastructure while investing in targeted multimodal improvements to enhance safety and accessibility. Priority projects increase multimodal interconnectivity throughout the County. An example is advocacy for more frequent passenger rail to connect with busses, the airport and port as well as the existing road and sidewalk network. Emerging needs in Erie County include storm water management, spread of broadband technology, and lack of emergency management capacity.

Mercer County MPO

The Shenango Valley Area Transportation Study Metropolitan Planning Organization – Mercer County Long Range Plan Update was completed November 2021 and prioritizes the following transportation needs/focuses:

- Improvements to pavement condition
- The desire to spur economic growth through transportation improvements at freight bottlenecks
- A need for mobility options such as expanded transit service for residents to access jobs and resources.
- The desire to improve quality of life and enhance tourism through the development of multi-use trails and improved access to regional destinations

Emerging trends identified by the plan include Freight & E-Commerce, Adaptive Reuse, and Telecommuting. Rising e-commerce will impact land use, both in terms of an increased need for distribution centers, and a decreased need for retail space. A large warehouse/distribution center is currently under construction near the I-80/I-376/SR 760 Interchange. Vacant and underutilized sites are being proposed as development candidates to provide a more park-like, livable, mixed-use place with a sense of community. Mercer County could capitalize on telecommuting as it could easily attract residents from nearby cities with its high quality of life and lower cost of living.

North Central RPO

As with most rural regions, North Central Rural Planning Organization is reliant on private automobiles for personal mobility. Public transportation & ride sharing public transportation services in the region are primarily provided by the Area Transportation Authority (ATA). ATA reports a decrease in ridership from 426,000 in Fiscal Year (FY) 2018-19 to 361,000 in FY 2019-20. The region's total number of crashes has been decreasing each year with decade-lows of 1,926 in 2019 and 1,575 in 2020. More than one million miles per day are traveled by trucks across the region and billions of tons of good are moved in and out of the region per year. North Central's most recent Long Range Transportation Plan, adopted in June 2022, focuses on the following goal areas:

- Safety and Security
- Reliable Multimodal Transportation
- Equity and Access
- Reducing Environment Impacts
- Planning for Changing Demand
- Resiliency
- System Conditions

Northwest RPO

The Northwest Rural Planning Organization region is a rural area with a rather significant topography of hills and streams, therefore producing the need for more bridges. Often time, these bridges are under 20' in length and are owned locally by the counties and the municipalities. 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 especially those rated as "poor." Funding assistance to these municipalities for local bridge is greatly needed.

There is also a need to maintain roadway pavements in state of good repair.

Another regional trend 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 active transportation trends are due in part to the decreasing use of personal vehicles. Therefore, it is appropriate to include improved bicycle and pedestrian safety and convenience features as part of transportation projects and programs.

Southwestern Pennsylvania Commission (SPC)

The Pennsylvania Turnpike Commission's Southern Beltway officially opened in 2022. This new, 13-mile cashless tolling facility serves as a connection to the Pittsburgh International Airport and I-376 to I-79 in Washington County. In addition to the Southern Beltway, the Pennsylvania Turnpike Commission plans to extend the current Mon Fayette Expressway 14 miles north to PA Route 51 in Jefferson Hills to the Parkway East, I-376 East in Monroeville. This project will complete the 68-mile system allowing continuous travel from West Virginia to an interchange with the Parkway East in Monroeville. The project will also encourage redevelopment of abandoned industrial sites, encourage revitalization of some neighborhoods, and potential relive traffic congestions on a few different roads in southern and eastern Allegheny County.

The Pittsburgh International Airport is constructing a new $1.4 Billion, 811,000 square foot terminal, which is scheduled to open in 2025. In addition to the new terminal, there is 4,000 acres of developable land around the Pittsburgh International Airport including 30 million square feet of building space. Clinton Commerce Park, Cherrington Commerce Center, Industry Drive, and Airside Business Park have already seen significant investment and development.

The new 340-acre Ethane Cracker plant in Beaver County opened in 2022. Because of the new development, this may lead to an uptick in drilling within the SPC region as well as the development of other ancillary businesses.

There are several other anticipated development areas regionwide including the I-79 Corridor (Washington County), State Routes 19 and 228 in Butler County, and the Hazelwood Green Site (the site has a median target of 2.8 million sq. feet of mixed-use development).

PennSTART, which will be located in Westmoreland County once completed, is the state-of-the-art facility that will benefit emergency responders, transportation organizations, and research institutions. The new facility will provide access to innovative technologies for testing and education, automated vehicle testing and development, traffic incident management, tolling and ITS technology, work zones, commercial vehicles, transit vehicles, and other emerging technologies.

New ROP Needs and Projects

During the stakeholder engagement process for this interim update, a number of new issues and needs were discussed. These locations were reviewed and, where applicable, new ROP projects have been drafted for consideration. These projects have not undergone the data-heavy prioritization process which was used during the major update in 2019. Therefore, these projects should be considered alongside, but not in lieu of, projects previously included.

In total, 67 new projects have been included in this interim ROP update. They are summarized in **Table 2**. The projects include additional ITS needs, Transit Improvements, traffic signal improvement corridors, multimodal connectivity, intersection improvements, and traveler information. Project summary sheets have also been included as attachments. Projects are numbered sequentially for referencing, but no hierarchy should be assumed from the order given. No quantitative or qualitative prioritization was completed during this interim update. Prioritization can be revisited during a subsequent major ROP update. Cost estimates for this interim update generally follow the approach utilized in subsequent ROPs. This approach places projects into one of four cost categories, as outlined in **Figure 1**.

FIGURE 1: COST ESTIMATE CATEGORIES

$	$$	$$$	$$$$
<$500k	$500k - $2M	$2M - $10M	$10M+

TABLE 2: INTERIM UPDATE ROP PROJECT ADDITIONS

Project #	Project	Stakeholders	Improvement Type
IU.01	I-80 DMS Retrofit/Replace	PennDOT 10-0, North Central RPO, Northwest RPO	Antiquated Devices
IU.02	District 1-0 Antiquated Devices	PennDOT 1-0	Antiquated Devices
IU.03	US 22 at Northern Pike Intersection Improvements	PennDOT 11-0	Arterial Operations
IU.04	SR 8 at Wildwood Road Intersection Improvements	PennDOT 11-0	Arterial Operations
IU.05	SR 51 and SR 151 Roundabout	PennDOT 11-0	Arterial Operations
IU.06	Union Avenue/Gass Road/Highland Avenue Roundabout	PennDOT 11-0	Arterial Operations
IU.07	US 19 Ross Township Road Diet	PennDOT 11-0	Arterial Operations
IU.08	SR 151 at Broadhead Road	PennDOT 11-0	Arterial Operations
IU.09	McKnight Road at Seibert Road Improvements	PennDOT 11-0	Arterial Operations
IU.10	Lowries Run Road/Rochester Road Roundabout	PennDOT 11-0	Arterial Operations
IU.11	Sewickley Oakmont Road/ US 19 Intersection Improvements	PennDOT 11-0	Arterial Operations
IU.12	I-80 Fiber Optic Backbone	PennDOT 1-0, PennDOT 10-0, Mercer County MPO, North Central RPO, Northwest RPO	Communications
IU.13	I-70 Fiber Optic Gaps	PennDOT 12-0	Communications
IU.14	I-79 Fiber Optic Gaps	PennDOT 12-0	Communications
IU.15	Parkway East Active Traffic Management (ATM)	PennDOT 11-0	Freeway Operations
IU.16	I-80 Slow Vehicle Warning	PennDOT 10-0	Freeway Operations
IU.17	I-376 Ft. Pitt Tunnel Over Height Truck System	PennDOT 11-0	Freeway Operations
IU.18	I-80 & Applicable State Route Detour Sign Update	PennDOT 1-0, PennDOT 10-0	Incident Management
IU.19	I-79 & Applicable State Route Detour Sign Update	PennDOT 1-0, PennDOT 10-0	Incident Management
IU.20	I-90 & Applicable State Route Detour Sign Update	PennDOT 1-0	Incident Management

Project #	Project	Stakeholders	Improvement Type
IU.21	I-90 Closure Assistance	PennDOT 1-0, New York DOT, OhioDOT, Emergency Responders, Erie MPO	Incident Management
IU.22	I-90 On-Ramp Incident Gates	PennDOT 1-0, Erie MPO, Emergency Responders	Incident Management
IU.23	I-79 & I-80 Emergency Crossovers	PennDOT 1-0, Mercer County MPO, Emergency Responders	Incident Management
IU.24	Erie County Detour Signal Upgrades	PennDOT 1-0, Erie MPO, Local Municipalities	Incident Management
IU.25	Warren County Detour Signal Upgrades	PennDOT 1-0, Northwest RPO, Local Municipalities	Incident Management
IU.26	Venango County Detour Signal Upgrades	PennDOT 1-0, Northwest RPO, Local Municipalities	Incident Management
IU.27	Crawford County Detour Signal Upgrades	PennDOT 1-0, Northwest RPO, Local Municipalities	Incident Management
IU.28	Mercer County Detour Signal Upgrades	PennDOT 1-0, Mercer County MPO, Local Municipalities	Incident Management
IU.29	I-79 Seneca Ramps – TSMO	PennDOT 10-0	ITS
IU.30	SR 8/SR 4010 Intersection ITS	PennDOT 10-0	ITS
IU.31	SR 4020/ Harmony Intersection ITS	PennDOT 10-0	ITS
IU.32	SR 85/ SR 2001 Intersection ITS	PennDOT 11-0, PRT	ITS
IU.33	US 422/ SR 403 Intersection ITS	PennDOT 10-0	ITS
IU.34	I-79 ITS	PennDOT 10-0	ITS
IU.35	US 22 (North Fayette & Robinson) ITS	PennDOT 11-0	ITS
IU.36	SR 65 from I-79 to City of Pittsburgh	PennDOT 11-0	ITS
IU.37	SR 51 from SR 88 to Turnpike	PennDOT 11-0	ITS
IU.38	SR 3069 West Liberty Avenue to the Liberty Bridge Intersection	PennDOT 11-0	ITS
IU.39	I-80 Corridor CCTV	PennDOT 10-0, North Central RPO, Northwest RPO	ITS
IU.40	District 12 CCTV Gaps	PennDOT 12-0	ITS
IU.41	US 22 Corridor ITS/ Signal Fiber Communications	PennDOT 10-0	ITS/ Signal Communications

Project #	Project	Stakeholders	Improvement Type
IU.42	US 22 Corridor ITS/ Signal Improvements	PennDOT 10-0	ITS/ Signal Improvements
IU.43	Corridor M & K Parkway North HOV Conversion Study	PRT, PennDOT 11-0, SPC	Multimodal
IU.44	Corridor G East/ Central Pittsburgh River to River Connection	PRT, PennDOT 11-0, City of Pittsburgh, DOMI	Multimodal
IU.45	Corridor D Library Line Best Use Study	PRT, SPC	Multimodal
IU.46	Corridor E East Busway Phased Extensions	PRT, Local Municipalities	Multimodal
IU.47	Corridor H Allentown/ Downtown LRT Best Use Study	PRT, SPC, City of Pittsburgh, DOMI	Multimodal
IU.48	Corridor F East Busway to Monroeville Rapid Transit	PRT, PennDOT 11-0	Multimodal
IU.49	Corridor J Allegheny Valley Rapid Transit	PRT, PennDOT 11-0	Multimodal
IU.50	Corridor A Airport Corridor Rapid Transit	PRT, PennDOT 11-0	Multimodal
IU.51	North Fayette Trail Connector	PennDOT 11-0, North Fayette Township, Allegheny County, PRT	Multimodal
IU.52	Completing the Loop	Riverlife, PennDOT 11-0, Allegheny County	Multimodal
IU.53	Turtle Creek Connector	Study Corridor Municipalities, PennDOT 11-0, Allegheny County	Multimodal
IU.54	VOPP Trail	Verona, Oakmont, Penn Hills, Plum Borough, PennDOT 11-0, PRT	Multimodal
IU.55	Three Rivers Heritage Trail – Allegheny Valley	Municipalities, PennDOT 11-0, PRT	Multimodal
IU.56	Three Rivers Heritage Trail – Hazelwood to Carrie Furnace	Pittsburgh, Swissvale, Rankin, PennDOT 11-0, PRT	Multimodal
IU.57	Little Pine Creek Connector	Shaler, Etna, PennDOT 11-0, PRT	Multimodal
IU.58	Panhandle Trail Extension	Carnegie, Scott Township, Collier Township, PennDOT 11-0, PRT	Multimodal
IU.59	White Oak Park to South Park Connector	Municipalities, Montour Trail Council, Steel Valley Trail Council, PennDOT 11-0, PRT, Allegheny County	Multimodal

Project #	Project	Stakeholders	Improvement Type
IU.60	The Eastern Pittsburgh Multimodal Corridor Project	PennDOT 11-0, PRT, Allegheny County, SPC	Multimodal
IU.61	Corridor R Homestead to McKeesport Transit Improvements	PRT, PennDOT 11-0	Multimodal
IU.62	SR 68 Jeff and Cunningham Street Signal Improvements	PennDOT 10-0	Signal Improvements
IU.63	Smart Spines – City of Pittsburgh	FHWA, City of Pittsburgh, PennDOT 11-0, PRT	Signal Improvements
IU.64	Mayview/Lesnett/Bank/Chartiers Avenue Intersection Improvements	PennDOT 11-0	Signal Improvements
IU.65	Grove City Outlets Signal Improvements	PennDOT 1-0, Mercer County MPO, Springfield Township	Signal Improvements
IU.66	PA 20 Wesleyville Signal Improvements	PennDOT 1-0, Erie MPO, Wesleyville Borough	Signal Improvements
IU.67	US 19 Corridor Traffic Signal Improvements	PennDOT 1-0, Erie MPO, City of Erie	Signal Improvements

Previous Project Status

Project #	Project Name	Priority Area	Planned Improvements	Stakeholders	Estimated Cost (Capital)	Priority	Project Status	Funding Source	Notes
FA.01	Bates St. Interchange Improvements	Freeway and Arterial Operations	Interchange Improvements	PennDOT 11-0	10M+	High	Partial Progress	STP - Surface Transportation Prog	
FA.02	I-79 ICM (District 12)	Freeway and Arterial Operations	Integrated Corridor Management	PennDOT 12-0	2M- 10M	High	In Design	Capital and CMAQ	Currently in design on the US 19 portion of this project. The US 19 project will include minor signal upgrades and the installation of an adaptive signal system on all traffic signals on US 19 from I-70 to the Allegheny County line.
FA.03	Campbells Run Queue Warning	Freeway and Arterial Operations	Queue Warning, DMS	PennDOT 11-0	<500k	Normal	Documented		ATMS can now build corridors for advanced queue warning systems using existing CMS. No project has been developed to add CMS boards for this purpose.
FA.04	Parkway North ICM	Freeway and Arterial Operations	Smart Parking, Traffic signal Improvements, Transit Improvements	PennDOT 11-0, PRT	2M- 10M	Normal	Documented		
FA.05	Veterans Bridge Junction Control	Freeway and Arterial Operations	Junction Control	PennDOT 11-0	500k-2M	Normal	Documented		Grant application not approved last round.
FA.06	Mercer County Smart Corridor Initiatives	Freeway and Arterial Operations	Traffic Signal Improvements	PennDOT 1-0	2M- 10M	Normal	In Construction		In construction now on SR 19 through Mercer
MC.01	South Hills Village Smart Parking	Multimodal Connectivity	Smart Parking, DMS	PennDOT 11-0, PRT	500k-2M	High	In Design	TSMO	
MC.02	W. Carson St. Multimodal Improvements	Multimodal Connectivity	Transit Improvements	PennDOT 11-0, PRT	500k-2M	High	Documented		
MC.03	Penn Ave. Transit Improvements	Multimodal Connectivity	Transit Improvements	City of Pittsburgh, PRT	<500k	High	Documented		
MC.04	Centre Ave. Transit Improvements	Multimodal Connectivity	Transit Improvements	City of Pittsburgh, PRT	<500k	High	Documented		
MC.05	Peninsula Drive + W. 8th St. Corridor Improvements	Multimodal Connectivity	Traffic Signal Improvements	PennDOT 1-0, City of Erie, Millcreek Township	500k-2M	High	In Design		In design now for Peninsula Drive. Millcreek taking over 8th St.
MC.06	Carnegie Smart Parking	Multimodal Connectivity	Smart Parking, DMS	PennDOT 11-0, PRT	<500k	Normal	In Design	TSMO	Parking availability is funded using TSMO funds transferred from FHWA to FTA. PRT will have a better update on the project status.
MC.07	Wilkinsburg Smart Parking	Multimodal Connectivity	Smart Parking, DMS	PennDOT 11-0, PRT	<500k	Normal	In Design	TSMO	Parking availability is funded using TSMO funds transferred from FHWA to FTA. PRT will have a better update on the project status.
MC.08	Liberty Ave. Transit Improvements	Multimodal Connectivity	Transit Improvements	City of Pittsburgh, PRT	<500k	Normal	Documented		
MC.09	Kennywood Blvd./Browns Hill Rd. Transit Improvements	Multimodal Connectivity	Transit Improvements	PennDOT 11-0, City of Pittsburgh, PRT	<500k	Normal	Documented		
MC.10	E. Carson St. Transit Improvements	Multimodal Connectivity	Transit Improvements	PennDOT 11-0, PRT	<500k	Normal	Documented		
MC.11	Second Ave. Transit Improvements	Multimodal Connectivity	Transit Improvements	City of Pittsburgh, PRT	<500k	Normal	Documented		
MC.12	Healthy Ride (Pittsburgh Bike Share) E-Bike Deployment	Multimodal Connectivity	Bike Share	Pittsburgh Bike Share	<500k	Normal	Documented		
MC.13	"The Chute" to Eliza Furnace Trail Bike Connection	Multimodal Connectivity	Bike Improvements	City of Pittsburgh	<500k	Normal	Documented		
MC.14	Brady St. to Heritage Trail Bike Connection	Multimodal Connectivity	Bike Improvements	City of Pittsburgh	<500k	Normal	Documented		
MC.15	Butler St. Bike Connection	Multimodal Connectivity	Bike Improvements	City of Pittsburgh	<500k	Normal	Documented		
MC.16	Penn Ave. Bike Connection	Multimodal Connectivity	Bike Improvements	City of Pittsburgh	<500k	Normal	Documented		
MC.17	East Allegheny Ped/Bike Improvements	Multimodal Connectivity	Pedestrian/Bike Improvements	City of Pittsburgh	<500k	Normal	Documented		

Project #	Project Name	Priority Area	Planned Improvements	Stakeholders	Estimated Cost (Capital)	Priority	Project Status	Funding Source	Notes
OT.01	Key Bank Pavilion Event Management & Signal Improvements	Operational Teamwork/Institutional Coordination	Traffic Signal Improvements, DMS	PennDOT 12-0, PennDOT 11-0	<500k	Normal	Documented		This project has not progressed very far yet. We believe that the Pavilion will need to get involved in the project to make it successful because there are some traffic flow improvements that need to be made on the site itself.
TI.01	Hogback Hill RWIS	Traveler Information	RWIS	PennDOT 10-0	<500k	High	Documented		
TI.02	US 22 Corridor ITS/Signal Improvements	Traveler Information	CCTV, DMS	PennDOT 10-0	500k-2M	High	In Construction	Federal	ECMS# 114842. Construction phase is in 60-day test period for devices.
TI.03	US 422 Corridor ITS	Traveler Information	CCTV, DMS	PennDOT 10-0	2M- 10M	High	Documented		
TI.04	District 12-0 RWIS Expansion	Traveler Information	RWIS	PennDOT 12-0	<500k	High	Documented		We are currently exploring what type of procurement method could be used to get these devices installed.
TI.05	I-79 Corridor ITS	Traveler Information	CCTV, DMS	PennDOT 1-0, PennDOT 10-0	2M- 10M	High	In Design	TSMO	In Design/Construction
TI.06	Western RTMC Upgrade	Traveler Information	RTMC Upgrade	PennDOT 11-0, PennDOT Central Office	2M- 10M	High	Partial Progress	TSMO	Concept of Operations and Systems Engineering/High Level Concepts being developed currently.
TI.07	I-90 Corridor ITS	Traveler Information	CCTV, DMS, VSL	PennDOT 1-0	2M- 10M	High	In Design	TSMO	In Design/Construction
TI.08	I-80 Corridor ITS	Traveler Information	CCTV, DMS, VSL	PennDOT 1-0, PennDOT 10-0	2M- 10M	High	In Design	TSMO	In Design/Construction
TI.09	I-80 Fiber Deployment	Traveler Information	Fiber Optic Cable	PennDOT 1-0, PennDOT 10-0	10M+	High	In Design	TSMO	In Design/Construction
TI.10	PA-28 ITS	Traveler Information	CCTV, DMS	PennDOT 10-0	500k-2M	Normal	In Construction	Federal	ECMS# 114842. Construction phase is in 60-day test period for devices.
TI.11	US 22 Bridge De-Icing	Traffic Incident Management	Bridge De-icing, RWIS, CCTV	PennDOT 10-0	500k-2M	Normal	Documented		
TI.12	I-376 Corridor ITS	Traveler Information	CCTV, DMS, RWIS	PennDOT 11-0	500k-2M	Normal	In Design	TSMO	TSMO funds and Interstate funds approved for design and construction for Beaver County I-376 ITS expansion. Current let date is 6/8/2023.
TI.13	PA-8 Arterial ITS	Traveler Information	CCTV, DMS	PennDOT 11-0	500k-2M	Normal	Documented		
TI.14	US 22 (Monroeville) Arterial ITS	Traveler Information	CCTV, DMS	PennDOT 11-0	500k-2M	Normal	In Design	TSMO	Fully designed and being let under a betterment, SR 2048-A14 on 1/12/2023. Construction planned to be completed by end of 2024.
TI.15	I-70/US 40 Detour ITS	Traveler Information	CCTV, DMS	PennDOT 12-0	500k-2M	Normal	Documented		
TI.16	US 322 ITS	Traveler Information	CCTV, DMS	PennDOT 10-0	500k-2M	Normal	Documented		
TI.17	US 6 Detour Improvements	Traveler Information	CCTV, Type A DMS	PennDOT 1-0	2M- 10M	Normal	Documented		
TI.18	District 1-0 RWIS Expansion	Traveler Information	RWIS	PennDOT 1-0	500k-2M	Normal	Documented		
TI.19	Franklin Operations Improvements	Traveler Information	CCTV, DMS	PennDOT 1-0	500k-2M	Normal	Documented		
TI.20	Bayfront Parkway Arterial DMS	Traveler Information	DMS	PennDOT 1-0	500k-2M	Normal	In Construction		In Construction
TI.21	US 6 Winter Operations ITS	Traveler Information	DMS, RWIS	PennDOT 1-0	500k-2M	Normal	Documented		
TI.22	West Middlesex Interchange ITS	Traveler Information	CCTV, DMS	PennDOT 1-0	500k-2M	Normal	Documented		
TI.23	Brookville Arterial DMS	Traveler Information	DMS	PennDOT 10-0	500k-2M	Normal	Documented		
TI.24	Butler County Fiber Ring Deployment	Traveler Information	Fiber Optic Cable	PennDOT 10-0	10M+	Normal	Documented		
TIM.01	Armstrong County Bridge De-Icing	Traffic Incident Management	Bridge De-icing, RWIS, CCTV	PennDOT 10-0	500k-2M	High	Documented		
TIM.02	PA-28 Freeway Service Patrol	Traffic Incident Management	Freeway Service Patrol	PennDOT 11-0	<500k	High	In Construction	TSMO	Contractor on our current FSP contract being tracked separately with the grant funding on SR 28.
TIM.03	PA-28 TIM Team	Traffic Incident Management	TIM Team	PennDOT 11-0, SPC, Local Municipalities, Emergency Personnel	<500k	High	Documented		
TIM.04	I-80 TIM Team	Traffic Incident Management	TIM Team	PennDOT WRTMC, PennDOT 1-0, PennDOT 10-0, Local Municipalities, Emergency Personnel	<500k	High	Documented		
TIM.05	I-79 Curve Warning	Traffic Incident Management	Dynamic Curve Warning	PennDOT 10-0	<500k	Normal	Documented		
TIM.06	US 30 Curve Warning	Traffic Incident Management	Dynamic Curve Warning	PennDOT 12-0	<500k	Normal	Documented		Currently exploring what type of system should be used for this project.

Project #	Project Name	Priority Area	Planned Improvements	Stakeholders	Estimated Cost (Capital)	Priority	Project Status	Funding Source	Notes
TIM.07	Erie TIM Team	Traffic Incident Management	TIM Team	PennDOT 1-0, Ohio DOT, New York State DOT, Local Municipalities, Emergency Personnel	<500k	High	Documented		
TIM.08	I-80 Crossovers	Traffic Incident Management	Emergency Crossovers	PennDOT 10-0	500k-2M	High	Documented		
TS.01	Greensburg Operational Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 12-0	500k-2M	High	Programmed	CMAQ	CMAQ grants have been awarded and design is to begin in 2023 for projects on US 30 and US 119 in the Greensburg area.
TS.02	PA-8 Traffic Signal Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 10-0	500k-2M	Normal	In Construction	Federal	ECMS# 110464. Construction to be completed in 2023.
TS.03	US 19 and Interchange Rd. Signal Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 1-0	500k-2M	Normal	Programmed		Awarded Traffic Signals Technology grant
TS.04	26th Street Traffic Signal Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 1-0	500k-2M	Normal	In Design		design/construction
TS.05	PA-18 Traffic Signal Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 1-0	500k-2M	Normal	Documented		
TS.06	US 322 Traffic Signal Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 1-0	500k-2M	Normal	Documented		
TS.07	East End Traffic Signal Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 11-0	500k-2M	Normal	Documented		
TS.08	PA-51 DOT Signal Pilot	Traffic Signals	Traffic Signal Improvements	PennDOT 11-0	<500k	Normal	Partial Progress		SR 51 PennDOT ownership pilot is still being discussed as we've been learning from the Eastern side of the state on signal ownership considerations before we implement it.
TS.09	Grove City Signal Improvements	Traffic Signals	Traffic Signal Improvements	PennDOT 1-0	500k-2M	Normal	Documented		

Previous Study Status

Study Name	Priority Area	Description	Stakeholders	Priority	Project Status	Notes
Downtown Pittsburgh Bridge Operations Study	Freeway and Arterial Operations	Study to improve operations in the vicinity of the Downtown river crossings	SPC, PennDOT 11-0, PRT	High	Documented	
Parkway West ICM Study	Freeway and Arterial Operations	Study conversion of shoulders for flex lane or transit lane use. Identify other ICM needs.	PennDOT 11-0	High	Documented	
Regional ITS Strategic Plan	Traveler Information	In addition to ITS device projects identified in this plan, conduct a regionwide study to determine any other remaining ITS coverage gaps and prioritize for future projects.	PennDOT 1-0, PennDOT 10-0, PennDOT 11-0, PennDOT 12-0	Normal	Planned	
District 12-0 Communications Gap Study	Traveler Information	Identify communications needs throughout District (fiber, etc.)	PennDOT 12-0	Normal	Documented	
Indiana University of Pennsylvania (IUP) Special Events Traffic Management Study	Operational Teamwork/ Institutional Coordination	Improve ingress/egress to events at Kovalchick Convention and Athletic Complex	IUP, PennDOT 10-0	Normal	Documented	
Operations Center/ Traffic Management Center Coordination	Operational Teamwork/ Institutional Coordination	Improve coordination between Western RTMC and PA Turnpike Traffic Operations Center, particularly for the I-76/I-376 loop, including incident management, construction detours, communications (fiber), device sharing, traveler information, and weather operations. Port Authority operations center and Cranberry Township TMC should also be included.	SPC, PennDOT 11-0, PA Turnpike Commission, PRT, Cranberry Township	Normal	Documented	
Person Trips Prioritization Study	Operational Teamwork/ Institutional Coordination	Determine feasibility of Roadway Tiering based on total person trips (including transit passengers, cyclists, etc.) instead of AADT.	SPC	Normal	Documented	
Key Bank Pavilion Event Management Study	Operational Teamwork/ Institutional Coordination	Improve ingress/egress to events at Key Bank Pavilion.	Key Bank Pavilion, PennDOT 12-0	Normal	Documented	

Study Name	Priority Area	Description	Stakeholders	Priority	Project Status	Notes
Downtown Erie Event Management Study/Planning	Operational Teamwork/ Institutional Coordination	Improve traffic management for special events, increase Park-n-Ride utilization to reduce congestion in Downtown area.	Erie MPO, City of Erie, EMTA	Normal	Documented	
Data/Video Sharing Initiative	Operational Teamwork/ Institutional Coordination	Share access to CCTV feeds to County offices to improve coordination and incident response.	PennDOT Western RTMC, County Offices	Normal	Documented	
Birmingham Bridge Complete Street Study	Multimodal Connectivity	Improve safety of existing bike lanes. Consider protected bike lane infrastructure and possible vehicular lane reduction.	PennDOT 11-0	Normal	Documented	
Existing Bike Trail Maintenance Initiative	Multimodal Connectivity	Initiative to ensure continued maintenance of bike trails throughout region.	SPC	Normal	Documented	
Regional Park-n-Ride Expansion Study	Multimodal Connectivity	Study possibilities for expanding existing sites or providing additional sites (coordination with upcoming Regional Transit Coordination Study).	SPC	Normal	Documented	
Park-n-Bike Campaign/Expansion	Multimodal Connectivity	Initiative to encourage commuters to transfer to bicycles at established trailheads.	SPC	Normal	Documented	
Potential Transit Lane Study	Multimodal Connectivity	Study feasibility of other transit lane candidates not included in this report.	SPC, PennDOT 11-0, City of Pittsburgh DOMI, PRT	Normal	Documented	
Wabash Tunnel Multimodal Use Study	Multimodal Connectivity	Study of alternate uses for tunnel, including possibility of conversion for bike usage.	SPC, PennDOT 11-0, City of Pittsburgh DOMI, PRT	Normal	Documented	
West End/South Hills Potential Trail Network Study	Multimodal Connectivity	Study to determine potential trail network utilizing underused or unused right-of-way.	SPC	Normal	Documented	
PA-28 Active Traffic Management Study	Freeway and Arterial Operations	Study flex lanes and other Active Traffic Management strategies.	PennDOT 11-0	Normal	Documented	
Parkway North HOV Conversion Study	Freeway and Arterial Operations	Consider converting existing HOV lanes in the median of the Parkway North (I-279) to a Port Authority Busway or other use.	PennDOT 11-0, PRT	Normal	Documented	
US 40 Road Safety Audit	Freeway and Arterial Operations	Road Safety Audit on US 40, east of Uniontown to Somerset County line.	SPC	Normal	Complete	

Study Name	Priority Area	Description	Stakeholders	Priority	Project Status	Notes
Route 8 Corridor Operations Planning Study	Freeway and Arterial Operations	Study to improve operations along Route 8 between Wildwood and Bakerstown.	SPC	Normal	Complete	
Western RTMC Region Truck Parking Study	Freight Management	Determine needs and locations for possible expansion of truck parking. Study possibility of installing Truck Parking Management System. Consider potential public-private partnership opportunities with private truck stop facilities. Coordinate with planned PennDOT Truck Parking Study.	SPC, PennDOT Central Office	Normal	Documented	
Western RTMC Region Winter Truck Restriction Impact Study	Freight Management	Study impact of winter truck restrictions on parallel corridors and determine best practices for future winter operations.	SPC, PennDOT Central Office	Normal	Documented	

New ROP Projects

IU-01: I-80 DMS Retrofit/Replace

PROJECT DESCRIPTION AND SCOPE: Retrofit or Replace existing DMS along I-80 in Clarion and Jefferson Counties.

STAKEHOLDERS: PennDOT 10-0, North Central RPO, Northwest RPO

ESTIMATED SCHEDULE: 1-3 years Life Cycle: 10-15 years	**ESTIMATED COSTS:** $$ ($500k-$2M)

PROJECT TYPE: Antiquated Devices

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: DMS System

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improve Travel Time Ratio

BENEFITS: Improve traveler information along I-80 Corridor.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-02: District 1-0 Antiquated Devices Upgrade

PROJECT DESCRIPTION AND SCOPE: Retrofit or Replace existing District 1-0 Antiquated CCTV cameras and DMS.

STAKEHOLDERS: PennDOT 1-0

ESTIMATED SCHEDULE: 1-3 years Life Cycle: 10-15 years	**ESTIMATED COSTS:** $$$ ($2M-$10M)

PROJECT TYPE: Antiquated Devices

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: CCTV Systems, DMS Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Incident Response Time, Improved Travel Time Ratio

BENEFITS: Improve incident response, congestion monitoring, and traveler information along key routes in PennDOT District 1-0.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-03: US 22 at Northern Pike Intersection Improvement

PROJECT DESCRIPTION AND SCOPE: The project is to consist of roadway and intersection improvements on US 22 (William Penn Highway) at SR 2054 (Northern Pike) and Alpine Village Drive/SR 286 (Golden Mile Hwy) to address existing traffic congestion and safety issues.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A Life Cycle: N/A	**ESTIMATED COSTS:** $3.5M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Currently SR 2054 (Northern Pike) intersects with SR 22 at a signalized intersection just 515 feet from where Alpine Village Drive/SR 286 (Golden Mile Hwy) also intersects with SR 22 at a signalized intersection. SR 22 is 4 four lanes wide with back-to-back left turn bays that frequently are insufficient for the demand. The demand is due to the missing direct connection between Northern Pike and SR 286 (Golden Mile Hwy). This causes the left through lanes to be blocked causing SR 22 to be minimized to 1 thru lane in either direction during peak hours regularly.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-04: SR 8 at Wildwood Road Intersection Improvements

PROJECT DESCRIPTION AND SCOPE: The project is to consist of roadway and intersection improvements on SR 8 (William Flinn Highway) at SR 4070 (Wildwood Road) to address existing traffic congestion and safety issues.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: 10-15

ESTIMATED COSTS: $6.1M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: The vertical geometry on the west approach of Wildwood Road limits sight distance which has contributed to near crashes for westbound left turns. Both approaches of SR 4070 (Wildwood Road) will be widened from a shared single lane approach for all movements (L-T-R) to an exclusive left turn lane (L) and shared through right turn lane (L-R). Creation of the exclusive left turn lanes will enable protected left turn phasing to improve levels of service, reduce congestion and idling, and reduce crashes with left turns being performed without conflicting traffic.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-05: SR 51 and SR 151 Roundabout

PROJECT DESCRIPTION AND SCOPE: Reconstruct intersection into a roundabout.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $500k-$2M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Traffic flow improvements at SR 51 and SR 151 Intersection.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-06: Union Avenue/ Gass Road/ Highland Avenue Roundabout

PROJECT DESCRIPTION AND SCOPE: Reconstruct intersection into a roundabout.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A Life Cycle: N/A	**ESTIMATED COSTS:** $2M-$5M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Traffic flow improvements at Union Avenue, Gass Road, & Highland Avenue Roundabout.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-07: US 19 Ross Township

PROJECT DESCRIPTION AND SCOPE: Road Diet - Reduce 4 lanes to 3 lanes, signal upgrades.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $500k-$2M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Traffic flow improvements along US 19 in Ross Township.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-08: SR 151 at Broadhead Road, 5-Legged Intersection

PROJECT DESCRIPTION AND SCOPE: SR 151 at Brodhead Road Intersection Improvements.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $2M-$10M

PROJECT TYPE:

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Intersection improvements at SR 151 and Brodhead Road.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-09: McKnight Road at Seibert Road Improvements

PROJECT DESCRIPTION AND SCOPE: McKnight Rd at Seibert Rd Intersection Improvements.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $500k-$2M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Intersection improvements at McKnight Road and Seibert Road.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-10: Lowries Run Road/Rochester Road Roundabout

PROJECT DESCRIPTION AND SCOPE: Reconstruction intersection into a roundabout.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $2M-$5M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Intersection Improvements.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-11: Sewickley Oakmont Road/ US 19 Intersection Improvements

PROJECT DESCRIPTION AND SCOPE: Sewickley Oakmont Road/US 19 Intersection Improvements.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $3M

PROJECT TYPE: Arterial Operations

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Intersection Improvements

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-12: I-80 Fiber Backbone

PROJECT DESCRIPTION AND SCOPE: Install fiber optic cable backbone along I-80 in Clarion, Jefferson, Mercer, and Venango Counties to connect to existing fiber on I-79.

STAKEHOLDERS: PennDOT 10-0, PennDOT 1-0, Mercer County MPO, North Central RPO, Northwest RPO

ESTIMATED SCHEDULE: 3+ years Life Cycle: 25 years	**ESTIMATED COSTS:** $$$$ ($10M+)

PROJECT TYPE: Communications

LEVEL OF EFFORT: Complex

TECHNOLOGY COMPONENTS *(if applicable)*: Communications Infrastructure

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Number of Miles of Installed Fiber Optic Cable

BENEFITS: A fiber optic backbone along the region's interstates and major arterials would increase connectivity and greatly increase the ability of PennDOT to expand their deployment of ITS and other technology.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-13: I-70 Fiber Optic Gaps

PROJECT DESCRIPTION AND SCOPE: Replace any segments of the ITS network along mainline I-70 that still operate with wireless radios with fiber optic cable.

STAKEHOLDERS: PennDOT 12-0

ESTIMATED SCHEDULE: 1-3 years

Life Cycle: N/A

ESTIMATED COSTS:
$$$
($2M)

PROJECT TYPE: Communications

LEVEL OF EFFORT: Medium

TECHNOLOGY COMPONENTS *(if applicable)*: Communications Infrastructure

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Reliability of the network, possible use of the improved network to enhance rural broadband initiative in certain areas

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-14: I-79 Fiber Optic Gaps

PROJECT DESCRIPTION AND SCOPE: Replace any segments of the ITS network along mainline I-79 that still operate with wireless radios with fiber optic cable.

STAKEHOLDERS: PennDOT 12-0

ESTIMATED SCHEDULE: 1-3 years

Life Cycle: N/A

ESTIMATED COSTS:
$$
($1.5M)

PROJECT TYPE: Communications

LEVEL OF EFFORT: Medium

TECHNOLOGY COMPONENTS *(if applicable)*: Communications Infrastructure

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Reliability of the network, possible use of the improved network to enhance rural broadband initiative in certain areas

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-15: Parkway East I-376 Active Traffic Management (ATM)

PROJECT DESCRIPTION AND SCOPE: Active Traffic Management through the use of ITS infrastructure.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: >$54M

PROJECT TYPE: Freeway Operations

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: ITS Devices

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Operational Improvements using ITS Infrastructure.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-16: I-80 Slow Vehicle Warning

PROJECT DESCRIPTION AND SCOPE: Install slow vehicle warning on I-80 in District 10.

STAKEHOLDERS: District 10, North Central RPO

ESTIMATED SCHEDULE: 1-3 years Life Cycle: 10-15	**ESTIMATED COSTS:** $$ ($500k-$2M)

PROJECT TYPE: Freeway Operations

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Slow Vehicle Warning Signs

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Reduced Heavy Truck Crashes

BENEFITS: Improved traffic safety and traffic flow with less incidents at locations of slow climbing vehicles.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-17: I-376 Ft. Pitt Tunnel Over Height Truck System

PROJECT DESCRIPTION AND SCOPE: Install DMS and upgraded Lane Control Signs for traveler information that an over height truck is approaching the Ft. Pitt Tunnel. Install traffic signal to stop traffic to allow over height trucks to rout onto SR 19/51 towards the West End Circle using ramps. Also allows for restricting lanes due to temporary work zones from construction and typical maintenance work along with planned and unplanned tunnel closures.

STAKEHOLDERS: District 11-0

ESTIMATED SCHEDULE: 1-3 years Life Cycle: N/A	**ESTIMATED COSTS:** $$$ ($2M-$5M)

PROJECT TYPE: Freeway Operations

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Lane Control Signs, DMS, Traffic Signal

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Improved travel time reliability

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-18: I-80 & Applicable State Routes Detour Sign Update

PROJECT DESCRIPTION AND SCOPE: Update detour signs on I-80 and applicable state route detours.

STAKEHOLDERS: PennDOT 1-0, PennDOT 10-0

ESTIMATED SCHEDULE: N/A Life Cycle: N/A	**ESTIMATED COSTS:** <$500k

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Reduced Incident Clearance Time

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-19: I-79 & Applicable State Routes Detour Sign Update

PROJECT DESCRIPTION AND SCOPE: Update detour signs on I-79 and applicable state route detours.

STAKEHOLDERS: PennDOT 1-0, PennDOT 10-0

ESTIMATED SCHEDULE: N/A Life Cycle: N/A	**ESTIMATED COSTS:** <$500k

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Reduced Incident Clearance Time

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-20: I-90 & Applicable State Route Detour Sign Update

PROJECT DESCRIPTION AND SCOPE: Update detour signs on I-90 and applicable state route detours.

STAKEHOLDERS: PennDOT 1-0

ESTIMATED SCHEDULE: N/A Life Cycle: N/A	**ESTIMATED COSTS:** <$500k

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Reduced Incident Clearance Time

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-21: I-90 Closure Assistance

PROJECT DESCRIPTION AND SCOPE: Installation of devices and Coordination with neighboring states, New York & Ohio, to manage Interstate closures due to inclement weather events.

STAKEHOLDERS: PennDOT 1-0, New York DOT, Ohio DOT, Emergency Responders, Erie MPO

ESTIMATED SCHEDULE: 1-3 years Life Cycle: N/A	**ESTIMATED COSTS:** $ (<$500k)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: DMS Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Inter-Agency Communications; Reduced Winter Weather Crashes

BENEFITS: Improve inter-agency communication to reduce impact of winter weather events on the Interstate.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-22: I-90 On-Ramp Incident Gates

PROJECT DESCRIPTION AND SCOPE: Install emergency gates at on-ramps that can be closed to restrict access to I-90 in the event of major incidents.

STAKEHOLDERS: PennDOT 1-0, Erie MPO, Emergency Responders

ESTIMATED SCHEDULE: 1-3 years Life Cycle: 10-15 years	**ESTIMATED COSTS:** $ (<$500k)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Emergency Gate Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Incident Response Time, Reduced Incident Clearance Time

BENEFITS: Improved Incident Response Time, Reduced Incident Residual Delays

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-23: I-79 & I-80 Emergency Crossovers

PROJECT DESCRIPTION AND SCOPE: Install Emergency Crossovers on I-79 at Mile Marker 120, and on I-80 at Mile Markers 8, 9, & 12.

STAKEHOLDERS: PennDOT 1-0, Mercer County MPO, Emergency Responders

ESTIMATED SCHEDULE: 1-3 years

Life Cycle: 10-15 years

ESTIMATED COSTS:
$$
($500k-$2M)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Reduced Incident Response Time; Reduced Incident Clearance Time

BENEFITS: Provide improved access for emergency vehicles to access incidents and allow easier relief of trapped queues along northern section of I-81 corridor.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-24: Erie County Detour Signal Upgrades

PROJECT DESCRIPTION AND SCOPE: Upgrade traffic signals along color detour routes in Erie County to allow Unified Command and Control (UCC) and remote communications to allow detour timings to be programmed. Develop detour timing plans.

- Black Detour: 44 Signals
- Blue Detour: 21 Signals
- Green Detour: 17 Signals
- Orange Detour: 18 Signals
- Red Detour: 4 Signals

STAKEHOLDERS: PennDOT 1-0, Erie County MPO

ESTIMATED SCHEDULE: 3+ years Life Cycle: N/A	**ESTIMATED COSTS:** $$ ($2M-$10M)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Incident Clearance Time

BENEFITS: Improved traffic flow during incidents

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-25: Warren County Detour Signal Upgrades

PROJECT DESCRIPTION AND SCOPE: Upgrade traffic signals along color detour routes in Warren County to allow Unified Command and Control (UCC) and remote communications to allow detour timings to be programmed. Develop detour timing plans.

- Blue Detour: 2 Signals

STAKEHOLDERS: PennDOT 1-0, Northwest RPO

ESTIMATED SCHEDULE: 3+ years Life Cycle: N/A	**ESTIMATED COSTS:** $$ ($500k-$2M)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Incident Clearance Time

BENEFITS: Improved traffic flow during incidents

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-26: Venango County Detour Signal Upgrades

PROJECT DESCRIPTION AND SCOPE: Upgrade traffic signals along color detour routes in Venango County to allow Unified Command and Control (UCC) and remote communications to allow detour timings to be programmed. Develop detour timing plans.

- Black Detour: 2 Signals
- Blue Detour: 1 Signal
- Green Detour: 1 Signal
- Orange Detour: 1 Signal
- Red Detour: 3 Signals

STAKEHOLDERS: PennDOT 1-0, Northwest RPO

ESTIMATED SCHEDULE: 3+ years Life Cycle: N/A	**ESTIMATED COSTS:** $$ ($2M-$10M)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Incident Clearance Time

BENEFITS: Improved traffic flow during incidents

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-27: Crawford County Detour Signal Upgrades

PROJECT DESCRIPTION AND SCOPE: Upgrade traffic signals along color detour routes in Crawford County to allow Unified Command and Control (UCC) and remote communications to allow detour timings to be programmed. Develop detour timing plans.

- Blue Detour: 2 Signals
- Green Detour: 3 Signals
- Orange Detour: 2 Signals
- Red Detour: 2 Signals

STAKEHOLDERS: PennDOT 1-0, Northwest RPO

ESTIMATED SCHEDULE: 3+ years Life Cycle: N/A	**ESTIMATED COSTS:** $$ ($2M-$10M)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Incident Clearance Time

BENEFITS: Improved traffic flow during incidents

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-28: Mercer County Detour Signal Upgrades

PROJECT DESCRIPTION AND SCOPE: Upgrade traffic signals along color detour routes in Mercer County to allow Unified Command and Control (UCC) and remote communications to allow detour timings to be programmed. Develop detour timing plans.

- Black Detour: 18 Signals
- Blue Detour: 14 Signals
- Green Detour: 2 Signals
- Orange Detour: 20 Signals
- Red Detour: 10 Signals

STAKEHOLDERS: PennDOT 1-0, Mercer County MPO

ESTIMATED SCHEDULE: 3+ years Life Cycle: N/A	**ESTIMATED COSTS:** $$ ($2M-$10M)

PROJECT TYPE: Incident Management

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Incident Clearance Time

BENEFITS: Improved traffic flow during incidents

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-29: I-79 Seneca Ramps - TSMO

PROJECT DESCRIPTION AND SCOPE: Currently started FD Phase. Construction to begin in 2024 and be completed same year, possibly extend into 2025. ECMS# 116661

STAKEHOLDERS: PennDOT 10-0

ESTIMATED SCHEDULE: 3 years

Life Cycle: N/A

ESTIMATED COSTS: $500k-$700k

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Dual DMS, CCTV Camera, and Queue Detection.

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Interstate situational awareness, safety improvements with Dual DMS, CCTV Camera and queue detection.

OTHER CONSIDERATIONS AND ISSUES: Project currently in-design. CON Funds are 50% State & 50% Federal.

IU-30: SR 8/ SR 4010 Intersection ITS

PROJECT DESCRIPTION AND SCOPE: Currently started FD Phase. Construction to begin in 2024 and be completed same year, possibly extend into 2025. MPMS# 117903

STAKEHOLDERS: PennDOT 10-0

ESTIMATED SCHEDULE: 3 years

Life Cycle: N/A

ESTIMATED COSTS: $185k

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: LED bordered signing

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Replacing Flashing Warning Device in-place and adding additional LED bordered signing to improve safety at intersection.

OTHER CONSIDERATIONS AND ISSUES: Project currently in-design. CON Funds are 100% Federal.

IU-31: SR 4010/ Harmony Intersection ITS

PROJECT DESCRIPTION AND SCOPE: Currently started FD Phase. Construction to begin in 2024 and be completed same year, possibly extend into 2025. CON Funds are 100% Federal. MPMS# 117905

STAKEHOLDERS: PennDOT 10-0

ESTIMATED SCHEDULE: 3 years

Life Cycle: N/A

ESTIMATED COSTS: $40k-$85k

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: LED bordered signing

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Adding additional LED bordered signing to improve safety at intersection.

OTHER CONSIDERATIONS AND ISSUES: Project currently in-design. CON funds are 100% Federal.

IU-32: SR 85/2001 Intersection ITS

PROJECT DESCRIPTION AND SCOPE: Currently started FD Phase. Construction to begin in 2024 and be completed same year, possibly extend into 2025. CON Funds are 100% Federal. MPMS# 117907

STAKEHOLDERS: PennDOT 11-0, PRT

ESTIMATED SCHEDULE: 3 years

Life Cycle: N/A

ESTIMATED COSTS: $40k-$85k

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: LED bordered signing

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Adding additional LED bordered signing to improve safety at intersection.

OTHER CONSIDERATIONS AND ISSUES: Project currently in-design. CON Funds are 100% Federal.

IU-33: US 422/ SR 403 Intersection ITS

PROJECT DESCRIPTION AND SCOPE: Currently started FD Phase. Construction to begin in 2024 and be completed same year, possibly extend into 2025. CON Funds are 100% Federal. MPMS# 117909

STAKEHOLDERS: PennDOT 10-0

ESTIMATED SCHEDULE: 3 years Life Cycle: N/A	**ESTIMATED COSTS:** $185k

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Flashing Warning Signs, LED bordered signing.

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Replacing Flashing Warning Device in-place and adding additional LED bordered signing to improve safety at intersection.

OTHER CONSIDERATIONS AND ISSUES: Project currently in-design. CON Funds are 100% Federal.

IU-34: I-79 ITS Gaps

PROJECT DESCRIPTION AND SCOPE: Install DMS and CCTV to fill gaps in coverage along I-79 through District 10.

STAKEHOLDERS: PennDOT 10-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $500k-$1M

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: DMS & CCTV Cameras

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: DMS & CCTV Cameras

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-35: US 22 (North Fayette & Robinson) ITS

PROJECT DESCRIPTION AND SCOPE: Install CCTV cameras and DMS along US 22 through North Fayette and Robinson Townships.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A Life Cycle: N/A	**ESTIMATED COSTS:** $500k-$2M
PROJECT TYPE: ITS	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: Traveler Information, CCTV ,DMS

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Upgraded signage for travelers on US 22 through North Fayette and Robinson

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-36: SR 65 from I-79 to City of Pittsburgh

PROJECT DESCRIPTION AND SCOPE: Install CCTV cameras and DMS along SR 65.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $500k-$2M

PROJECT TYPE: ITS

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: Traveler Information, CCTV, DMS

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Traffic flow improvements on SR 65 from I-79 to City of Pittsburgh.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-37: SR 51 from SR 88 to Turnpike

PROJECT DESCRIPTION AND SCOPE: Install CCTV cameras and DMS along SR 51.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $500k-$2M

PROJECT TYPE: ITS

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: Traveler Information, CCTV, DMS

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Traffic flow improvements on SR 51 from SR 88 to Turnpike.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-38: SR 3069 West Liberty Avenue to the Liberty Bridge Intersection

PROJECT DESCRIPTION AND SCOPE: Install CCTV cameras and DMS along SR 3069 along with traffic operational upgrades along the corridor.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $500k-$2M

PROJECT TYPE: ITS

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: Traveler Information, CCTV, DMS

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Traffic flow improvements along West Liberty Avenue within the City of Pittsburgh to the North Portal of the Liberty Tunnel.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-39: I-80 Corridor CCTV

PROJECT DESCRIPTION AND SCOPE: Install CCTV cameras along I-80 corridor in Clarion and Jefferson Counties.

STAKEHOLDERS: PennDOT 10-0, North Central RPO, Northwest RPO

ESTIMATED SCHEDULE: 1-3 years Life Cycle: 10-15 years	**ESTIMATED COSTS:** $$ ($500k-$2M)

PROJECT TYPE: ITS Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: CCTV Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Incident Response Time

BENEFITS: Improve incident response time, and congestion management along I-80 Corridor.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-40: District 12 CCTV Gaps

PROJECT DESCRIPTION AND SCOPE: Install 33 CCTV cameras at all interchanges that don't already have one.

STAKEHOLDERS: PennDOT 12-0

ESTIMATED SCHEDULE: 1-3 years

Life Cycle: N/A

ESTIMATED COSTS:
$$$
($4M)

PROJECT TYPE: ITS Deployment

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: CCTV Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Incident Response Time

BENEFITS: Improve incident response time, and improve situational awareness

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-41: US 22 Corridor ITS/Signal Fiber Communications

PROJECT DESCRIPTION AND SCOPE: Install fiber optic cable along corridor to connect ITS & signals.

STAKEHOLDERS: PennDOT 10-0, PennDOT 12-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $1M-$4M

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Fiber Optic Cable

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: US 22 Corridor ITS/Signal Communications Improvements

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-42: US 22 Corridor ITS/ Signal Improvements

PROJECT DESCRIPTION AND SCOPE: SR 22 DMS & CCTV Cameras out towards SR 119 in Southwestern Indiana.

STAKEHOLDERS: PennDOT 10-0

ESTIMATED SCHEDULE: N/A Life Cycle: N/A	**ESTIMATED COSTS:** $500k-$2M

PROJECT TYPE: ITS

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: CCTV, DMS

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: US 22 Corridor ITS/Signal Improvements

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-43: Corridor M & K Parkway North Conversion Study

PROJECT DESCRIPTION AND SCOPE: Rapid transit connection between the Downtown-North Shore areas and Ross Township via an exclusive two-way transit facility using the I-279 HOV lanes as a center-running transit facility and continued rapid or commuter-based transit service (depending on ridership projections) as far as north Cranberry Township in Butler County. Ross should be considered as a major transit hub in this study, with local service tie-ins to Corridor M.

STAKEHOLDERS: PennDOT 11-0, SPC, PRT

ESTIMATED SCHEDULE: 3 years Life Cycle: N/A	**ESTIMATED COSTS:** $57M-$68M/$45M-$54M
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Transit Time and Expansion

BENEFITS: Improved transit flow between the Downtown-North Shore area to Ross Township.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-44: Corridor G East/ Central Pittsburgh River to River Connection

PROJECT DESCRIPTION AND SCOPE: A transit center in the Strip District at or near 21st Street could incorporate a new East Busway station and anchor a vertical connection to the Hill District. A Hill District transit center would tie together east-west bus routes and could offer micro-mobility connections to the rest of the neighborhood. In Oakland, connections to the Downtown-Uptown-Oakland-East End Bus Rapid Transit Project (currently in final design) and other transit lines will be critical to supporting connectivity and maximizing ridership. Linking with transit on Second Avenue and local connections in Hazelwood will support new development while enhancing access to employment, educational and training opportunities in the corridor. In Carrick and Overbrook, new direct connections will open new opportunities that have historically taken significant time to reach via transit. An Overbrook transit center could also eventually link to the Blue Line light rail and the overall South Hills transit network, providing additional connections to Oakland jobs for residents in the South Hills.

STAKEHOLDERS: PennDOT 11-0, PRT, City of Pittsburgh DOMI

ESTIMATED SCHEDULE: 10 years Life Cycle: N/A	**ESTIMATED COSTS:** $168M-$218M
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Transit Time and Expansion

BENEFITS: Improved transit flow, new facilities including a transit center, new east busway station, Hill District transit center, potential economic development opportunities

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-45: Corridor D Library Line Best Use Study

PROJECT DESCRIPTION AND SCOPE: The goal of the study will be to evaluate the existing light rail infrastructure to determine if or how it can be better utilized. This could include changing service or mode of the line or focusing on the infrastructure in place and ways to partner with municipalities to improve its usage and overall connectivity.

STAKEHOLDERS: PRT, SPC

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Better utilization of existing light rail infrastructure

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-46: Corridor E East Busway Phased Extensions

PROJECT DESCRIPTION AND SCOPE: The recently completed BEN 2030 FUTURES: Braddock, East Pittsburgh, and North Braddock Joint Comprehensive Plan calls for expansion of rapid transit in these communities beyond the East Busway. Pre-2020 trip patterns show a high rate of travel between East Pittsburgh and McKeesport, which is approximately 10 minutes by car, but 40 minutes by transit. Long transit travel times between the City of Duquesne and East Pittsburgh inhibit residents of Duquesne from accessing jobs in the Turtle Creek Valley. Additional services at a transit center in East Pittsburgh, which is home to Keystone Commons, a major Mon Valley job center and key crossroads in several directions, are also proposed.

STAKEHOLDERS: PRT, Local Municipalities

ESTIMATED SCHEDULE: 10 years Life Cycle: N/A	**ESTIMATED COSTS:** $121M-$151M
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Transit Time and Expansion

BENEFITS: Extend East busway to decrease transit trip time between East Pittsburgh and McKeesport.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-47: Corridor H Allentown/ Downtown LRT Best Use Study

PROJECT DESCRIPTION AND SCOPE: The PRT will conduct a study to investigate the best uses for the existing Allentown light rail alignment and the rail spur from Steel Plaza to Penn Station, both of which are physically operational but do not currently operate regularly scheduled service. Both assets require further study to determine what configuration of service and infrastructure would best serve riders in a way that is financially viable for the Authority. There are several issues to address such as how or if it would change bus service in the area and meet ADA law given that the system was built prior to passage of the Act and is currently inaccessible.

STAKEHOLDERS: PRT, SPC, City of Pittsburgh, DOMI

ESTIMATED SCHEDULE: 10 years

Life Cycle: N/A

ESTIMATED COSTS: $8M-$10M

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Capacity upgrades

BENEFITS: Light rail service in Allentown and service between Steel Plaza and Penn Station.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-48: Corridor F East Busway to Monroeville Rapid Transit

PROJECT DESCRIPTION AND SCOPE: Completing a rapid transit connection from Downtown further east to Monroeville could involve dedicated facilities directly connecting to the East Busway at or near the Parkway East. This connection would involve bus-only ramps or bridges rising from the highway to Edgewood Avenue, and a new entrance to the East Busway.

STAKEHOLDERS: PennDOT 11-0, PRT

ESTIMATED SCHEDULE: 5 years Life Cycle: N/A	**ESTIMATED COSTS:** $117M-$141M
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Bus Rapid Transit from downtown to Monroeville.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-49: Corridor J Allegheny Valley Rapid Transit

PROJECT DESCRIPTION AND SCOPE: Key elements of this project would emphasize maximizing connections to job centers, neighborhood centers, and major transit routes. The new line could serve commercial centers through the Strip District and Lawrenceville, Morningside, and the Pittsburgh Zoo, then continue on to the upper Allegheny Valley through Verona, Oakmont, and New Kensington. The Brilliant Branch line that begins in Aspinwall could directly link with the AVRR main line near Highland Park via the Brilliant Bridge and link to the East Busway in Larimer.

STAKEHOLDERS: PennDOT 11-0, PRT

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $231M-$298M

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Connect job centers and commercial centers from New Kensington to Pittsburgh's CBD via Allegheny Valley RR. Would also connect Aspinwall via Brilliant Branch.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-50: Corridor A Airport Corridor Rapid Transit

PROJECT DESCRIPTION AND SCOPE: This proposed project will enable faster service to the airport by extending the rapid service currently serving the West Busway well beyond the current terminus in Carnegie Borough. It would extend Port Authority's West Busway (which connects riders Downtown to Carnegie via an exclusive transit right-of-way) in two places.

STAKEHOLDERS: PennDOT 11-0, PRT

ESTIMATED SCHEDULE: 10 years Life Cycle: N/A	**ESTIMATED COSTS:** $274M-$325M
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Faster service from downtown to airport

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-51: North Fayette Trail Connector

PROJECT DESCRIPTION AND SCOPE: Connect from the Pointe at North Fayette to the Montour Trail, Pittsburgh Technical College, and Settlers Cabin Park/Pittsburgh Botanical Garden.

STAKEHOLDERS: PennDOT 11-0, North Fayette Township, Allegheny County, PRT

ESTIMATED SCHEDULE: 5 years

Life Cycle: N/A

ESTIMATED COSTS: $3M

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: On-road and road-adjacent bicycle accommodations.

OTHER CONSIDERATIONS AND ISSUES: In Design

IU-52: Completing the Loop

PROJECT DESCRIPTION AND SCOPE: Will connect to trail and park systems on either side of the bridge. Riverlife is leading the effort.

STAKEHOLDERS: PennDOT 11-0, Riverlife, Allegheny County

ESTIMATED SCHEDULE: 5 years

Life Cycle: N/A

ESTIMATED COSTS: N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Bicycle and pedestrian improvements to the West End Bridge.

OTHER CONSIDERATIONS AND ISSUES: Partial Progress

IU-53: Turtle Creek Connector Trail

PROJECT DESCRIPTION AND SCOPE: Trail to connect to the Great Allegheny Passage via the Hot Metal Bridge in Rankin to the Westmoreland Heritage Trail in Trafford.

STAKEHOLDERS: PennDOT 11-0, Study Corridor Municipalities, Allegheny County, PRT

ESTIMATED SCHEDULE: 5 years

Life Cycle: N/A

ESTIMATED COSTS: N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: On-road/road adjacent bicycle accommodations and shared use paths.

OTHER CONSIDERATIONS AND ISSUES: In Design

IU-54: VOPP Trail

PROJECT DESCRIPTION AND SCOPE: On-road bicycle accommodations and shared use paths

STAKEHOLDERS: PennDOT 11-0, Verona, Oakmont, Penn Hills, Plum Borough, PRT

ESTIMATED SCHEDULE: 5 years

Life Cycle: N/A

ESTIMATED COSTS: N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: On-road bicycle accommodations and shared use paths.

OTHER CONSIDERATIONS AND ISSUES: In Design

IU-55: Three Rivers Heritage Trail – Allegheny Valley

PROJECT DESCRIPTION AND SCOPE: On road bicycle accommodations and shared use paths from Millvale to Freeport. Design segments include Shaler Township, O'Hara, Harmar, Springdale Township, East Deer Township.

STAKEHOLDERS: PennDOT 11-0, Municipalities, PRT

ESTIMATED SCHEDULE: 5 years

Life Cycle: N/A

ESTIMATED COSTS: N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: On-road and road-adjacent bicycle accommodations.

OTHER CONSIDERATIONS AND ISSUES: In Design

IU-56: Three Rivers Heritage Trail – Hazelwood to Carrie Furnace

PROJECT DESCRIPTION AND SCOPE: On-road bicycle accommodations and shared use paths. Hazelwood to Rankin Borough.

STAKEHOLDERS: PennDOT 11-0, Pittsburgh, Swissvale, Rankin, PRT

ESTIMATED SCHEDULE: 5 years Life Cycle: N/A	**ESTIMATED COSTS:** N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: On-road bicycle accommodations and shared use paths.

OTHER CONSIDERATIONS AND ISSUES: In Design

IU-57: Little Pine Creek Connector

PROJECT DESCRIPTION AND SCOPE: Extends from Kiwanis Park in Shaler along the west bank of Little Pine Creek to Etna's new riverfront park.

STAKEHOLDERS: PennDOT 11-0, Shaler, Etna, PRT

ESTIMATED SCHEDULE: 5 years

Life Cycle: N/A

ESTIMATED COSTS: N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: On-road and road-adjacent bicycle accommodations.

OTHER CONSIDERATIONS AND ISSUES: In Design

IU-58: Panhandle Trail Extension

PROJECT DESCRIPTION AND SCOPE: Extends from the terminus of the Panhandle Trail at Walkers Mill to the Carnegie West Busway Station.

STAKEHOLDERS: PennDOT 11-0, Carnegie, Scott Township, Collier Township, PRT, Allegheny County

ESTIMATED SCHEDULE: 5 years

Life Cycle: N/A

ESTIMATED COSTS: N/A

PROJECT TYPE: Multimodal Connectivity

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Rail-with-trail or rail-to-trail.

OTHER CONSIDERATIONS AND ISSUES: In Design

IU-59: White Oak Park to South Park Connector

PROJECT DESCRIPTION AND SCOPE: Effort underway to plan the corridor to connect these two County parks.

STAKEHOLDERS: PennDOT 11-0, Municipalities, Montour Trail Council, Steel Valley Trail Council, PRT, Allegheny County

ESTIMATED SCHEDULE: 5 years Life Cycle: N/A	**ESTIMATED COSTS:** N/A
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: On-road bicycle accommodations and shared use paths

OTHER CONSIDERATIONS AND ISSUES: Partial Progress

IU-60: The Eastern Pittsburgh Multimodal Corridor Project

PROJECT DESCRIPTION AND SCOPE: The Eastern Pittsburgh Multimodal Corridor (EPMC) Project streamlines travel within these facilities through infrastructure improvements, capital investments, and Active Traffic Management (ATM), among other innovative practices. I-376 Parkway East is the primary route between Downtown Pittsburgh and the PA Turnpike, and is the country's fifth most congested interstate section. Due to physical constraints, an information-driven approach and technological improvements are necessary to improve conditions. $48.5m towards ATM system: dynamic message boards, variable speed limit systems, wrong way vehicle detection, queue warnings. $39m for Flood Mitigation on I-376 Westbound Bathtub. $9m for Arterial Traffic Management to improve incident response and congestion. $1.2m for sidewalks and pedestrian improvements on Business 22. $46.5m for hard shoulder running with new ramp to Busway. $23m for East Busway paving, drainage, and retaining walls. $23m for Penn Avenue (Wilkinsburg) Bridge Replacement, with set-aside for other bridges. $13m in Slope Protection and Stabilization. $10.5m towards Battery Electric Buses and Charging Infrastructure.

STAKEHOLDERS: PennDOT 11-0, PRT, Allegheny County, SPC

ESTIMATED SCHEDULE: 3-5 years Life Cycle: N/A	**ESTIMATED COSTS:** $213.2M
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: ATM System, DMS, VWL, Wrong Way Detection

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Reduced congestion and crashes on Parkway East, Flood Mitigation, increased active mobility, increased transit efficiency, reduced emissions.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-61: Corridor R Homestead to McKeesport Transit Improvements

PROJECT DESCRIPTION AND SCOPE: Transit Improvements, Browns Hill Rd./Hazelwood Ave. to Kennywood Blvd./Library St./Eighth Avenue (PA 837)

STAKEHOLDERS: PennDOT 11-0, PRT

ESTIMATED SCHEDULE: 3 years Life Cycle: N/A	**ESTIMATED COSTS:** $47M-$58M
PROJECT TYPE: Multimodal Connectivity	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Transit Time

BENEFITS: Improved transit flow and reduced congestion along an important arterial Browns Hill Rd./Hazelwood Ave. to Kennywood Blvd./Library St./Eighth Avenue (PA 837).

OTHER CONSIDERATIONS AND ISSUES: Coordination with the municipalities and PennDOT 11-0.

IU-62: SR 68 Jeff and Cunningham Street Signal Improvements

PROJECT DESCRIPTION AND SCOPE: Replacing nine (9) existing traffic signals and retiming corridors. MPMS# 117264

STAKEHOLDERS: PennDOT 10-0

ESTIMATED SCHEDULE: 5 years Life Cycle: N/A	**ESTIMATED COSTS:** $3.3M
PROJECT TYPE: Signal Improvements	**LEVEL OF EFFORT:** Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Replacing nine (9) existing traffic signals and retiming corridors.

OTHER CONSIDERATIONS AND ISSUES: Currently starting PE Phase. CON Funds are 80% Federal & 20% State. CMAQ funds.

IU-63: Smart Spines – City of Pittsburgh

PROJECT DESCRIPTION AND SCOPE: Advanced traffic signal system along 8 corridors, multi-modal advanced signal systems, TMC in the City.

STAKEHOLDERS: PennDOT 11-0, FHWA, City of Pittsburgh, PRT

ESTIMATED SCHEDULE: 5 years Life Cycle: N/A	**ESTIMATED COSTS:** $29M
PROJECT TYPE: Signal Improvements	**LEVEL OF EFFORT:** High

TECHNOLOGY COMPONENTS *(if applicable)*: TMC, CCTV, Video Detection Feeds

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: This project seeks to leverage existing and emerging technologies to create a multi-modal advanced signal system which will be able to detect several different roadway users and prioritize their movements based on corridor context and real-time traffic patterns. The Smart Spines project will consist of the following eight corridors and will be divided into two separate phases: Fifth Ave/Washington Blvd, Forbes Ave, Bigelow Blvd, Centre Ave, Second Ave, Saw Mille Run Blvd, West Liberty Ave, and Penn Ave.

OTHER CONSIDERATIONS AND ISSUES: In Design. Funding 38% Federal, 38% City, and 24% State.

IU-64: Mayview/Lesnett/Bank/Chartiers Avenue Intersection Improvements

PROJECT DESCRIPTION AND SCOPE: Mayview/Lesnett/Bank/Chartiers Avenue Intersection Improvements, signalization.

STAKEHOLDERS: PennDOT 11-0

ESTIMATED SCHEDULE: N/A

Life Cycle: N/A

ESTIMATED COSTS: $2M-$5M

PROJECT TYPE: Signal Improvements

LEVEL OF EFFORT: High

TECHNOLOGY COMPONENTS *(if applicable)*: N/A

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: N/A

BENEFITS: Intersection Improvements and Signal Upgrades

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-65: Grove City Outlets Signal Improvements

PROJECT DESCRIPTION AND SCOPE: Upgrade signal equipment and improve timing/coordination on PA 208 near the Grove City Outlets in Mercer County.

STAKEHOLDERS: PennDOT 1-0, Mercer County MPO, Springfield Township

ESTIMATED SCHEDULE: 3+ years Life Cycle: 10-15 years	**ESTIMATED COSTS:** $$ ($500k-$2M)

PROJECT TYPE: Signal Improvements

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Traffic Signal Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Travel Time Ratio

BENEFITS: Improved traffic flow and reduced congestion along a series of important signalized corridors within the region.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-66: US 20 Wesleyville Signal Improvements

PROJECT DESCRIPTION AND SCOPE: Upgrade signal controllers to allow for command/control functionality and performance measures on US 20 in Wesleyville.

STAKEHOLDERS: PennDOT 1-0, Erie MPO, Wesleyville Borough

ESTIMATED SCHEDULE: 3+ years

Life Cycle: 10-15 years

ESTIMATED COSTS:
$$
($500k-$2M)

PROJECT TYPE: Signal Improvements

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Traffic Signal Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Travel Time Ratio

BENEFITS: Improved traffic flow and reduced congestion along an important signalized corridor.

OTHER CONSIDERATIONS AND ISSUES: N/A

IU-67: US 19 Corridor Traffic Signal Improvements

PROJECT DESCRIPTION AND SCOPE: Upgrade signal equipment and improve timing/coordination on US 19 (Peach Street), Liberty Street, and Cherry Street.

STAKEHOLDERS: PennDOT 1-0, Erie MPO, City of Erie

ESTIMATED SCHEDULE: 1-3 years

Life Cycle: 10-15 years

ESTIMATED COSTS:
$$
($500k-$2M)

PROJECT TYPE: Signal Improvements

LEVEL OF EFFORT: Moderate

TECHNOLOGY COMPONENTS *(if applicable)*: Traffic Signal Systems

PREREQUISITES AND DEPENDENCIES: N/A

PERFORMANCE MEASURES: Improved Travel Time Ratio

BENEFITS: Improved traffic flow and reduced congestion along a series of important signalized corridors within the region.

OTHER CONSIDERATIONS AND ISSUES: N/A