

# Appendix A

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June 29, 2021

# **PENNSYLVANIA'S 2023 TRANSPORTATION PROGRAM GENERAL AND PROCEDURAL GUIDANCE**

## 2023 Transportation Program General and Procedural Guidance

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## 2023 Transportation Program General and Procedural Guidance

### INTRODUCTION

The purpose of this General and Procedural Guidance document is to meet federal and state requirements for the development and documentation of the Pennsylvania 2023-2026 Statewide Transportation Improvement Program (STIP) and the regional Transportation Improvement Programs (TIPs). This includes, but is not limited to, [23 USC Section 134](#), [23 USC Section 135](#), [23 CFR 450.200](#), [23 CFR 450.300](#), and [23 CFR 490](#), as well as [PA Consolidated Statute \(CS\) Title 74](#) and [PA Code Title 67](#). As referenced in the [Pennsylvania FFY 2021-2024 STIP Federal Planning Finding](#), these regulations guide the development process of the 2023 Transportation Program within the context of multiple inter-related, intergovernmental planning functions. The [Moving Ahead for Progress in the 21st Century](#) (MAP-21) Act required the use of a performance-based approach to transportation planning which was continued under the Fixing America's Surface Transportation (FAST) Act. Performance-Based Planning and Programming (PBPP) refers to the application of performance management within the planning and programming process to achieve the desired performance outcomes for Pennsylvania's transportation system.

The Pennsylvania Department of Transportation (PennDOT) undertakes these activities together with other agencies, stakeholders, and the public to ensure that transportation investment decisions align with established targets and goals. These activities are carried out as part of a cooperative, continuing, and comprehensive (3C) planning process which guides the development of many PBPP documents, including:

- Statewide and Regional Long Range Transportation Plans (LRTPs)
- 12-Year Transportation Program (TYP)
- State Transportation Improvement Program (STIP)
- Regional Transportation Improvement Programs (TIPs)
- Transportation Asset Management Plan (TAMP)
- Transit Asset Management (TAM) Plans
- Pennsylvania Strategic Highway Safety Plan (SHSP)
- Comprehensive Freight Movement Plan (CFMP)
- Congestion Mitigation and Air Quality (CMAQ) Performance Plan(s)
- Congestion Management Process (CMP)

This guidance document is a collaborative product jointly developed by PennDOT [PennDOT Executives, the Center for Program Development and Management (CPDM), Bureau of Maintenance and Operations (BOMO), Bureau of Project Delivery (BPD), Bureau of Public Transportation (BPT), Bureau of Equal Opportunity (BEO), and Engineering Districts], the Metropolitan Planning Organizations (MPOs) and Rural Planning Organizations (RPOs), and Federal Partners, including the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA).

This guidance reflects the performance-based planning approach to transportation planning, underscores the importance of the 3C process and identifies opportunities for collaboration. This guidance also lays out requirements for the documentation of the TIP development process and describes how project selection and prioritization will support Transportation Performance Management (TPM). With these changes, the regional TIPs will continue to evolve into more narrative-based planning documents, similar to the regional LRTPs.

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This document will oversee the development process of the 2023 Transportation Program (STIP, TIPs, and TYP) and demonstrate the implementation of the TAMP. The transportation planning process is by its very nature fluid and subject to change. By working closely together, PennDOT, the MPOs/RPOs, and FHWA/FTA will strive to continuously improve the program development process. Therefore, this guidance document will be updated every two years to reflect changes in state or federal legislation, regulation, or policy. This document includes numerous hyperlinks that support program development.

### REQUIREMENTS

This guidance document provides references and links included in the text as support tools that users may find helpful in developing a broader understanding of the program development process.

The planning context for program development is a complex process that involves multiple elements, including planning and programming rules and regulations, transportation plans, data systems, and other programs that support and inform the program development process. To help understand the complex planning requirements for all stakeholders, PennDOT, in cooperation with the MPOs/RPOs and FHWA/FTA, developed the [Guidebook for Pennsylvania's MPOs and RPOs](#). This guidebook provides a core source of information for planning and programming in Pennsylvania, including an initial documentation of roles, responsibilities, and requirements.

The initial part of the program development process is the update of the Financial Guidance and General and Procedural Guidance documents. Representation from PennDOT Central Office, PennDOT Districts, the MPOs/RPOs, and FHWA/FTA participate in work groups to update these documents. These two documents are the foundation of the program update process. The 2023 Transportation Program development schedule is available in Appendix 1.

[PA Act 120 of 1970](#), enacted from Senate Bill 408, created PennDOT and the State Transportation Commission (STC). The STC is a 15-member body, chaired by the Pennsylvania Secretary of Transportation, which serves as the Board of Directors to PennDOT. The STC provides policy driven direction with respect to the development of Pennsylvania's TYP. PennDOT and STC work together with the MPOs/RPOs to develop several transportation planning documents, including the TYP. To satisfy the requirements of Act 120, PennDOT must prepare, update, and submit Pennsylvania's TYP to the STC for approval every two years.

The TYP is the Commonwealth's official transportation program and is a multimodal, fiscally constrained program of transportation improvements spanning a 12-year period. The TYP is divided into three four-year periods, with the first four years corresponding to the STIP and the regional TIPs. The TYP must be consistent with federal programming documents, such as the statewide and regional L RTPs.

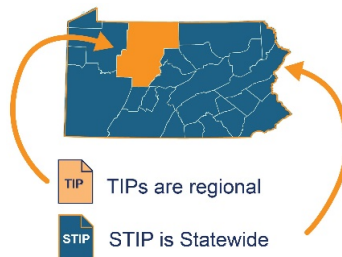
#### 12-Year Program Cycle for Federal Fiscal Year (FFY) 2023-2034

FFY 2023	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028	FFY 2029	FFY 2030	FFY 2031	FFY 2032	FFY 2033	FFY 2034
1 <sup>st</sup> Four Years (STIP/TIPs)				2 <sup>nd</sup> Four Years				3 <sup>rd</sup> Four Years			
← TYP →											
← TAMP →											

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Pennsylvania is required under [49 USC 5304\(g\)](#) and [23 USC 135\(g\)](#) to develop a STIP. Pennsylvania's STIP is a fiscally constrained four-year program of highway, bridge, and transit projects. The STIP is developed in cooperation with the MPOs/RPOs and public transportation agencies in the state and is consistent with the regional TIPs. The transportation projects on the STIP are consistent with the statewide and regional LRTPs. All projects that use Federal-aid funds must be listed in the STIP.

The STIP is the entire transportation program for the Commonwealth, which includes the Interstate and Statewide programs as well as the regional TIPs:



The Pennsylvania STIP is comprised of 26 individual TIPs:

- MPO TIPs (19)
- RPO TIPs (4)
- Independent County TIP (1)
- Statewide Items TIP (1)
- Interstate Management (IM) Program TIP (1)

PennDOT is responsible for statewide planning, while the MPOs/RPOs are responsible for transportation planning in their regions. Federal planning requirements [49 USC 5303\(j\)](#) and [23 USC 134\(j\)](#) require each MPO to develop a TIP at the local level. In Pennsylvania, the TIP is the first four years of the TYP. PennDOT has developed agreements with RPOs that position them as equals to MPOs. Therefore, in Pennsylvania, RPOs are held to the same requirements as MPOs with regards to the planning and programming process, which includes the development of individual TIPs, Statewide Items TIP, and Interstate Management (IM) Program TIP. PennDOT takes the lead in developing the independent county TIP. Each MPO/RPO TIP is a fiscally constrained program of upcoming transportation projects that reflect regional and local priorities over the next four years. Federal law requires TIPs to be updated at least every four years. In Pennsylvania the STIP/TIPs are updated every two years during the TYP process, based on the requirements of Act 120.

Within Pennsylvania, the characteristics of the PennDOT Engineering Districts and MPOs/RPOs vary greatly, between the land area and population of the region, the number of transportation resources present, and the staff available to support operations. PennDOT, the MPOs/RPOs, transit agencies, and FHWA/FTA recognize this and agree to work cooperatively to meet the federal and state program requirements.

The STIP and MPO/RPO TIPs are developed based upon mutual trust, data sharing, open communication and coordination at each program development step, which results in a consensus between PennDOT, the MPOs/RPOs, FHWA/FTA, and other interested stakeholders regarding the most effective use of

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limited transportation resources. To kick off this process, PennDOT and FHWA/FTA recommend that MPOs/RPOs and PennDOT Engineering Districts schedule an early coordination meeting at the beginning of the TIP development process to discuss and agree upon roles and responsibilities, overall schedule, and key deadlines. PennDOT CPDM liaisons and FHWA/FTA planning staff are available to participate and assist, as needed. PennDOT and FHWA/FTA have developed a new coordination worksheet to aid this discussion. The **worksheet** can be found in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint.

Each MPO/RPO, in coordination with their PennDOT CPDM representatives and their PennDOT District(s), will document the process used for regional TIP development. This documentation should include the project selection process, a description of the anticipated effect of the TIP toward achieving the performance targets, the individual roles and responsibilities of the MPO/RPO, PennDOT District(s) and Central Office, and a timeline. **Examples** can be found in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint.

The project selection documentation described above is integral to the process and should be submitted in draft form with the draft list of projects in accordance with the 2023 Transportation Program development schedule available in Appendix 1. This will allow for early coordination with PennDOT Districts, CPDM, FHWA, and FTA for review and feedback prior to the draft TIP public comment period.

### Public Participation

Public outreach is a key component of updating the Program. The release of the [2021 Transportation Performance Report](#) (TPR) by the STC on February 18, 2021 was the official start of the 2023 Program update process in Pennsylvania. PennDOT, the STC and the MPOs/RPOs welcomed the public to review the TPR prior to providing input and feedback on transportation priorities to help identify projects for the 2023 Program. The 2023 TYP update open public comment period took place from March 1 to April 14, 2021. During this comment period, the public was encouraged to take an online transportation survey to share their transportation priorities and concerns on STC's [Public Outreach](#) page and attend an [Online Public Meeting](#) hosted by the Secretary of Transportation, who is also STC Chair. During the Public Meeting, the findings of the 2021 TPR were presented and the public was given the opportunity to ask questions.

To increase public participation and gather as much feedback as possible, PennDOT, the STC and the MPOs/RPOs reinforced this public outreach effort by informing stakeholders and the public about the Transportation Survey and encouraging participation through both social and traditional media.

The public feedback collected through the transportation survey will be used to shape the 2023 TYP as well as the 2045 LRTP and the CFMP. Feedback was also shared with the BPT, Districts and MPOs/RPOs, who will consider these results in their project selection process for the TIP. The same process is utilized for the respective regional portions of the Program. STC's [How It Works](#) describes how PennDOT, the STC and the Transportation Advisory Committee (TAC) use a variety of tools including programs, plans and reports to complete the TYP Update Planning Process.

An integral part of the program development process involves meaningful public outreach and involvement. A Public Participation Plan (PPP) is a key element to ensure that all transportation related



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activities are communicated and involve all members of the public, including traditionally underserved and protected populations. PennDOT Central Office, in coordination with the MPOs/RPOs and FHWA/FTA, develops and utilizes a [Statewide PPP](#) in accordance with [23 CFR 450.210](#).

FHWA provides guidance to the MPOs/RPOs regarding [public involvement](#) requirements. The MPOs/RPOs are responsible for developing their own regional PPPs that outline the processes by which they ensure adequate involvement and input from various stakeholders, including elected officials, transportation agencies and service providers, businesses, special interest groups, disadvantaged populations, and the public. The MPOs/RPOs must post their own regional PPPs on their respective websites. The MPO/RPO PPPs must specifically identify how the MPOs/RPOs will notify the public of meetings, ensure access to meetings, and demonstrate how they will consider and respond to public input.

### Title VI

As a recipient of federal funding, MPOs and RPOs must be in compliance with Title VI as outlined in the Code of Federal Regulations (CFR) [49 CFR § 21](#) (Nondiscrimination In Federally-Assisted Programs Of The Department Of Transportation - Effectuation Of Title VI Of The Civil Rights Act Of 1964) and the [FTA Circular 4702.1B](#) (Title VI Requirements and Guidelines for Federal Transit Administration Recipients). The FTA Circular 4702.1B requires that MPOs/RPOs (sub-recipients of federal funds) document their compliance by creating and submitting an approved Title VI Program document to PennDOT (the primary recipient). MPOs and RPOs should continue to coordinate with PennDOT through the Bureau of Equal Opportunity (BEO), Bureau of Public Transportation (BPT), and CPDM as well as with FTA and FHWA, as needed, for guidance, resources, and assistance in maintaining compliance. Recently, FTA Region III shared resources on the FTA Circular 4702.1B requirements for MPOs/RPOs along with a document of PennDOT's efforts to meet these requirements. To learn more about Title VI and the overarching requirements of this and related statutes and authorities, please refer to PennDOT's [Title VI webpage](#) which addresses the full scope of the Department's civil rights obligations. Resources referenced above are available in the [Title VI folder](#) on SharePoint.

Planning processes must comply with [Title VI of the Civil Rights Act of 1964](#) that prohibits exclusion from participation in, denial of the benefits of, and discrimination under federally assisted programs on grounds of race, color, or national origin. Furthermore, PennDOT must comply with other federal and Commonwealth statutes and authorities that prohibit discrimination based on an individual or group's sex, age, religious creed, and/or disability. [PennDOT's Title VI Compliance and Implementation Plan](#) defines the policies and procedures by which the Department administers its Title VI activities and ensures its programs comply with Title VI requirements both within PennDOT and among its federal-aid sub-recipients.

PennDOT BEO, in coordination with PennDOT CPDM and FHWA, has crafted a template that can be used by the MPOs/RPOs as a general Title VI policy statement and complaint procedural notice. MPOs/RPOs that already maintain a Title VI Policy statement that addresses the principle points articulated in this template may maintain their existing statements or choose to modify this template to meet their organizational needs. Any Title VI statement should include the organization's name and Title VI Coordinator contact information. The Title VI Coordinator should be fully versed in the organization's

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complaint and accommodation procedures and designated as the point of contact for public concerns and requests.

It is recommended that this [Title VI template](#) or a comparable statement be applied as an appendix or preface to the TIP document that is made available for public comment. Additionally, it is recommended to apply this template or a comparable statement to other publicly facing documents and communications, including the MPO/RPO PPP and respective websites.

### Tribal Consultation

Although there are no areas in Pennsylvania currently under the jurisdiction of Tribal governments, PennDOT recognizes the importance of tribal consultation and considers federally recognized Tribes and Nations to be interested parties. Therefore, PennDOT and MPOs/RPOs shall consult with federally recognized Tribes and Nations that have regions of interests in Pennsylvania to provide opportunities for review and comment on key planning documents, such as the TIP, LRTP, and PPP. For the 2023 TIP update, this includes notifying Tribes and Nations of the opportunity to participate in any TIP public meetings and review the draft TIP during the public comment period. However, this effort to consult with individual Tribes and Nations needs to be a separate public involvement effort that occurs during the public comment period. The consultation letter to inform the Tribes and Nations of the public involvement opportunity should be specific and tailored to the individual Tribe or Nation that maintains an area of interest within the boundaries of each respective planning partner and should not be included in mass email alerts/notices to the general public. Because of the importance of government-to-government consultation with Tribes and Nations, the letter should come directly from PennDOT or the MPO/RPO staff and cannot be sent by a consultant.

Please note that some of the Tribes and Nations accept email correspondence while others may require a paper copy of documents. For the Tribes and Nations that require paper copies, please include a printed version of the TIP with the consultation letter to reduce any barriers to participation, and freedom for review, and comment. A **list** of federally-recognized Tribes and Nations contacts as well as a **sample coordination letter** are available in the [Tribal Coordination folder](#) in SharePoint.

### Self-Certification

All Pennsylvania's MPOs are required by [23 CFR 450.336\(a\)](#) to complete self-certification resolutions concurrent with their TIP updates, which state that the metropolitan transportation planning process is being carried out in accordance with all applicable requirements. These self-certification resolutions are part of the TIP submission documentation sent to PennDOT CPDM. Non-TMA MPOs, metropolitan areas with populations less than 200,000 as deemed by the US Census, and RPOs must include documentation to indicate compliance as part of their TIP submissions. MPOs that are in Transportation Management Areas (TMAs), metropolitan areas with populations exceeding 200,000 as deemed by the US Census, are required to have Federal certification reviews performed by FHWA/FTA every four years, in accordance with [23 CFR 450.336\(b\)](#). Based on the higher level of oversight by FHWA/FTA, the TMA MPOs aren't asked to provide the additional compliance documents because those materials are reviewed as part of the Federal certification review process. The regulatory requirements and citations to include in the Self-Certification resolution can be found at [23 CFR 450.336](#). **Examples** of self-certification resolutions

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and documentation can be found in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint.

### Project Selection

To the maximum extent practicable, project selection, evaluation, and prioritization should be a clear and transparent process. To kick off this process, PennDOT and FHWA/FTA recommend that MPOs/RPOs and PennDOT Districts schedule an early coordination meeting at the beginning of the TIP development process to discuss and agree upon roles and responsibilities, overall schedule, and key deadlines. PennDOT CPDM liaisons and FHWA/FTA planning staff are available to participate and assist, as needed. PennDOT and FHWA/FTA have developed a new coordination worksheet to aid this discussion. The **worksheet** can be found in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint.

PennDOT District and CPDM staff will work with the MPOs/RPOs to document the project identification, prioritization, and selection process used for the highway/bridge portion of the Program. The MPOs/RPOs will work with public transit agencies in their regions to document the project identification, prioritization, and selection process used for the public transit portion of the Program. These project selection processes will vary by District, MPO/RPO, and public transit agency, but should reflect the key elements established in this guidance, be documented in the regional TIP development process mentioned above, and be included as part of the MPO/RPO TIP submissions. A draft version of the regional project selection documentation should be submitted to PennDOT CPDM with the draft list of projects in accordance with the 2023 Transportation Program development schedule available in Appendix 1. This will allow for early coordination with PennDOT Districts, CPDM, FHWA, and FTA for review and feedback prior to the draft TIP public comment period.

PennDOT District and MPO/RPO staff will work together to identify candidate projects for the highway/bridge portion of the 2023 Program. Initial focus should be placed on carryover projects which must be carried forward onto the 2023 Program from a previous Program. These include:

- Projects that are still advancing through the project delivery process
- Projects with unforeseen cost increases
- Projects with anticipated Advance Construct (AC) conversions

Highway/bridge carryover project scopes, costs, and schedules will be reviewed and updated based on information obtained through project management and from local input/outreach sources such as the STC Public Survey, MPO/RPO public involvement, [PennDOT Connects](#) (PennDOT's municipal outreach policy), and Environmental Justice analysis. PennDOT Districts must ensure that timely and accurate project information is input into [PennDOT's Multimodal Project Management System](#) (MPMS) and share this information with the MPOs/RPOs and PennDOT CPDM. Project public narratives and MPMS data entry should follow [Pub 227](#) and strike-off letters available in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint.

Clear and understandable project descriptions guarantee that details including the location and scope of work are easily understood by the public and will even reduce potential confusion during TIP Negotiations, Air Quality Conformity, federal funds eligibility review, and funds obligation. As the project

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progresses, it is important to update the project description to reflect changes in scope and/or alternatives analysis.

PennDOT District staff and MPO/RPO staff should then cooperatively meet to evaluate highway/bridge project ideas or additional needs that have been identified through the TPM process and informed by the TAMP, transportation performance measures, the statewide and regional LRTPs, and the local input/outreach sources mentioned above. PennDOT CPDM will ensure that adequate coordination meetings are occurring and appropriately documented for the STIP/TIP submission.

The MPO/RPO's in consultation with the Engineering Districts, should consider cross asset optimization of these multiple project focus areas when considering whether or not to adopt the statewide targets that have been established. Tools like OneMap and other GIS based applications may be utilized to assist with analyzing these various performance areas.

Based upon this continued coordination throughout the TIP development process, PennDOT District staff will create project scopes, costs, and schedules in MPMS for the mutually agreed-upon new projects. To allow for open discussion and collaboration, cooperative discussions about candidate projects under consideration should occur between the MPOs/RPOs and the Districts prior to preparation of a fiscally constrained project list.

### **PennDOT Connects**

Overarching guidance for PennDOT's project development and delivery process is provided by [Design Manual Part 1A](#) (DM1A). It provides guidance on the collection, validation, sharing and documentation of the information necessary to advance a project. As detailed in DM1A, new projects must follow the PennDOT Connects collaborative planning process approach in Appendix 2. The local government outreach and collaboration achieved through the [PennDOT Connects policy](#) leads to positive outcomes, including clearer scopes of work and more accurate schedules and budgets when projects are programmed. This information is carried forward into the scoping and environmental review processes. PennDOT Connects collaboration may occur throughout the planning process. However, PennDOT Connects Project Initiation Forms (PIFs) should be completed for new TIP projects prior to programming. Additional guidance is currently being developed to address PennDOT Connects scalability for projects funded outside of Financial Guidance.

PennDOT Connects identifies community needs and contextual concerns early in project planning through a collaborative process. It is also a mechanism where PennDOT and the MPOs/RPOs can hold discussions on emerging topics like Environmental Justice in the state's transportation programs. PennDOT and the MPO/RPOs coordinate with local governments to identify opportunities to incorporate community-related features into potential projects prior to adding those projects to the Program. However, this is only the beginning of the PennDOT Connects collaborative approach. While community-focused project features are identified in planning, it is often not until the Preliminary Engineering (PE) process is conducted that a determination can be made on whether these features can reasonably be incorporated into the project. Issues such as environmental impacts and other design considerations, such as right-of-way and utilities, are all considerations that factor into decision-making entering the final design of a project. Local governments must be kept informed throughout the decision-making processes involved in project development and delivery.

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The identification and consideration of cultural resources is one aspect of PennDOT Connects collaboration that can be particularly valuable. “Cultural resources” is a term that is typically used synonymously with the term “historic properties”, which are defined in the [National Historic Preservation Act of 1966](#) (NHPA) ([54 USC § 300308](#)) as buildings, sites, districts, structures and objects included in, or eligible for inclusion in, the National Register of Historic Places. [Section 106](#) of the NHPA requires that federal agencies consider the effects of their actions on historic properties following the Advisory Council on Historic Preservation’s implementing regulations at [36 CFR 800](#). Identifying historic properties present, or likely present, in a project area during project planning provides the best means for protecting and preserving cultural properties important to Pennsylvania’s communities and benefits the efficiency and utility of the Section 106 process. As part of the PennDOT Connects process, the MPOs/RPOs and PennDOT Districts should discuss if cultural resources are present, or likely present, in the project area. Collaboration with the State Historic Preservation Officer (SHPO) and/or the PennDOT District Cultural Resource Professionals (District archaeologist and District architectural historian) may also inform the process. Pennsylvania’s [Statewide Historic Preservation Plan for 2018-2023](#) outlines a five-year plan for collaboration on historic preservation that should be considered as part of project planning.

### Long Range Transportation Plans

PA On Track is Pennsylvania’s current [L RTP](#) and [CFMP](#). They were developed with the cooperation and input from dozens of state, regional and local transportation agencies. PA On Track sets goal areas that include system preservation, safety, personal and freight mobility, and investment. Pennsylvania’s Statewide L RTP and CFMP are currently being updated for 2045 to meet the [federal requirement](#) to update the State Freight Plans every five years.



Pennsylvania MPOs and RPOs are required to have their own regional L RTPs. They are maintained and updated as needed in accordance with the current federal transportation legislation requirements - at least every four years in air quality nonattainment and maintenance areas and at least every five years in attainment areas. PennDOT provides guidance to MPOs/RPOs in the development of regional L RTPs in its [Developing Regional Long Range Plans](#), PennDOT Publication (PUB) 575, which is currently being updated. PennDOT has also created [Freight Planning Guidance](#) (PUB 790).

The regional L RTPs are consistent with the goals laid out in the statewide L RTP, are based on extensive public and stakeholder involvement, and include a list of fiscally constrained projects that support

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regional goals and objectives. These projects are prioritized with a strong emphasis on preservation and operating efficiency of the existing infrastructure for all modes to ensure consistency between regional LRTPs, comprehensive plans, and regional TIPs. The MPOs/RPOs shall make their regional LRTPs available on their websites.

### Transportation Performance Management

Transportation Performance Management (TPM) requirements are a key component of the project decision making process. TPM planning requirements were established by the [Moving Ahead for Progress in the 21st Century](#) (MAP-21) Act and reaffirmed in the [Fixing America’s Surface Transportation](#) (FAST) Act. Under these rules, PennDOT and its MPOs/RPOs are required to establish targets related to safety, bridge and pavement condition, air quality, freight movement, public transportation asset management and safety, and the performance of the National Highway System, and to use performance measures to track their progress toward meeting these targets.

Information on TPM rules and other resources on performance management are available on [FHWA’s Transportation Performance Management](#) webpage and through [FTA’s Performance Based Planning](#) webpage. Additional information on PBPP can be found on FHWA’s [Performance Based Planning and Programming Guidebook](#) and is illustrated in the flowchart shown below.





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The [TPM Resource Toolbox](#) has been created to support PennDOT and the MPOs/RPOs with the integration of the federal performance measures in the transportation planning process. The toolbox includes:

- Ability to ask questions for which PennDOT will work to create formal responses
- Handouts to provide further guidance in TPM implementation
- Examples of noteworthy practices and select case studies
- Key contacts and resources
- Ways to communicate the TPM measures to the public

PennDOT and the MPOs/RPOs are required to comply with [23 USC 150](#), which provides strategies for the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the Federal-aid highway program, and improving project decision making through PBPP.

[23 CFR 450.314\(h\)](#) requires PennDOT, MPOs/RPOs, and public transit agencies to create jointly agreed-upon written provisions for how they will cooperatively develop and share information related to five key elements of PBPP:

- Transportation performance data
- Selection of performance targets
- Reporting of performance targets
- Reporting of performance to be used in tracking critical outcomes for each region
- Collection of data for the State asset management plan for the National Highway System (NHS)

PennDOT, in cooperation with its MPOs/RPOs, developed the [Pennsylvania Transportation Performance Management Performance-Based Planning and Programming Procedures](#) document to serve as Pennsylvania's jointly-written provisions for the highway/bridge PBPP roles and responsibilities. It also more fully documents the roles for PennDOT and the MPOs/RPOs regarding target setting coordination, data collection, data analysis and reporting. To ensure compliance with [23 CFR 450.314](#), the MPOs/RPOs have provided written acknowledgement that the Pennsylvania PBPP written provisions were cooperatively developed and agreed-upon with PennDOT.

MAP-21 established three categories of performance measures, which are collectively referred to as the PM1, PM2, and PM3 measures:

- PM1 – measures of safety performance
- PM2 – measures for the condition of NHS pavements, Interstate pavements, and bridges carrying the NHS
- PM3 – measures for the performance of the NHS, freight movement on the Interstate, and the CMAQ Program

The PM1, PM2, and PM3 measures each have multiple targets. Based on the jointly-written provisions, the statewide targets for the above measures were set in coordination between PennDOT and the MPOs/RPOs. Currently, all MPOs/RPOs have adopted PennDOT's statewide targets. Documentation on the currently approved targets is available on [PennDOT's Transportation Performance Management SharePoint page](#).

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Public Transit Agencies are also required by FTA to develop performance targets related to asset management and safety. These targets are discussed in more detail in the Transit section below.

In accordance with [23 CFR 450.218\(q\)](#), PennDOT CPDM, BPT and BOMO will describe in the STIP documentation how the Statewide Program of projects contributes to the achievement of the performance targets identified in the state performance-based plans, linking investment priorities to those targets. The narrative will document the PBPP objectives, investment strategies, performance measures and targets from the performance-based plans that are being implemented through the Program of projects in the STIP.

Similarly, in accordance with [CFR 450.326\(d\)](#), the MPOs/RPOs, in coordination with PennDOT Districts and transit agencies, will describe in their TIP documentation how their regional programs contribute to the achievement of their performance targets in the regional performance-based plans, again linking investment priorities to those targets. The narratives should document the PBPP objectives, investment strategies, performance measures and targets from the performance-based plans that are being implemented through the program of projects in the MPO/RPO TIPs.

The narrative descriptions in the STIP/TIPs should also include a description of how the other performance-based plans are being implemented through the STIP and TIPs. For example, the narrative should describe how the objectives, investment strategies, performance measures and targets from the [PennDOT TAMP](#), [Pennsylvania SHSP](#), the [Highway Safety Improvement Program](#) (HSIP), the [Pennsylvania CFMP](#), TMA CMAQ Performance Plans (see [23 U.S.C. 149\(l\)](#)), regional [CMP](#) plans, transit asset management plans, and other performance-based plans are being implemented through the program of projects in the STIP/TIPs. As part of the regional TIP development process, the MPOs/RPOs and Districts must also document the differences between the PennDOT asset management system treatment and funding level recommendations and their selected projects as part of their TIP submissions. They must also document the coordination with the PennDOT District(s) and Central Office that occurred as part of this decision-making process. This information will be used by PennDOT BOMO AMD to improve future asset management system recommendations.

The narrative should specifically describe these linkages and answer the following questions:

- How were the projects included in the STIP/TIPs selected/prioritized?
- What is the anticipated effect of the STIP/TIP towards the achievement of the performance targets?
- How are the STIP/TIPs consistent with the other performance-based planning documents?

Documentation of how the TIP supports achievement of the performance targets should be incorporated into the project selection and program development narrative submitted by MPOs/RPOs. This information is critical to the TIP development process and should be submitted to PennDOT CDPM in draft form with the draft list of projects in accordance with the 2023 Transportation Program development schedule available in Appendix 1. This will allow for early coordination with PennDOT Districts, CPDM, FHWA, and FTA for review and feedback prior to the draft TIP public comment. Additional **template tools** and **examples** will be made available in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint as well as the [TPM Resource Toolbox](#).



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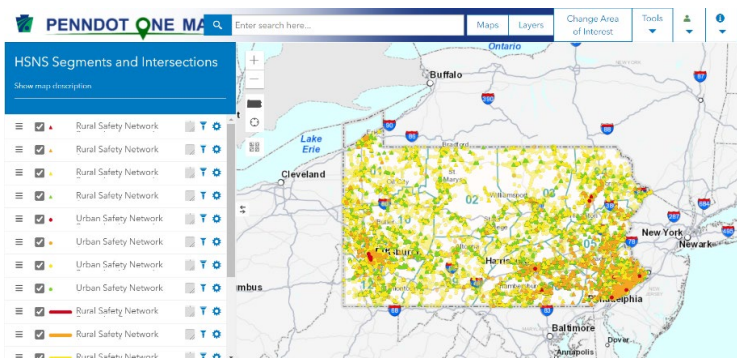
### Safety

Safety is a primary focus of strategic investments for Pennsylvania's transportation network at the State and Federal level. Safety is one of seven themes from PennDOT's Strategic Plan, one of the four goal areas of PA On Track's strategic framework, and one of three strategies in Pennsylvania's Transportation Asset Management Plan (TAMP). Safety is the USDOT's top priority and identified as FHWA's number one objective in the FHWA FY [2019-2022 Strategic Plan](#). Safety Performance Management is also part of FHWA's overall TPM program. The [Safety Performance Management Final Rule](#) establishes safety performance measure requirements for carrying out the HSIP.

To establish the current Safety Performance Measure (PM1) targets, PennDOT BOMO reviewed the State's crash and fatality data and evaluated it for overall trends, comparing these trends to what could be observed at the national and state level. PennDOT evaluated how these trends affected the Pennsylvania SHSP goals and the [National Toward Zero Death initiative](#). PennDOT BOMO and CPDM shared the statewide data with the Engineering Districts and MPOs/RPOs.

The purpose of HSIP funding is to achieve a significant reduction in traffic fatalities and serious injuries on public roads, including non-State-owned public roads. This directly ties to achieving the targets established under PM1. Projects using HSIP funding will be coordinated between the regional MPO/RPO and PennDOT [District, BOMO, and CPDM staff]. These projects must be consistent with the strategies from the SHSP.

All projects utilizing HSIP funds shall be evaluated based on Benefit/Cost (B/C) analysis, Highway Safety Manual (HSM) analysis, fatal and injury crashes, application of systemic improvements, improvements on high risk rural roads, and deliverability. Specifically, as part of PennDOT's HSIP application process, a data-driven safety analysis in the form of B/C analysis or HSM analysis is required. Performing this analysis early in the planning process will help ensure projects selected for inclusion in the TIP will support the fatality and serious injury reductions goals established under PM1. As a **minimum**, HSIP projects shall have a 1:1 return on the safety funding investment. MPOs/RPOs and PennDOT Districts are encouraged to select projects for inclusion in the TIP that will result in the highest B/C ratio as this supports a greater potential for reduction in fatalities and suspected serious injuries.



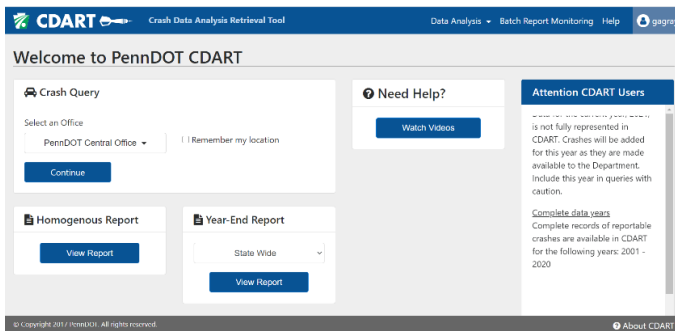
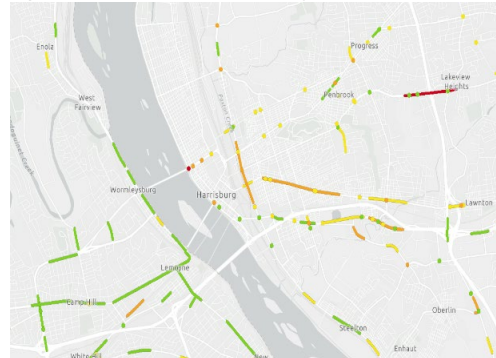
The process for selecting safety projects for inclusion in the TIP should begin with the Network Screening Evaluation that the Department has performed on a statewide basis. Selecting locations with an excess crash frequency greater than zero from this network screening is key to identifying locations with a high potential to improve safety. This evaluation has been mapped and is included in [PennDOT's OneMap](#) to ease use by our partners. This GIS layer contains both urban and rural locations that represent both intersections and roadway segments. At the current time this is not all inclusive for every road in Pennsylvania. Locations not currently

The process for selecting safety projects for inclusion in the TIP should begin with the Network Screening Evaluation that the Department has performed on a statewide basis. Selecting locations with an excess crash frequency greater than zero from this network screening is key to identifying locations with a high potential to improve safety. This

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evaluated may be considered by performing the same type of excess crash frequency evaluation the Department utilizes. The difference in the expected number of crashes and predicted number of crashes is computed as an 'excess crash frequency'. A positive excess crash frequency shows a potential for safety improvement, while a negative excess crash frequency indicates there are fewer expected crashes than predicted. The greater the difference between the expected number of crashes and the predicted number of crashes (excess crash frequency), the greater the potential for safety improvement. If the expected number of crashes is fewer than the predicted number of crashes, the excess crash frequency will be negative, and it is assumed there is little room for safety improvement. Use of the [Highway Safety Manual](#) and [PUB 638A](#) will assist in performing this evaluation manually.

Locations in OneMap are color coded to easily identify potential safety project locations. The locations identified in yellow, orange, or red have an increasing potential for improving safety with the red locations having the greatest opportunity to improve safety. Locations in green are locations that are already performing safely statistically and are included so that partners understand that there may be limited improvement of safety by selecting one of these locations for inclusion on the TIP.

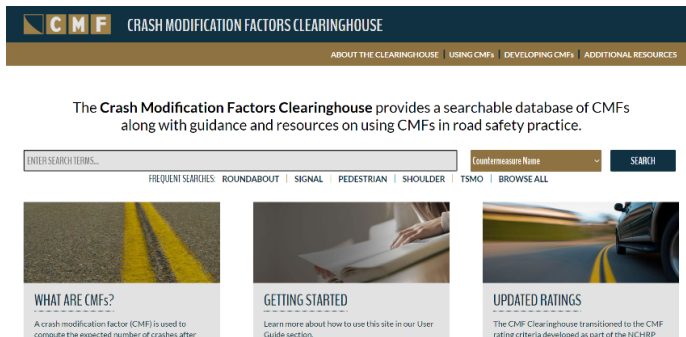


Once safety candidate location(s) have been prioritized for further analysis using the network screening, an assessment of the type of project that needs to be done to address the safety needs should be performed. This analysis must be performed so that project delivery and funding level considerations can be factored into TIP development. Through crash data, the MPO/RPO's and

Engineering Districts can get an idea of whether the safety needs can be addressed by using [proven countermeasures](#) or whether a more significant infrastructure improvement is necessary. To assist in this, partners can use one of two systems:

- (1) [Crash Data Analysis Retrieval Tool](#) (CDART)
- (2) [Pennsylvania Crash Information Tool](#) (PCIT)

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Once this analysis has been performed, data should be used by the Engineering Districts and planning partners to assist MPO/RPO's in evaluating different factors to address the safety concern. By starting with the [Crash Modification Factors Clearinghouse](#) the Engineering Districts can help narrow down treatments that are applicable to a given location and dataset. MPO/RPO's should use this information to assess

the complexity of the project needed. For example, can a situation involving roadway departure crashes be addressed by the addition of curve warning signs and high friction surface treatments or do a series of curves in the roadway need removed. Obviously the more complex the solution is the greater the funding levels will be, but it also increases other project delivery aspects like environmental clearances and right-of-way impacts. Both areas can affect how much funding is tied to a given year on the TIP as well as the total number of years the project will need carried on the TIP to reach completion. All of these factors are important considerations when selecting safety projects because delivery of safety that have the greatest potential for return on reduction in crashes is key to the Commonwealth achieving its established safety performance targets.

These analysis options are explored in more detail at the following locations:

- [Highway Safety Benefit-Cost Analysis Guide](#)
- [Highway Safety Benefit-Cost Analysis Tool: Reference Guide](#)
- [HSM Analysis \[Crash Modification Factor \(CMF\) Clearinghouse\]](#)

Guidance on performing a data-driven safety analysis can be found in the following locations:

- [PUB 638 – District Highway Safety Guidance Manual](#)
- [PUB 638A – Pennsylvania Safety Predictive Analysis Methods Manual](#)
- [PennDOT Safety Website](#)
- [AASHTO Highway Safety Manual](#)
- [FHWA Crash Costs for Highway Safety Analysis](#)
- [FHWA Countermeasure Service Life Guide](#)

More information on HSIP project eligibility and requirements, including federal share pro rata, can be found at the following links:

- [FHWA – Project Eligibility](#)
- [FHWA – Eligibility Guidance](#)
- [23 USC 120 – Federal Share Payable](#)
- [23 USC 148 – Highway Safety Improvement Program](#)

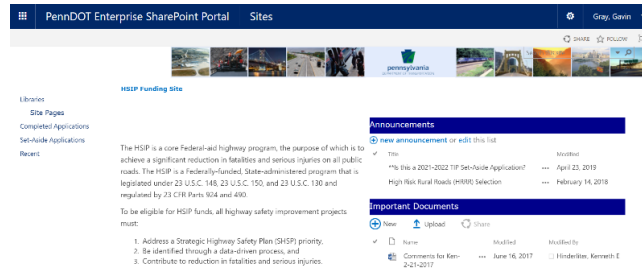
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The [SharePoint HSIP funding site](#) provides a single point of communication for all HSIP eligibility and funding requests.

Applications submitted through this process will document all the processes discussed earlier in this section. Project applications can be initiated either by an MPO/RPO or an Engineering District. The applications are reviewed through an approval workflow

involving the PennDOT Engineering District, BOMO safety and CPDM staff. To ensure that there are no conflicts between the approved TIP and safety performance measures this application should be created as early in the planning process as possible. Failure to do this could result in projects being included in the TIP that do not meet the minimum 1:1 benefit cost ratio for utilization of HSIP funding. The HSIP projects should be continually monitored by the MPOs/RPOs, PennDOT Engineering Districts, CPDM, BOMO, and FHWA to ensure approved applications match any TIP adjustments. If situations arise where either the MPOs/RPOs or Engineering Districts believe additional funding is needed for the safety project an amendment shall be processed through this HSIP SharePoint system to ensure that the 1:1 benefit cost ratio can be maintained at the increased funding level. These HSIP application amendments shall be initiated by either the MPOs/RPOs or the Engineering Districts in conjunction with any TIP adjustments. This approach will not only ensure that Pennsylvania is working towards the SHSP goals but will also allow the PennDOT Districts and MPOs/RPOs to quantify the safety improvements of the selected projects relative to the safety performance targets. It will also assist in ensuring that delivery and funding issues do not arise during the project development process.

Pennsylvania sets aside \$35 million of HSIP funds per FFY to advance projects statewide. The HSIP set-aside is managed as a statewide program by PennDOT CPDM in coordination with BOMO. Projects are evaluated, ranked, and selected based on their potential significant safety return on investment and their deliverability. The remainder of the state's HSIP authorization is allocated regionally. Each MPO/RPO receives a base funding level of \$500,000 for supporting low cost safety improvements and systemic safety. The remaining HSIP funding is allocated at a 39:1 ratio based on actual crash data. It should be noted however that the allocated HSIP funding can still be utilized for systemic safety treatments because it has been determined that these types of projects have a much greater return on the safety investment in Pennsylvania. Further documentation on this process is included in the Financial Guidance Document.



### Pavement and Bridge Asset Management

Preserving Pennsylvania's pavement and bridges is a critical part of the strategic investment strategy for Pennsylvania's transportation network at the State and Federal level. System preservation is another goal area of PA On Track's strategic framework. With limitations on available resources, the preservation of pavement and bridge assets using sound asset management practices is critical. Asset management is a key piece of FHWA's TPM program and is a vital force behind infrastructure performance. TPM is the approach to managing transportation system performance outcomes, while asset management is the application used to manage the condition of the infrastructure assets.

PennDOT's [TAMP](#), required by [23 USC 119](#) and [23 CFR 515.13\(b\)\(2\)](#), formally defines its framework for asset management, which is a data-driven approach coupled with a risk-based methodology. It outlines

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the investment strategies for infrastructure condition targets and documents asset management objectives for addressing risk, maintaining the system at the desired state of good repair, managing to lowest life cycle costs (LLCC), and achieving national and state transportation goals identified in [23 USC 150\(b\)](#). The TAMP is developed by PennDOT BOMO's Asset Management Division (AMD) in consultation with PennDOT Executive leadership, CPDM, Bureau of Planning and Research (BPR), PennDOT Districts, the Pennsylvania Turnpike Commission (PTC), the MPOs/RPOs and FHWA.

The TAMP projects the levels of future investment necessary to meet the asset condition targets and contrasts them with expected funding levels. This helps PennDOT to make ongoing assessments and to reevaluate data associated with its investment decisions for this Program update as well as future updates. Analyses done during the development of the TAMP were utilized to establish the current Pavement and Bridge Condition Performance Measure (PM2) targets.

With each program update, PennDOT has made substantial advances in its asset management tools and practices. A risk-based, data-driven approach to project selection helps ensure that the right projects are prioritized, and the transportation system is managed optimally to the lowest practical life-cycle cost. PennDOT's Pavement Asset Management System (PAMS) and Bridge Asset Management System (BAMS) are the foundations for this asset management approach. Information from these systems informs the development of the TAMP. Step by step guidelines on utilizing PAMS and BAMS to review treatments and develop projects can be found in the [TPM Resource Toolbox](#). PennDOT's asset management systems forecast condition and investment needs by asset class and work type using deterioration models and cost matrices developed for PennDOT infrastructure and based on historical data. PennDOT has developed both predictive and deterministic models that support multi-objective decision-making based on current average work costs and estimated treatment lifespans. These models allow PennDOT to predict infrastructure investment needs and future conditions under a range of scenarios.

As part of its asset management strategy, PennDOT strives to maintain as many highway and bridge assets as possible in a state of good repair, per [23 CFR 515.9 \(d\)\(1\)](#). PennDOT defines its desired state of good repair as meeting the FHWA minimum condition thresholds for pavements and bridges: no more than 5 percent of NHS Interstate lane-miles shall be rated in poor condition ([23 CFR part 490.315\(a\), Subpart C](#)) and no more than 10 percent of total NHS bridge deck area shall be rated as poor ([23 USC 119\(f\)\(1\)](#)). However, the ability to achieve these condition thresholds is funding dependent.

Within its asset management framework, it was necessary for PennDOT to transition away from a "worst-first" programming methodology to a true overall risk-based prioritization and selection of projects for its system assets based on LLCC. "Worst-first" prioritization focuses work on the poorest condition assets at the expense of rehabilitation and preventative maintenance on other assets in better condition. PennDOT's revised strategy reflects its asset management motto and guiding principle: "The right treatment at the right time." This is reflective of Federal TAMP requirements that are centered on investing limited funding resources in the right place at the right time to produce the most cost-effective life cycle performance for a given investment, per [23 CFR 515.7](#) and [23 CFR 515.9](#).

PennDOT will use its PAMS and BAMS systems to assist with prioritizing preservation activities to extend asset life. This methodology will allow PennDOT to manage assets to both specific targets and to the lowest practical life-cycle cost and help it to make progress toward achieving its targets for asset



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condition and performance. Implementation of these improved asset management practices should be implemented on all state and local networks.

The bridge condition classification of poor has replaced the previous structurally deficient (SD) condition ranking. The SD ranking was a major component of PennDOT's old Bridge Risk Score, which was not a prioritization tool for network level risk. Rather, it was a combination of project level risk and structure condition that was only applied to a small subset of the overall bridge population. PennDOT has developed a new Bridge Risk Score to assist in prioritizing preservation, rehabilitation, and replacement. It does not include condition in the calculation so that risk can be addressed independently and provides each bridge structure with a score in the same scale in relation to the network. BAMS utilizes the new risk score to prioritize bridges within a LLCC-based work selection. The software looks at all possible work for a given year, determines the best projects based on LLCC logic, and then prioritizes based on the new Risk Score.

PAMS and BAMS outputs are the basis for determining project programming to achieve LLCC. PennDOT Districts should work with MPO/RPOs to generate the lists of recommended treatments by work type (such as highway resurfacing and bridge rehabilitation), based on LLCC and condition projections derived from PennDOT's PAMS and BAMS. PennDOT BOMO-Asset Management will provide any necessary support. Step by step **guidelines** on utilizing PAMS and BAMS to review treatments and develop projects can be found in the [TPM Resource Toolbox](#). For the 2023 Program Update, as we integrate PAMS and BAMS into TIP and TYP Development, AMD will provide the PAMS and BAMS outputs. The PAMS and BAMS outputs for the 2023 program are available in the [PAMS-BAMS Runs folder](#) in SharePoint. PAMS and BAMS outputs will define recommended treatments, but not necessarily complete project scopes and limits. These outputs will serve as a guide to assist in the prioritization and selection of new projects to be considered for the program.

While the TAMP and PM2 measures currently only focus on the NHS, PennDOT and the MPOs/RPOs must ensure that projects are selected and prioritized for the entire state-owned and locally owned Federal-aid network. In coordination with PennDOT Districts, the MPOs/RPOs should consider and document how the following was utilized as part of their program development process:

- regional highway and bridge system assets
- existing conditions on the NHS
- projected future conditions on the NHS
- development of strategies/priorities to continue to improve the system at the LLCC
- planning and programming of projects as part of fiscal constraint

The TAMP is a living document. It is meant to evolve over time as conditions, funding availability, risks, constraints, and federal laws or requirements change. Future updates of Pennsylvania's TAMP will consider expanding the pavement and bridge inventory to include non-NHS pavements and bridges as well as additional NHS and non-NHS assets, once the data to fully analyze these assets becomes available.

As Pennsylvania transitions to LLCC, projects currently included in the STIP/TIPs, TYP and LRTPs will need to be reviewed, evaluated, and prioritized to reflect current asset condition data and funding levels as well as shifting needs, including unanticipated changes in demand and impacts related to extreme weather events. PennDOT BOMO will work with PennDOT CPDM, PennDOT Districts and the

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MPOs/RPOs to recommend the prioritization of specific bridge projects over specific roadway projects and vice versa to prevent bridge or pavement conditions from falling below FHWA minimum condition thresholds. This prioritization will be undertaken using a combination of advanced asset management tools, professional engineering judgment by Central Office and District personnel, and local MPO/RPO input. Flexible Federal and State funding may need to be utilized to help achieve NHS performance targets, if available. This will be based on coordination between PennDOT BOMO AMD, PennDOT CPDM and the MPOs/RPOs, in consideration of other required performance measures and state initiatives.

As part of the regional TIP development process mentioned above, the MPOs/RPOs and PennDOT Districts must document the differences between the PennDOT asset management system treatment and funding level recommendations and their selected projects as part of their TIP submissions. They must also document the coordination with the PennDOT District(s) and Central Office that occurred as part of this decision-making process. This information will be used by PennDOT BOMO AMD to improve future asset management system recommendations.

### System Performance

Pennsylvania's transportation system is critical to the efficient movement of people and goods. State and Federal initiatives are in place to maintain and improve system mobility. Personal and Freight Mobility is another goal area of PA On Track's strategic framework. Improving reliability and traffic flow are also part of FHWA's overall TPM program. [FHWA's System Performance/Freight/CMAQ Final Rule](#) established performance measure requirements for system performance, freight, and congestion, known as the PM3 measures.

The PM3 measures are used by PennDOT and the MPOs/RPOs to evaluate the system reliability of the Interstate and non-Interstate NHS to help carry out the National Highway Performance Program (NHPP), to assess goods movement on the Interstate NHS to help implement the National Highway Freight Program (NHFP), and to measure traffic congestion and on-road mobile source emissions on the NHS to help carry out the Congestion Mitigation and Air Quality (CMAQ) program.

The current PM3 Targets were established using historic trends for each measure in combination with regional mobility goals established in the statewide and regional LRTPs. At this time, limited historical information may hinder the assessment of trends for the traffic congestion and reliability measures. The assessment of trends may also include the evaluation of data used within the CMP, Transportation Systems Management and Operations (TSMO), and CMAQ processes.

Data for the reliability and delay measures are taken from the National Performance Management Research Data Set (NPMRDS). This data set includes average travel times on the National Highway System (NHS) for use in performance measures and management activities. This data set is available to MPOs and PennDOT and more information can be found on the FHWA [Operations Performance Measurement](#) website. The NPMRDS is part of the Regional Integrated Transportation Information System (RITIS) which is the current platform for reporting the PM3 travel time measures. RITIS provides a portfolio of analytical tools and features for summarizing the measures and evaluating trends. The [CENSUS American Community Survey](#) (ACS) and [FHWA CMAQ Public Access System](#) provide the data sources for the Non-Single Occupant Vehicle (SOV) and emission measures, respectively. The VMT are

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derived from the Highway Performance Monitoring System (HPMS). Segment-level metrics for the reliability and delay measures are also submitted by PennDOT to HPMS annually.

PennDOT BOMO will review the State's reliability and delay data and evaluate it for overall trends and provide PennDOT CPDM with statewide data to share with the MPOs/RPOs. PennDOT BOMO and CPDM will work together to develop additional regional performance measure summaries to share with the MPOs/RPOs to aid in regional target assessment and progress. This may consist of tables or online maps of travel congestion and reliability measures.

With support from the MPOs/RPOs, PennDOT CPDM and BOMO will monitor the road network for significant changes in the reliability metrics from year to year. Monitoring the network will help identify such projects as capacity enhancements or traffic signal coordination projects on primary roadways. These project impacts will help assess the benefits of historic funding and the potential benefits of future investments on traffic congestion and reliability. Identifying project impacts will require the evaluation of performance measures before construction, during construction and after project completion.

PennDOT and the MPOs/RPOs should program projects that address congestion and reliability issues identified in the (Regional Operations Plans) ROPs, CMPs, and LRTPs in order to support progress towards achievement of the PM3 targets. Methods for PM3 for integration will remain flexible for each agency.

### Transportation Systems Management and Operations

The mission of [PennDOT's TSMO Program](#) is to move people and goods from Point A to Point B, as efficiently, safely, and reliably as possible. TSMO is a way to address the reliability, mobility, and congestion of roadways by using operations-focused strategies instead of building extra capacity. Higher reliability means more consistent travel times on NHS roadways. TSMO strategies must first be considered before the implementation of a capacity-adding project. TSMO strategies may be implemented through independent projects or as part of other projects. All projects must consider impacts to the PM3 performance measures to ensure that the targets are being met.

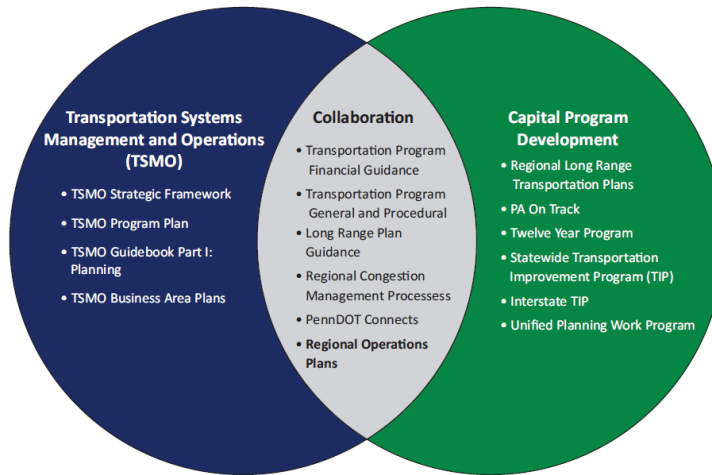
Significant causes of congestion and unreliable travel are non-recurring events, such as crashes, and transportation network disruptions, such as severe weather and other special events. TSMO enables agencies to target the underlying operational causes of congestion and unreliable travel through innovative solutions that typically cost less and are quicker to implement than adding capacity. TSMO expands the range of mobility choices available to system users, including shared mobility and nonmotorized options. The connection between TSMO and planning is increasingly critical as connected and automated vehicles, advances in intelligent transportation systems (ITS), and other developing technologies impact transportation networks.

PennDOT has developed a [TSMO Guidebook](#) (PUB 851) on how to implement its approach to integrating TSMO into planning and programming and how to connect operations-related planning efforts with other Pennsylvania planning efforts. Stakeholders should consider the applicability of TSMO solutions for every project as part of the design process outlined in PennDOT's DM1 manual.



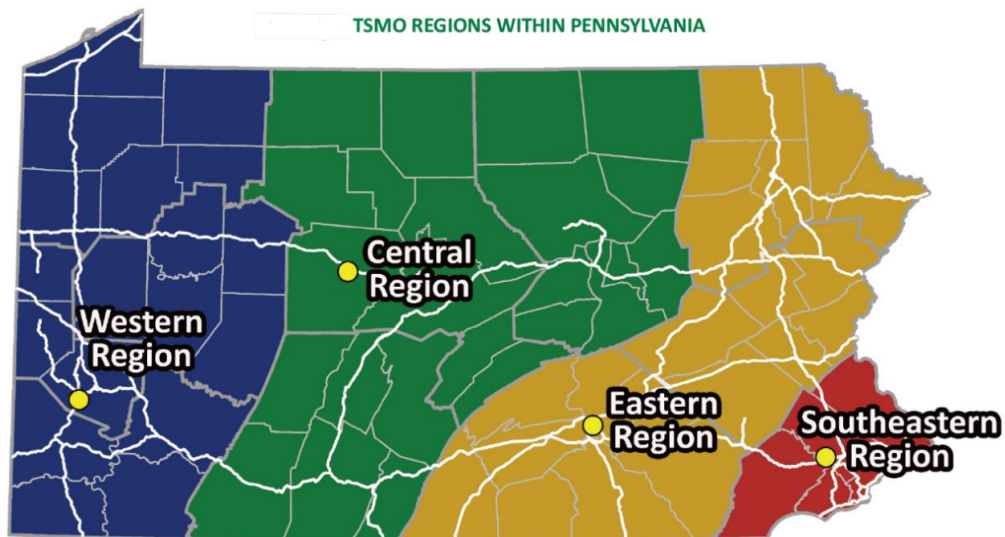
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### TSMO Relationship with the Planning Process



TSMO projects should be consistent with [FHWA operations guidance](#), as well as Regional Operations Plans (ROPs) and ITS Architectures. ROPs play a significant role in regional LRTP and TIP/TYP processes by helping to prioritize projects that incorporate TSMO solutions. Keeping ROPs up to date is critical to ensure that they maintain the proper role in implementing TSMO-related projects in a systematic manner, rather than through ad-hoc additions to other capital projects. Through the ROP development and update process, the existing ITS and Operations infrastructure needs, visions and goals are identified to prioritize future operations-focused projects and performance measures that are in harmony with regional, state and federal policies.

ROPs have been developed for each of Pennsylvania’s four TSMO regions to better align the planning of operations with PennDOT’s four Regional Traffic Management Centers (RTMC).



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The RTMC manages the ROPs with support from the various MPOs/RPOs in the region. Each ROP identifies the regional approach to traffic operations and sets the stage for regional implementation of TSMO strategies. ROPs will be updated to align with the TIP 4-year cycle. The ROPs will, at a minimum, identify which projects could be undertaken within the next four years, aligning these projects for potential inclusion on the TIP/TYP/LRTP.

### The National Highway Freight Program

The National Highway Freight Program (NFP) was authorized under the FAST Act to improve the efficient movement of freight on the National Highway Freight Network (NHFN) and support several important goals, as specified by [23 USC 167](#):

- Investing in infrastructure and operational improvements that strengthen economic competitiveness, reduce congestion, reduce the cost of freight transportation, improve reliability, and increase productivity.
- Improving the safety, security, efficiency, and resiliency of freight transportation in rural and urban areas.
- Improving the state of good repair of the NHFN.
- Using innovation and advanced technology to improve NHFN safety, efficiency, and reliability.
- Improving the efficiency and productivity of the NHFN.
- Improving State flexibility to support multi-State corridor planning and address highway freight connectivity.
- Reducing the environmental impacts of freight movement on the NHFN.

NFP funds are financially constrained to an annual funding level provided as part of Financial Guidance and have strategically been allocated to the IM Program. Pennsylvania's [CFMP](#) must include a list of fiscally constrained NFP funded projects. PennDOT CPDM will prioritize and select projects to utilize NFP funding that are consistent with the CFMP. All projects should consider impacts to truck reliability to support progress towards achieving the performance measures. Factors from the CFMP such as freight bottlenecks and freight efficiency projects, projects identified by MPOs/RPOs, and project schedules and costs will be used in conjunction with asset management principles to prioritize project selection. Initial programming consideration will be given to currently programmed projects without regular obligation. If any changes to the projects and/or NFP funding within the projects are necessary based on the Program update, the CFMP will be updated concurrently.

### Congestion Mitigation and Air Quality Program

The purpose of the CMAQ program is to give priority to cost-effective transportation projects or programs that will contribute to attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for the ozone, carbon monoxide (CO), and particulate matter (PM<sub>2.5/10</sub>) criteria pollutants. Financial Guidance directs CMAQ funding only to those areas designated as in maintenance or nonattainment of the current NAAQS. Previous "insufficient data" and "orphan maintenance" (as currently defined for the 1997 ozone NAAQS maintenance areas) counties no longer receive CMAQ funding. A map of the transportation conformity areas in Pennsylvania can be found in the [Transportation Conformity folder](#) in SharePoint.

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FHWA and FTA cooperatively developed the CMAQ Interim Program Guidance in November 2013 to assist States and MPOs with administering the CMAQ program. It outlines several key criteria for CMAQ eligibility. Each CMAQ project must meet three basic criteria:

1. it must be a transportation project,
2. it must generate an emissions reduction, and
3. it must be located in or benefit a nonattainment or maintenance area.

In addition, there are types of projects that are ineligible for CMAQ funds even if they include potentially eligible components. These include:

- Projects that add new capacity for SOVs are ineligible for CMAQ funding unless construction is limited to high-occupancy vehicle (HOV) lanes.
- Routine maintenance and rehabilitation projects (e.g., replacement-in-kind of track or other equipment, reconstruction of bridges, stations, and other facilities, and repaving or repairing roads) are ineligible for CMAQ funding as they only maintain existing levels of highway and transit service, and therefore do not reduce emissions.
- Models and Monitors—Acquisition, operation, or development of models or monitoring networks are not eligible for CMAQ funds. As modeling or monitoring emissions, traffic operations, travel demand or other related variables do not directly lead to an emissions reduction, these activities or acquisitions are not eligible.
- General studies that fall outside specific project development do not qualify for CMAQ funding.
- Please review the [Interim Program Guidance](#) for more details on eligibility.

PennDOT CPDM works with the MPOs/RPOs and District Offices to identify projects that may be funded through the CMAQ program, based on CMAQ eligibility requirements and project cost effectiveness. PennDOT CPDM coordinates with FHWA on providing resources and training opportunities to further clarify the eligibility requirements and enhance the CMAQ project selection process.

The CMAQ Interim Program Guidance provides direction on how to develop a CMAQ project selection process to ensure that projects deemed most effective in reducing emissions and congestion are programmed in the TIP. Per the Guidance, “the CMAQ project selection process should be transparent, in writing, and publicly available. The process should identify the agencies involved in rating proposed projects, clarify how projects are rated, and name the committee or group responsible for making the final recommendation to the MPO board or other approving body. The selection process should also clearly identify the basis for rating projects, including emissions benefits, cost-effectiveness, and any other ancillary selection factors such as congestion relief, greenhouse gas reductions, safety, system preservation, access to opportunity, sustainable development and freight, reduced SOV reliance, multimodal benefits, and others.”

The Delaware Valley Regional Planning Commission (DVRPC) and the Southwestern Pennsylvania Commission (SPC) have formal processes to solicit and administer their CMAQ programs that include project identification, screening and selection procedures (including adherence to federal requirements regarding emissions impact quantification, consideration of cost effectiveness measures, and prioritization of projects).

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For CMAQ-eligible areas covered by MPOs that do not have a formal process, namely all areas except DVRPC and SPC, a simplified evaluation, selection, and eligibility determination process such as the one outlined below is recommended to meet this requirement:

- MPO and PennDOT District staff will conduct coordination meetings or conference calls to identify candidate projects for potential CMAQ funding consideration.
- PennDOT CPDM, in coordination with FHWA, has developed an Excel template for MPOs to evaluate candidate CMAQ projects. The template is available in the [CMAQ Project Selection Process folder](#) in SharePoint.
- MPO and PennDOT District staff will select CMAQ projects using the criteria provided in the template. These criteria will include eligibility classification, qualitative assessments of emission benefits (using FHWA's [Cost-Effectiveness Tables](#)), project cost, deliverability/project readiness, and other factors. MPO and PennDOT District staff should use the template to assist in the documentation of their project selection process.
- PennDOT CPDM will review the selected projects to verify their CMAQ eligibility. If requested by PennDOT, FHWA will assist PennDOT in determining CMAQ eligibility or identifying any ineligibility issues or concerns.

Although the eligibility determination process outlined above gives priority to cost-effective projects, all projects ultimately selected for CMAQ funding require a quantitative emission analysis. These emission analyses are used to support project eligibility and provide key inputs to the CMAQ annual report submission to FHWA. PennDOT CPDM will assist PennDOT District and MPO staff in completing the analyses. Available tools for emission analyses include the Pennsylvania Air Quality Off-Network Estimator (PAQONE) tool and the [FHWA CMAQ Emissions Calculator Toolkit](#).

Projects with proposed CMAQ funding are coded as such in MPMS and identified accordingly throughout the project evaluation, selection and program development processes. PennDOT District staff with support from CPDM will enter the CMAQ MPMS fields for emission benefits, analysis date, and project category. As part of the draft TIP review, PennDOT and FHWA/FTA review project eligibility. Once FHWA and FTA approve the STIP, PennDOT CPDM can move forward with obligating projects funded with CMAQ.

PennDOT CPDM prepares an annual report to FHWA using project information from the MPMS system. This information is compiled annually on a nationwide level and is submitted by FHWA to Congress. It provides a list of obligated projects and emissions analyses for those projects, which ensures that only CMAQ-eligible projects are being funded.

The emission analysis results within the annual report are also used for the CMAQ national emission performance measures. As such, all agencies should understand the importance of accurately reflecting CMAQ-funded projects in MPMS and estimating project emission impacts based on the best available tools. PennDOT CPDM will performance quality control checks on the reported CMAQ-funded projects and supporting emission estimates. These activities may include additional coordination with FHWA, PennDOT Districts, and MPOs.

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MAP-21 and the FAST Act require performance measures for State DOTs and MPOs to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the CMAQ program. There are three performance measures under the CMAQ program:

- Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita;
- Percent of Non-Single Occupancy Vehicle travel, also known as Non-SOV Travel; and
- Total Emissions Reduction

MPOs currently serving an urbanized area population over 1,000,000 that includes an air quality nonattainment or maintenance area must develop a CMAQ Performance Plan. In the CMAQ Performance Plan and its biennial updates, MPOs must report 2 and 4 year targets for the CMAQ measures, describe how they plan to meet their targets, and detail their progress toward achieving the targets over the course of the performance period. The Performance Plan is submitted to PennDOT for inclusion in PennDOT's biennial reports to FHWA. Currently, only the Pittsburgh, Philadelphia and Lancaster MPOs are required to submit CMAQ Performance Plans. For the next performance period covering 2022-2025, all MPOs serving an urbanized population more than 200,000 that include an air quality nonattainment or maintenance area will be required to develop a plan.

Additional FHWA CMAQ resources:

- [Interim Program Guidance Under MAP-21](#)
- [Fast Act – CMAQ Factsheet](#)
- [Project Eligibility](#)
- [CMAQ Performance Measures](#)

### Congestion Management Process

Projects that help to reduce congestion will also help to improve air quality. This approach is coordinated with a region's CMP, which helps to identify corridor-based strategies to mitigate traffic congestion reflected in the PHED and percentage of non-single occupant vehicle (SOV) performance measures.

The CMP is a regional planning tool designed to provide a systematic way for helping manage congestion and provide information on transportation system performance. It identifies congested corridors and recommends strategies for congestion mitigation. The CMP includes methods to monitor and evaluate the performance of the multimodal transportation system along with a process for periodic assessment of the effectiveness of implemented strategies.

A CMP is required for the TMAs. It is prepared by the MPO for that area and is a systematic process for managing congestion that brings congestion management strategies to the funding and implementation stages of the project delivery process. The goal of the CMP is to improve the performance and reliability of the multimodal transportation system in the MPO's region.

In TMAs designated as ozone or carbon monoxide non-attainment areas, the CMP becomes even more important. The limited number of capacity-adding projects to be considered for advancement in non-attainment TMAs must be consistent with the region's CMP. Federal law prohibits projects that result in a significant increase in carrying capacity for SOVs from being programmed in such areas unless these projects are addressed in the regional CMP.

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### Environmental Justice

Another key consideration in the project selection and prioritization process is Environmental Justice (EJ). [Executive Order 12898](#) requires Federal agencies and Federal aid recipients to adhere to the following core principles:

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

To develop a single consistent EJ analysis that can be applied statewide, the South Central MPOs in PennDOT District 8 generated a proposed methodology to evaluate the potential impacts of transportation plans and programs on EJ populations. The South Central PA MPO EJ Study, referred to as the [Unified EJ Guide](#), includes several noteworthy practices adopted from MPOs around the country. As part of the 2021 TIP Environmental Justice Committee After Action Review (AAR), some aspects of the Unified EJ Guide will be modified and will be updated by November 2021.

FHWA PA Division and FTA Region III reviewed the MPO Unified Guide, and identified [Core Elements](#) of an effective approach to meet the intent of [Executive Order 12898](#), [Environmental Order 5610.2\(a\)](#), [FHWA Order 6640.23A](#), and FTA's [Environmental Justice Circular 4703.1](#). As part of the 2021 STIP/TIP update, PennDOT and many MPOs/RPOs incorporated this approach into their EJ analysis. For the TIP EJ Analysis, MPOs/RPOs should conduct the following steps:

- Identify low-income and minority populations
- Assess conditions and identify needs
- Develop the draft Program
- Evaluate benefits and burdens of the Program
- Identify and avoid, minimize, or mitigate any disproportionate and adverse impacts

As a continuation of the statewide analysis approach started with the 2021 TIP, Lycoming County Planning Commission will be completing the first two steps (Identification of Low-Income and Minority Populations and assessment of conditions and identification of needs for bridges, pavements and crashes) for all areas of the State for the 2023 TIP update. The results will be made available to each MPO/RPO in the [Environmental Justice folder](#) in SharePoint. MPOs/RPOs should work with the PennDOT Districts and CPDM to review, discuss and interpret the data and document the benefits and burdens analysis. The burdens and benefits analysis and the identification and addressing of disproportionate and adverse impacts will be unique to each area and examples may be found in the Unified EJ Guide.

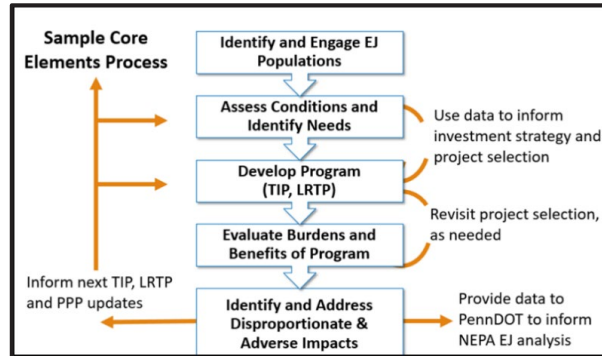
The EJ analysis should be completed during program development and shared as part of the public comment period documentation. If disproportionately high and adverse impacts are identified, the MPO/RPO should work with PennDOT, FHWA and FTA to develop and document strategies to avoid, minimize or mitigate these impacts. It is important to note that determinations of disproportionately



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high and adverse effects take into consideration the mitigation and enhancement measures that are planned for the proposed action.

The EJ analysis process should be comprehensive and continuous, with each task informing and cycling back to influence the next stage. The outcomes of the analysis and feedback received in each outreach cycle should be considered by the MPOs/RPOs and PennDOT in future project selection processes and provided to PennDOT District staff to inform the project-level EJ analysis:



### Transit

In July 2016, FTA issued a [final rule](#) requiring transit agencies to maintain and document minimum Transit Asset Management (TAM) standards, policies, procedures, and performance targets. The TAM rule applies to all recipients of Chapter 53 funds that either own, operate, or manage federally funded capital assets used in providing public transportation services. The TAM rule divides transit agencies into two categories based on size and mode:

- Tier I
  - Operates Rail Fixed Guideway (Section 5337) **OR**
  - Operates over 100 vehicles across all fixed route modes **OR**
  - Operates over 100 vehicles in one non-fixed route mode
- Tier II
  - Urban and Rural Public Transportation (Section 5307, 5310, and 5311 eligible) **OR**
  - Operates up to and including 100 vehicles across all fixed route modes **OR**
  - Operates up to and including 100 vehicles in one non-fixed route mode

A [list](#) of Pennsylvania’s Tier I and II transit agencies is found in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint.

The TAM rule requires states to participate and/or lead the development of a group plan for recipients of Section 5311 and Section 5310 funding (Tier II), and additionally allows other Tier II providers to join a group plan at their discretion. All required agencies (Section 5311 and 5310) and remaining Tier II systems in Pennsylvania, except for the Centre Area Transportation Authority (CATA), elected to participate in the PennDOT Group Plan.

All transit agencies are required to utilize Pennsylvania’s transit Capital Planning Tool (CPT) as part of their capital planning process and integrate it into their TAM process. The CPT is an asset management

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and capital planning application that works as the central repository for all Pennsylvania transit asset and performance management activities.

Transit agencies update CPT data annually to provide a current picture of asset inventory and performance. From this data, PennDOT BPT updates performance targets for both the statewide inventory of Tier II agencies and for each individual agency in the plan based on two primary elements: the prior year's performance and anticipated/obligated funding levels. PennDOT BPT then reports this information to FTA and shares it with the MPOs/RPOs, along with investment information on priority capital projects anticipated for the following year. Agencies that are Tier I or non-participating Tier II use similar CPT data to set independent TAM performance targets and report these directly to the MPOs/RPOs.

Consistent with available resources, transit agencies will be responsible for submitting projects consistent with the CPT for the development of the transit portion of the Program. PennDOT CPDM will update this project information in MPMS and share it with the MPOs/RPOs, PennDOT BPT, and the transit agencies.

### FISCAL CONSTRAINT

An early part of the program development process is for PennDOT, FHWA/FTA and the MPOs/RPOs to jointly develop the [2023 Program Financial Guidance](#) document, first through a Work Group, and later through agreement by all parties. This Guidance provides sufficient information to begin identifying projects, performing project technical evaluations, and negotiating and reaching consensus on the fiscally constrained regional programs.

Financial Guidance provides funding levels available for the development of the STIP/TYP for all anticipated federal and state funding sources. Due to the expiration of the FAST Act and uncertainty with the viability of the Highway Trust Fund, anticipated available federal highway, bridge and transit funds reflect zero percent revenue growth from the FAST Act authorized 2020 apportionment levels for the entire twelve years of the Program. State revenues are based on the latest budget estimates for highway and bridge capital appropriations. Allocations are provided to each MPO/RPO for highway and bridge funds based on jointly developed formulas. Allocations are also provided for the IMP, NFP, and Railway-Highway Crossings Program (Section 130/RRX). These continue to be centrally managed statewide programs. In addition, a portion of highway funding is reserved for distribution at the Secretary of Transportation's discretion.

Transit Financial Guidance includes both federal and state resources. Federal funding is based on FAST Act levels. State funding is based on projected funding source revenues and applied by formulas established in [Act 44 of 2007](#), as amended by [Act 89 of 2013](#). In addition, as part of an agreement between the Commonwealth and the transit agencies, a total of \$25 million per year in federal highway funding is reserved to be flexed to the transit agencies.

To program these funds, each transit agency works closely with PennDOT BPT to develop annual consolidated capital applications (CCA) and annual consolidated operating applications (COA). The CCA process includes federal, state, and local funds and prioritizes investments based on asset condition and replacement cycles in the CPT. This process promotes a true asset management approach where the



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assets in most need of replacement and/or rehabilitation are prioritized to receive funding, which allows transit agencies to move these assets toward a state-of-good-repair.

Operating allocations are formula-based, as discussed above, and PennDOT BPT works with agencies annually through the COA process to identify anticipated expenses and revenues and program federal, state, and local funds to meet anticipated operating deficits.

An important part of the project prioritization and selection process is to ensure that the Program of projects meets fiscal constraint, which means that the included projects can reasonably be expected to receive funding within the time allotted for Program implementation. The identified revenues are those that are reasonably anticipated to be available to operate and maintain Federal-aid highways and public transportation in accordance with [23 CFR 450.218\(l\)](#) and [23 CFR 450.326\(j\)](#).

The regional TIP narratives should include reference to the Financial Guidance process and the distribution of funds along with a form of visual documentation to demonstrate regional fiscal constraint. An example of such a visual aid is the fiscal constraint tab from the TIP Checklist.

The regional TIPs shall contain system-level estimates of state and local revenue sources beyond Financial Guidance that are reasonably expected to be available (but typically not programmed) to operate and maintain the Federal-aid highways (as defined by [23 USC 101\(a\)\(6\)](#)) and public transportation (as defined by title [49 USC Chapter 53](#)). PennDOT CPDM will provide **regional estimated totals** for state programs not included in Financial Guidance. When available, they will be placed in the [2023 General and Procedural Guidance Support Documents](#) folder in SharePoint. MPOs/RPOs can work with local stakeholders to identify supplemental information that is readily available. Transit providers will supply estimates of county/city/local revenue sources/contributions. This information should be integrated into the regional TIPs. Statewide information will be included with the STIP.

### Line Items

As part of the program development process, PennDOT CPDM, PennDOT Districts and the MPOs/RPOs should consider the inclusion of reserve line items. Every effort should be made as part of the program development process to identify projects for all available funding in the first 2 years of the TIP, to ensure project delivery and maximum utilization of funding. Line items should be used primarily for contingency purposes such as unforeseen project costs, including Accrued Unbilled Costs (AUC), unforeseen AC obligations, and other actions which might occur between program drafting and project initiation. Dedicated line items for specific regional issues such as slides, and sinkholes should be included based on historical needs. Selected project categories that are air quality exempt (e.g. betterment and Section 5310) may also be grouped into regional line items for inclusion in the Program, with project specific listings to be developed later by project sponsors. The excessive use of line items for other purposes is strongly discouraged by PennDOT CPDM and FHWA.

### Programming

Projects and phases of projects in the Program must be financially constrained by FFY (October 1 – September 30), with respect to the anticipated available funding and within the bounds of Financial Guidance.

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The STIP/TIPs shall include a project, or a phase of a project, only if full funding can reasonably be anticipated to be available within the time period contemplated for completion of the project, based on the project phase start and end dates. This shall also include the estimated total cost of project construction, which may extend beyond the TIP and into the TYP and LRTP, in accordance with [23 CFR 450.326 \(g\) \(2\), \(i\) and \(j\)](#). Cost estimates prepared during programming are critical in terms of setting funding, schedule, and scope for managing project development. Project cost estimates shall follow guidance provided in PennDOT Estimating Manual [PUB 352](#). All phases of projects that are not fully funded on the TIP will be carried over and shown in the last eight years of the fiscally constrained TYP. For projects to advance beyond the PE phase, the project must be fully funded within the TIP/TYP/LRTP.

Projects/phases of projects should be programmed in the FFY in which the project is anticipated to be obligated/encumbered. Programmed funding should be spread out (cash-flowed) over several fiscal years where applicable, based on the anticipated project schedule and timing of expenditures to maximize available resources.

PennDOT Districts, MPOs/RPOs and transit agencies will work to ensure that all cash flow procedures such as highway AC obligation, public transportation letters of no prejudice, and full funding grant approvals are accounted for in the program development process. AC projects must appear on a TIP in order to be converted into a regular obligation. These AC costs need to be accounted for as part of the program development and management process. PennDOT CPDM, PennDOT Districts and the MPOs/RPOs should plan to carry sufficient federal funding for eligible projects/phases beyond the first two FFYs of the current Program, anticipating that AC conversion will be necessary.

The flexing of federal funds between highway and public transportation projects will be a collaborative decision involving local officials, the MPOs/RPOs, the public transportation agency or agencies, PennDOT, and FHWA/FTA.

The Program must account for inflation using the Year of Expenditure (YOE). The YOE factor should be 3% annually. PennDOT Districts will enter cost estimates in MPMS based on present day costs. MPMS provides calculations to apply the 3% annual YOE factor to this base cost for each year of the program. The amount programmed will be based on the year where funds will be programmed for initial expenditure. The YOE tool can be found under the HWY & BR tab in MPMS.

### AIR QUALITY CONFORMITY

Transportation conformity is a process required by [CAA Section 176\(c\)](#), which establishes the framework for improving air quality to protect public health and the environment. The transportation conformity rule ([40 CFR Part 93](#)) provides the policy, criteria, and procedures for demonstrating conformity. The goal of transportation conformity is to ensure that FHWA/FTA funding and approvals are given to highway and transit activities that are consistent with air quality goals.

The Clean Air Act (CAA) requires that regional LRTPs, TIPs and Federal projects conform to the purpose of the State Implementation Plan (SIP). Pennsylvania's SIP is a collection of regulations and documents used to reduce air pollution in areas that do not meet the National Ambient Air Quality Standards (NAAQS). Conformity to a SIP means that such activities will not cause or contribute to any new

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violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any required interim milestone.

Changes to the TIP or LRTP that involve non-exempt and regionally significant projects may or may not require the need for a conformity determination. As such, the interagency consultation process should be used to evaluate events that may trigger a new determination. Other administrative modifications affecting exempt projects, as defined in [23 CFR 450.104](#), do not require public review and comment, a demonstration of fiscal constraint, or a conformity determination.

Areas in maintenance or nonattainment of the current NAAQS for the criteria pollutants are required to demonstrate regional transportation air quality conformity. Per the February 16, 2018 D.C. Circuit decision in *South Coast Air Quality Management District v. EPA (Case No. 15-1115)*, areas that were in maintenance for the revoked 1997 8-hour ozone but were designated in attainment for the 2008 ozone NAAQS must demonstrate transportation conformity without a regional emissions analysis, per [40 CFR 93.109\(c\)](#). A **status table** of the Pennsylvania areas requiring transportation conformity can be found in the [Transportation Conformity folder](#) in SharePoint.

Note, the conformity analyses in the 1997 orphaned ozone areas must be updated every 4 years even though the LRTP is only required to be updated every 5 years. To address this and other timing issues, transportation conformity analyses should typically address both the TIP and LRTP, even if only one program is being updated.

Conformity analyses include all regionally significant transportation projects being advanced, whether the projects are to be funded under [23 USC Chapter 1](#), [23 USC Chapter 2](#), or [49 USC Chapter 53](#), as required in [23 CFR 450.326 \(f\)](#). In addition, conformity analyses should also include regionally significant projects that do not use any federal funding. Regionally significant projects (as defined in [23 CFR 450.104](#)) are transportation projects on a facility which serves regional transportation needs that result in an expansion of roadway capacity or a major increase in public transit service.

Exempt projects, as defined by the federal conformity regulations ([40 CFR 93.126](#) and [40 CFR 93.127](#)), are project types that typically do not have a significant impact on air quality and are exempt from the requirement to determine conformity. The decision on project exemption and/or regional significance status must include an interagency consultation process with federal, state, and local transportation and air quality partners. The consultation process is outlined in each region's Conformity SIP. In specific, consultation should include PennDOT CPDM, FHWA PA Division, EPA Region III, DEP, local air agencies (if applicable) and the regional MPO/RPO.

A transportation conformity determination shows the total emissions projected for the nonattainment or maintenance area, including all regionally significant TIP/LRTP projects. The total emissions must be less than the on-road mobile source emissions limits ("MVEB-Mobile Source Emission Budgets", or "budgets") established by the SIP to protect public health for the NAAQS.

The regional conformity requirement is separate and apart from any conformity requirements that apply to specific projects, typically as part of the [National Environmental Policy Act \(NEPA\) process](#). PennDOT CPDM is responsible for partnering in this process by ensuring that the TIPs (and by extension the STIP) are in conformance. Project-level conformity analyses and screening will be conducted by PennDOT using [PennDOT's Project-Level Air Quality Handbook](#) (PUB 321).

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The completion of a regional TIP or LRTP conformity analysis includes the following key steps:

1. PennDOT CPDM will provide an air quality kick-off meeting / training session before each biennial TIP program cycle. The meeting will provide an overview of the conformity process and identify roles and responsibilities for each agency. Required meeting attendees include PennDOT CPDM, District, and MPO/RPO staff that cover regions in nonattainment or maintenance for the NAAQS. This includes areas that must address the 1997 ozone NAAQS.
2. PennDOT CPDM, PennDOT Districts, the Pennsylvania Turnpike Commission (PTC), and the MPO/RPOs will coordinate on the identification of air quality significant projects to be included in the regional transportation conformity analyses using the PennDOT Project Review and Classification Guidelines for Regional Air Quality Conformity document as found in the [Transportation Conformity folder](#) in SharePoint. PennDOT CPDM and the PennDOT Districts will be responsible for reviewing or developing clear project descriptions and providing regional significance and exempt project coding within PennDOT's Multimodal Project Management System (MPMS). This should be a joint, coordinated effort with the regional MPO and/or RPO. PennDOT CPDM, PennDOT Districts, or MPO/RPO staff will coordinate with PTC to obtain a list of Turnpike projects that may require analysis. The PTC and Interstate (IM) projects should be distributed to the applicable MPOs/RPOs for inclusion in their regional programs.
3. Decisions on project-level air quality significance must also include an interagency consultation process with federal, state, and local transportation and air quality partners. PennDOT's Interagency Consultation Group (ICG) reviews the proposed highway and transit project lists from each MPO/RPO before air quality conformity determination work begins by the MPOs/RPOs and/or PennDOT. The consultation process relies on the project descriptions provided in MPMS. The project descriptions must accurately and completely reflect the project scope and schedule, so that a determination can be made whether the project is regionally significant. This includes facility names, project limits, location, if and how capacity (highway and transit) will be expanded as part of the funded improvements. The consultation process is conducted using PennDOT's [Air Quality](#) SharePoint site, which is maintained by PennDOT CPDM. Typically, a 2-week timeframe should be provided to the ICG for the review of air quality significant projects.
4. PennDOT and the MPOs/RPOs conduct the conformity emission analyses using EPA's approved emission model and available transportation data. If one is available, the MPO/RPO's travel demand model is often the most effective tool to complete the conformity analysis. PennDOT CPDM provides support to the MPOs/RPOs in preparing the latest planning assumptions and completing the conformity analyses.
5. PennDOT and the MPOs/RPOs complete a transportation conformity report that includes the results of the emissions modeling (if applicable) and a list of air quality significant projects. Note: emission modeling is not required for areas only in maintenance for the 1997 orphaned ozone NAAQS. The transportation conformity report should be uploaded to PennDOT's Air Quality SharePoint website and shared with the ICG for review and comment before the public comment period.

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6. The MPOs/RPOs must provide their regional air quality conformity determination for public review, as specified in their public participation plans and detailed in the Conformity Rule and FHWA's [Conformity Guide](#). MPOs/RPOs that do not perform their own air quality conformity analysis should allow adequate time for completion of air quality conformity analysis by PennDOT's consultants, keeping in mind that the 30-day TIP public comment period, Board approval of the TIP, and final TIP submission to PennDOT CPDM needs to occur in accordance with the 2023 Transportation Program development schedule available in Appendix 1. PennDOT CPDM, FHWA, FTA and EPA verify the completion of air quality testing and analysis as part of the STIP/TIP review process.
7. The MPOs/RPOs must complete all steps of the transportation conformity and program approval process. These steps include (in order):
  - a. Review and brief applicable committees on the conformity report
  - b. Review and brief applicable committees on the TIP and/or LRTP
  - c. Review and brief applicable committees and Board on response to public comments
  - d. Board adoption and approval of the air quality conformity report which includes a summary of the public comment period and any responses to public comments, questions, or concerns.
  - e. Board adoption and approval of a formal air quality resolution. If requested, CPDM can provide assistance in reviewing the air quality resolution.
  - f. Board adoption and approval of the TIP and/or LRTP
  - g. Board adoption and approval of the self-certification resolution

### STATEWIDE PROGRAMS

#### Interstate Program

The Interstate Management (IM) Program is a separate program developed and managed based on statewide needs. From a programming standpoint, the IM Program is fiscally constrained to an annual funding level that is provided as part of Financial Guidance. The IM Program planning and programming responsibilities are handled by PennDOT CPDM, in coordination with other PennDOT Central Office Bureaus, the PennDOT Districts and the MPOs/RPOs.

PennDOT formed an Interstate Steering Committee (ISC) in 2015 to more efficiently manage the significant needs of the statewide Interstate System. The ISC contains representation from PennDOT's CPDM, BOMO, BPD, and Districts and works with FHWA and the MPOs/RPOs on the development and management of the Interstate Program. The ISC assists with project prioritization and re-evaluates projects during Program updates. The ISC meets monthly to assist with the management of the IM Program.

As part of the IM Program update process, the ISC holds District Interstate rides and presentations to get a statewide perspective of the current state of the Interstate System in Pennsylvania. Representatives from the ISC, FHWA, and PennDOT BOMO, CPDM, and Districts ride the entire Interstate System to assess current conditions and review both currently planned and potential projects. PennDOT Districts then provide presentations to the ISC with updates on conditions, challenges, best practices and needs

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in their respective areas. The presentations are provided via web conference so PennDOT Central Office and Districts, the MPOs/RPOs, and FHWA staff can participate.

Initial programming consideration will be given to currently programmed Interstate projects without regular obligation/encumbrance or with AC obligation that need to be carried over from the current Program. Once the financial magnitude of the carry-over projects has been determined, an estimate can be made on the amount of program funds available for new IM projects, with consideration of current project schedules.

The carry-over projects and any new projects will be evaluated based on current field conditions from the Interstate rides and asset management criteria provided by BOMO Asset Management. Project prioritization and selection will be consistent with the Interstate Management Program Guidelines ([Chapter 13 of PUB 242](#)), the TAMP, and system management to the network LLCC. The IM Program project prioritization and selection process will be documented as part of the STIP submission.

### Railway-Highway Crossings Program

The Railway-Highway Crossings Program, also referred to as the Section 130 (RRX) Program, is another program developed and managed based on statewide needs. From a programming standpoint, the RRX Program is fiscally constrained to an annual funding level provided by Financial Guidance. The RRX Program planning and programming responsibilities are handled by PennDOT CPDM, based on coordination with PennDOT District and Central Office Grade Crossing Unit engineers, District planning and programming staff, and the MPOs/RPOs.

Initial programming consideration will be given to currently programmed projects without regular obligation/encumbrance or with AC obligation that need to be carried over from the current Program. New projects will be identified by PennDOT Districts in coordination with the MPOs/RPOs. Projects will be prioritized and selected based on locations with the highest hazard rating from the [FRA Web Accident Prediction System](#) and locations with other local or railroad safety concerns, including increased train traffic, near-miss history or antiquated warning devices. Consideration will also be given to the project development process and current project schedules when developing the RRX Program.

Selected projects will be added to regional MPO/RPO programs utilizing a Statewide Line Item from the Program to maintain fiscal constraint. The RRX Program project prioritization and selection process will be documented as part of the STIP submission.

### Transportation Alternatives Set-Aside

The Transportation Alternatives Set-Aside of the Surface Transportation Block Grant Program (TA Set-Aside) provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, community improvement activities, environmental mitigation, trails that serve a transportation purpose, and safe routes to school projects.

The FAST Act further sub-allocates TA Set-Aside funding based upon population. Funds available for any area of the state, urban areas with populations of 5,001 to 200,000 and areas with population of 5,000



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or less are centrally managed by PennDOT. PennDOT Central Office, with coordination and input from PennDOT Districts and the MPOs/RPOs, selects projects through a statewide competitive application process. Projects are evaluated using PennDOT's Core Principles, which are found in [Design Manual 1](#). These Principles encourage transportation investments that are tailored to important local factors, including land use, financial concerns, and overall community context. Project deliverability, safety, and the ability to support EJ principles and enhance local or regional mobility are also considered during project evaluation. The planning and programming responsibilities for these TA Set-Aside funds are handled by PennDOT CPDM, and funding is fiscally constrained to an annual funding level by Financial Guidance.

Selected projects are added to regional MPO/RPO programs utilizing a Statewide Line Item to maintain fiscal constraint. Projects selected under previous application rounds without regular obligation or with AC obligation will be carried over from the current Program. The balance of funds from any carryover projects will remain in a Statewide Line Item on the Statewide Program until there is a new or continuing Federal Authorization that includes updated provisions for the TA Set-Aside program. Additional information about the TA Set-Aside can be found on PennDOT's [TA Set-Aside Funding Site](#).

A separate regional allocation of funding is available for urbanized areas with populations over 200,000. These funds are available for MPOs to administer competitive application rounds to select eligible projects for inclusion on their regional TIPs. Funding is fiscally constrained based on annual funding amounts provided in Financial Guidance. The MPOs/RPOs will coordinate with the PennDOT CPDM TA Set-Aside state coordinator prior to initiating a project selection round.

### Spike Funding

Financial Guidance includes a set-aside of several flavors of highway funding reserved for the Secretary of Transportation's discretion. The Secretary's "Spike" funding is fiscally constrained to an annual funding level provided by Financial Guidance. The Spike funding planning and programming responsibilities are handled by PennDOT CPDM, based on direction provided from the Secretary.

Historically, the Secretary of Transportation has selected projects to receive Spike funding in order to offset the impact of high-cost projects, implement special initiatives, or advance statewide priority projects. The Spike funding decisions typically continue previous Spike commitments, with any new project selections aligning with the Department's strategic direction and investment goals. Selected Spike projects are added to the regional MPO/RPO, IMP, or Statewide items TIP, utilizing Statewide Line Items from the Statewide Program to maintain fiscal constraint.

## PUBLIC COMMENT

As part of their regional TIP development, the MPOs/RPOs will ensure that their regional highway/bridge and transit TIPs provide the following information:

- Sufficient detailed descriptive material to clarify the design concept and scope as well as the location of the improvement. The MPO/RPO and PennDOT District(s) must collaborate on the information for the public narrative.
- Projects or phases of projects assigned by year (e.g. FFY 2023, 2024, 2025, 2026) should be based upon the latest project schedules and consistent with [23 CFR 450.326\(g\)](#).

## 2023 Transportation Program General and Procedural Guidance

- Detailed project and project phase costs should be delineated between federal, state, and local shares. Each project and its associated phase costs should depict the amount to be obligated/encumbered for each funding category on a per year basis.
- Phase estimates and total costs should reflect YOY in the TIP period, per Financial Guidance.
- The estimated total project cost should be included, which may extend beyond the 4 years of the TIP into the TYP/LRTP.
- There should be identification of the agency or agencies responsible for implementing the project or phase (i.e. the specific Transit agency, PennDOT District(s), MPO/RPO, local government, or private partner). Each MPO/RPO will work with all project administrators to provide any additional information that needs to be included with each project to be listed in their regional Program.

PennDOT CPDM will provide the information above for Statewide-managed programs for the STIP.

The MPO/RPO TIPs, including the MPO/RPO portions of the IM TIP, must be made available for public comment for a minimum of 30 days and in accordance with the procedures outlined in the MPO/RPO PPPs. A formal public comment period for the regional TIPs must be established to gather all comments and concerns on the TIPs and related documents. A separate STIP 15-day public comment period will be established. PennDOT CPDM, PennDOT Districts and the MPOs/RPOs shall make STIP/TIP information (such as technical information and meeting notices) available in electronically accessible formats and means, such as websites and mobile devices.

Joint outreach efforts can result in a more effective program overall and more efficient use of labor across all MPOs/RPOs. Straightforward and comprehensive access to all public documentation (including the draft and final STIP, TIP and TYP project listings) should be made available to all members of the public, including those individuals with LEP. As part of their public outreach, MPOs/RPOs should take advantage of available resources, including translation services, social media tools, other online resources, and local community organizations.

All 2023 Transportation Program guidance documents will available at [Talkpatransportation.com](https://talkpatransportation.com) for program development use by the MPOs/RPOs and other interested parties. PennDOT and MPO/RPO websites shall be used to keep the public well informed, giving them access to the available data used in the Program update, informing them how they can get involved in the TIP update process, giving notice regarding public participation activities, and offering the opportunity for review and comment at key TIP development decision points. To provide a central location for regional public comment opportunities, PennDOT CPDM will post the regional public comment periods and links to the MPO/RPO websites on PennDOT's website. The MPOs/RPOs must post the applicable TIP documents on their regional websites for public review and comment. The table located in the TIP Submission section below outlines the required documents that must be included for public comment.

After the public comment periods have ended, the PennDOT Districts will partner with the MPOs/RPOs to develop responses to the public comments. These responses will be documented as part of the regional TIP submissions that are sent to PennDOT CPDM.



## 2023 Transportation Program General and Procedural Guidance

### TIP SUBMISSION

MPOs/RPOs, PennDOT Districts, and CPDM will coordinate in the development of draft lists of projects. PennDOT Districts and CPDM are required to attach draft lists of projects in MPMS as noted on the 2023 Transportation Program development schedule available in Appendix 1. In addition to the project list being attached in MPMS, the MPOs/RPOs should submit a draft version of available TIP development documentation to CPDM which will then share with FHWA, FTA, BPT, and BOMO. This documentation should include the project selection process, a description of the anticipated effect of the TIP toward achieving the performance targets, the individual roles and responsibilities of the MPOs/RPOs, PennDOT Districts and Central Office, and a timeline. This will allow for early coordination with PennDOT Districts, CPDM, FHWA, and FTA for review and feedback prior to the draft TIP public comment period.

Following the draft TIP public comment period and the individual TIPs are approved by the MPOs/RPOs, they must be formally submitted to PennDOT CPDM. The formal submission should include a cover letter and all required documentation, along with the completed TIP Checklist in Appendix 3. The TIP Checklist will be verified by PennDOT CPDM, FHWA and FTA upon review of the TIP Submission package. The MPO/RPO TIP Submission requirements are summarized below:

TIP Submissions Must Include the Following:		Include for Public Review and Comment
1	Cover Letter	
2	TIP Development/Project Selection Process Documentation	✓
3	TIP Development Timeline	✓
4	TPM (PM1, PM2, and PM3) Narrative Documentation	✓
5	Transit Performance Measures Narrative Documentation	✓
6	Highway and Bridge TIP Listing with public narrative	✓
7	Public Transportation TIP Listing with public narrative	✓
8	Interstate TIP Listing with public narrative (regional portion)	✓
9	TIP Financial Constraint Chart	✓
10	Public Transportation Financial Capacity Analysis (MPO Only)	
11	EJ Analysis and Documentation	✓
12	Air Quality Conformity Determination Report (if applicable)	✓
13	Air Quality Resolution (if applicable)	
14	Public Comment Period Advertisement	✓
15	Documented Public Comments received (if applicable)	
16	Title VI Policy Statement	✓
17	TIP Revision Procedures	✓
18	Self-Certification Resolution	
19	List of major projects from the previous TIP that were implemented	
20	List of major regional projects from the previous TIP that were delayed	
21	TIP Checklist	

An electronic version of the regional TIP Submission must be provided to PennDOT CPDM, according to the 2023 Transportation Program development schedule in Appendix 1. The electronic version of the TIP Submission, including the TIP Checklist, should be submitted through [SharePoint](#). PennDOT CPDM

## 2023 Transportation Program General and Procedural Guidance

will verify that the items on the TIP Checklist have been completed and that all required documents have been included along with each TIP submission.

PennDOT CPDM will combine the individual TIPs to create the STIP. The STIP, which is included as the first four years of the TYP, will be submitted by PennDOT CPDM to the STC for their approval at their August 2022 meeting. After STC approval, PennDOT will submit the STIP on behalf of the Governor to FHWA/FTA for their 45-day review period. FHWA/FTA will issue their approval of the STIP, which is contained in the Planning Finding document, by the end of the 45-day period, which should occur before the start of the new 2023 FFY on October 1.

### PROGRAM ADMINISTRATION

After adoption, the 2023 Transportation Program must continue to be modifiable based on necessary program changes. Adjustments to the 2023 Program are enacted through procedures for STIP/TIP Modification at both the State and MPO/RPO levels. The Statewide Memorandum of Understanding (MOU), which outlines the procedures for 2023 STIP modifications, is jointly developed by PennDOT, FHWA and FTA. The Statewide MOU sets the overarching principles agreed to between PennDOT and FHWA/FTA. Individual MOUs are then developed and adopted by the MPOs/RPOs, utilizing the Statewide MOU as a reference. The regional MOUs cannot be less restrictive than the Statewide MOU. The new procedures for TIP revision/modification must be part of the public comment period on the draft 2023 Program.

The modification procedures that were approved for the 2021 Program will be used as a starting point for the development of procedures for the 2023 Program. These procedures are required to permit the movement of projects or phases of projects within the STIP/TIP while maintaining year-by-year fiscal constraint. This process helps to ensure that the MPO/RPO TIPs and the STIP are consistent with the TYP and regional LRTPs, and vice versa. PennDOT CPDM will work with FHWA/FTA to develop and implement a streamlined revision process.

Changes to the TIPs and the delivery of completed projects are monitored by PennDOT CPDM, PennDOT Districts and the MPOs/RPOs and are the subject of various program status reports. PennDOT CPDM will track the progress of the highway Program and project implementation and share the findings with the MPOs/RPOs. PennDOT CPDM will send the MPOs/RPOs quarterly progress reports that detail current project obligations that have occurred in the current FFY.

In accordance with [23 CFR 450.334](#), all Pennsylvania MPOs/RPOs, transit agencies, and PennDOT will cooperatively develop an Annual Listing of Obligated Projects for which Federal funds have been obligated in the previous FFY. The listing must include all Federally funded projects authorized or revised to increase obligations in the preceding program year and, at a minimum, include the following for each project:

- the amount of funds requested on the TIP
- Federal funding that was obligated during the preceding year
- Federal funding remaining and available for subsequent years
- sufficient description to identify the project or phase
- identification of the agencies responsible for carrying out the project or phase

## 2023 Transportation Program General and Procedural Guidance

PennDOT CPDM will continue to work with the MPOs/RPOs and transit agencies to assist them in developing the regional obligation reports. The listing of projects must be published on respective MPO/RPO websites annually by December 29 (within 90 calendar days of the end of the previous FFY), in accordance with their public participation criteria for the TIP. CPDM Funds Management will provide an annual listing of Highway/Bridge obligations and PennDOT administered executed transit grants. MPOs/RPOs should work with their respective transit agencies to acquire a list of any additional executed grants in which the agencies were the direct recipient of Federal Transit funding. The MPOs/RPOs should share the Annual Listing of Obligated Projects/Executed Grants with their respective Boards/Committees and post the reports on their websites.



## 2023 Program Development Schedule

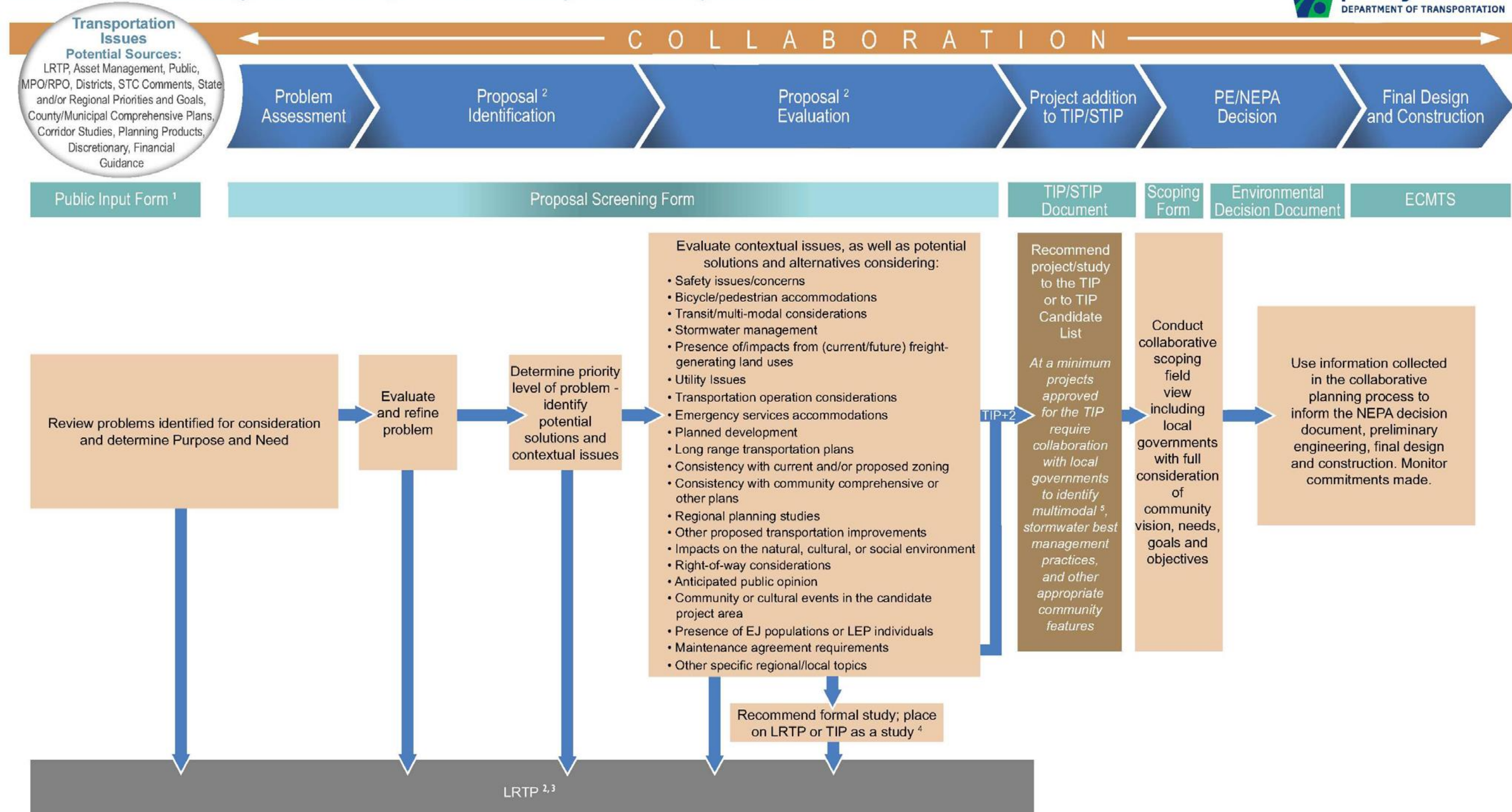
Activity	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	
STC releases Transportation Performance Report		2/17																					
STC-TYP public comment period			3/1	4/14																			
STC online public forum			3/23																				
General/Procedural Guidance Work Group Meetings																							
Financial Guidance Work Group Meetings																							
2023 TYP Public Outreach Feedback Provided to STC, MPOs/RPOs and PennDOT to consider for TIP/TYP																							
Spring/Summer Planning Partners Call						6/29																	
Draft Interstate carryover projects released																							
BOMO Asset Management provides PAMS/BAMS outputs for the 2023 Program Update																							
Districts, MPOs/RPOs and Central Office hold initial program update coordination meetings																							
Districts, MPOs/RPOs and Central Office meet to coordinate on carryover & candidate projects																							
Project updates are made in MPMS																							
Final Program Update Guidance documents released																							
Interstate Steering Committee Presentations																							
Statewide STIP MOU development/finalization																							
Validation of PennDOT Connects PIF forms conducted for new 2023 TIP projects																							
EJ conditions data (pavement, bridge, safety and transit, if available) made available to MPOs/RPOs																							
Spike decisions released																							
Draft Interstate and Statewide Projects announced																							
Fall Planning Partners Meeting																							
EJ analysis burdens and benefits analysis is conducted by MPOs/RPOs																							
PennDOT completes attaching draft TIP/TYP in MPMS																							
MPO/RPOs submit available Draft TIP documentation to CPDM and FHWA/FTA for review																							

## 2023 Program Development Schedule

Activity	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	
Final IM and Statewide Program Distributed																							
PennDOT CPDM completes initial review of the preliminary draft TIPs																							
MPOs, RPOs, and PennDOT reach agreement on their respective portions of the program																							
PennDOT CPDM to hold draft program review discussions																							
Interagency air quality consultation																							
Central Office sends Draft TIPs to FHWA for eligibility review																							
MPOs, RPOs and PennDOT conduct air quality conformity analysis																							
STIP Executive Summary Development																							
TIP Public Comment Periods																							
STIP Public Comment Period (15 day)																							
CPDM to review STIP public comments																							
MPOs/RPOs adopt regional TIPs																							
MPOs/RPOs submit regional TIPs to PennDOT CPDM																							
PennDOT CPDM reviews TIP submissions for STIP submittal																							
STC approves TYP																							
PennDOT submits STIP to FHWA/FTA on behalf of Governor																							
FHWA/FTA reviews and approves air quality conformity documents and STIP																							
2023 Program Begins																							



# Transportation Program Development and Project Delivery Process



**Footnotes:**

1. Not required for all proposals.
2. PennDOT and the MPO/RPO may jointly decide to dismiss a proposal at any time if the proposal is determined to be a routine maintenance project or not feasible due to constructability issues.
3. Projects may also be deferred to the LRTP Candidate List or illustrative list.
4. Studies can also be funded through the Unified Planning Work Program (UPWP).
5. Multimodal includes highway, public transit, aviation, rail, freight, and bicycle and pedestrian facilities.





Appendix 3 – TIP Submission Checklist

2023-2026 Transportation Program Submission Checklist

Planning Partner: \_\_\_\_\_

[\[Click Here to View Pop-Up Directions\]](#)

Transportation Management Area:  Yes  No

		MPO/RPO to Provide Response Others Check to Indicate Response Verified			
Information Items <small>Green highlighted items require documentation be submitted.</small>		Response	CPDM	FHWA	FTA
1. Cover Letter:	Cover Letter which documents organization and date of TIP adoption	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Date TIP adopted by Planning Partner:	Meeting Date	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. TIP Development:	TIP Development/Project Selection Process Documentation	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	MPO/RPO Specific TIP Development Timeline	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Does the documentation explain the project selection process, roles, responsibilities and/or project evaluation criteria procedures?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Performance Based Planning and Programming:	PM1 Narrative Documentation (includes established targets and analysis of progress towards targets)	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PM2 Narrative Documentation (includes established targets and analysis of progress towards targets)	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	PM3 Narrative Documentation (includes established targets and analysis of progress towards targets)	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Transit Performance Measures Documentation	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	TAMP narrative documentation demonstrates consistency with the TYP/TIP	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Highway-Bridge Program Projects:	Highway and Bridge Listing with public narrative	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Public Transportation Program:	Public Transportation Listing with public narrative	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Interstate & Statewide Program Projects:	Regional Portion of Interstate TIP Listing with public narrative	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Regional Portion of Statewide TIP Listing (Spike, TAP, RRX, HSIP, other)	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Financial Constraint:	<a href="#">Complete the tables in the Financial Constraint tab.</a>	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Is the TIP financially constrained, by year and by allocations?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Were the TIP projects screened against the federal/state funding program eligibility requirements?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Are estimated total costs to complete projects that extend beyond the TIP years shown in the TYP and L RTP?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 3 – TIP Submission Checklist

2023-2026 Transportation Program Submission Checklist

Planning Partner: \_\_\_\_\_

[\[Click Here to View Pop-Up Directions\]](#)

Transportation Management Area:  Yes  No

	Information Items <small>Green highlighted items require documentation be submitted.</small>	MPO/RPO to Provide Response Others Check to Indicate Response Verified			
		Response	CPDM	FHWA	FTA
<b>8. Public Transportation:</b>	<b>Public Transportation Financial Capacity Analysis (MPO Only)</b>	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Documentation of Transit Asset Management (TAM) Plan	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>9. Environmental Justice Evaluation of Benefits and Burdens:</b>	<b>EJ Documentation (demographic profile, conditions data, TIP project map, TIP benefits/burdens analysis)</b>	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Was EJ analysis incorporated into your TIP development process?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>10. Air Quality:</b>	<b>Air Quality Conformity Determination Report</b>	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Air Quality Resolution</b>	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Is the area in an AQ non-attainment or maintenance area?	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Have all projects been screened through an interagency consultation process?	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Most recent air quality conformity determination date:	Date/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Do projects contain sufficient detail for air quality analysis?	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>11. Public Participation Documentation:</b>	<b>Public Comment Period Advertisement</b>	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Public comment period:	Date Range	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Public meeting(s)-Date/Time/Location:	Date/Time/Location	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Public meeting notices contain info about special needs/ADA Compliance?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	STIP/TIP public involvement outreach activities consistent with Public Participation Plan?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Were any public comments (written or verbal) received?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Documentation of Public Comments received</b>	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Were public comments addressed?	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>12. Title VI:</b>	Has the MPO included information regarding Title VI and its applicability to the TIP, including the protections against discrimination and the availability of the TIP document in alternative formats upon request?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>13. TIP Revision Procedures:</b>	<b>MPO/RPO TIP Modification Procedures (MOU)</b>	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix 3 – TIP Submission Checklist

2023-2026 Transportation Program Submission Checklist

Planning Partner: \_\_\_\_\_

[\[Click Here to View Pop-Up Directions\]](#)

Transportation Management Area: <input type="checkbox"/> Yes <input type="checkbox"/> No		<b>MPO/RPO to Provide Response Others Check to Indicate Response Verified</b>			
	<b>Information Items</b> <small>Green highlighted items require documentation be submitted.</small>	<b>Response</b>	<b>CPDM</b>	<b>FHWA</b>	<b>FTA</b>
<b>14. MPO/RPO Self-Certification Resolution:</b>	Self-Certification Resolution	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	For the Non-TMAs, does the self certification contain documentation to indicate compliance?	Yes/No/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>15. Other Requirements:</b>	List of regionally important projects from the previous TIP that were implemented, and projects impacted by significant delays.	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Does the TIP contain regional system level estimates of state & local revenue sources beyond financial guidance?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	List of annual obligated projects on website for FFY 2022	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>16. PennDOT Connects:</b>	Municipal outreach/PIF forms initiated/completed for all TIP projects?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>17. Long Range Transportation Plan:</b>	Is the TIP consistent with the LRTP?	Yes / No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	LRTP air quality conformity determination date:	Date/NA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	LRTP end year:	Date	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Anticipated MPO/RPO LRTP adoption date:	Date	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>18. Completed/ Reviewed by:</b>	MPO/RPO:	Date:			
	PennDOT CPDM:	Date:			
	FHWA:	Date:			
	FTA:	Date:			
<b>19. Comments:</b>	<i>Note any noteworthy practices, issues or improvements that should be addressed by the next TIP update, or any other comments/questions here:</i>				

Appendix 3 – TIP Submission Checklist  
**2023 - 2026 Transportation Program Development Checklist**

**Financial Constraint Tables**

*Compare the amount of funds programmed in each year of the TIP against Financial Guidance (FG) allocation, and explain any differences.*

Fund Type	FFY 2023		FFY 2024		FFY 2025		FFY 2026		Comments
	Financial Guidance	Programmed	Financial Guidance	Programmed	Financial Guidance	Programmed	Financial Guidance	Programmed	
NHPP									
STP									
State Highway (581)									
State Bridge (185/183)									
BOF									
HSIP									
CMAQ									
TAU									
STU									
<b>Total</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	

*Identify the TOTAL amount and TYPES of additional funds programmed above FG allocations (i.e. Spike funds, Earmarks, Local, Other, etc.) by year:*

Additional Funding Type	FFY 2023	FFY 2024	FFY 2025	FFY 2026	Comments
<b>Total</b>	\$0	\$0	\$0	\$0	

**Reading MPO  
FFY 2023 – 2026 Transportation Improvement Program (TIP)  
Development Time Line**

<b>March, 2021</b>	<b>Reading MPO actively markets participation in State Transportation Commission on-line survey and public meeting via e-mail, web page and FaceBook</b>
<b>June, 2021</b>	<b>PennDOT releases FFY 2023 – 2026 Financial Guidance</b>
<b>July, 2021</b>	<b>PennDOT releases General and Procedural Guidance</b>
<b>July, 2021</b>	<b>Reading MPO reviews Berks County responses to STC Survey (153)</b>
<b>August, 2021</b>	<b>Reading MPO solicits municipalities for project recommendations (4 new recommendations received)</b>
<b>September / October, 2021</b>	<b>MPO staff meets 4 times with PennDOT to review existing (FFY 2021) TIP, update carry-over projects scope of work and costs, and review new candidate projects and coordinates with SCTA regarding Transit project listing</b>
<b>November, 2021</b>	<b>Infrastructure Investment and Jobs Act (IIJA) enacted</b>
<b>December, 2021</b>	<b>PennDOT releases interim FFY 2023-2026 Financial Guidance reflecting estimated revenues from IIJA</b>
<b>November / December, 2021</b>	<b>MPO staff meets 7 times with PennDOT to refine and expand project listing to meet new financial resources and coordinates with SCTA regarding Transit project listing</b>
<b>December, 2021</b>	<b>Draft FFY 2023-2026 TIP project listing</b>
<b>January, 2022</b>	<b>Reading MPO reviews and endorses submitted Draft TIP (Highway / Bridge / Transit) projects and draft project listing reviewed with PennDOT Central office</b>
<b>January/ February, 2022</b>	<b>Additional coordination between MPO staff and PennDOT to refine project listings</b>
<b>March, 2022</b>	<b>PennDOT issues revised (Final) Financial Guidance reflecting actual revenues from IIJA</b>
<b>March / May, 2022 -</b>	<b>Additional coordination between MPO staff and PennDOT to refine project listings to match final IIJA revenues and impacts from applying IIJA funding to projects in FFY 2022</b>
<b>May, 2022</b>	<b>Reading MPO approves final project listing and authorizes Draft FFY 2023-2026 TIP for release for public review and comment</b>
<b>May 29, 2022</b>	<b>Advertisement placed in Sunday Reading Eagle regarding Public Comment Period and opportunities to comment</b>

- June, 2022**      **Public Review and Comment period extends from June 1, 2022 through July 1, 2022 and includes a Virtual Public Meeting on June 14, 2022**
- July, 2022**      **Reading MPO to meet on July 14, 2022 to review comments on Draft TIP, approve responses to those comments and adopt the TIP and related Air Quality Conformity Analysis and Environmental Justice Summary and forward to PennDOT**
- August, 2022 -**   **State Transportation Commission to review and approve regional TIPs incorporated into a State Transportation Improvement Program (STIP) and submit to USDOT (FHWA / FTA)**
- September, 2022**    **USDOT to review and approve STIP**
- October 1, 2022** **STIP and regional TIP's become effective**





COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
HARRISBURG, PENNSYLVANIA

OFFICE OF  
SECRETARY OF TRANSPORTATION

March 18, 2019

Dear Planning Partners:

The Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) and Fixing America's Surface Transportation (FAST) Act established Performance-Based Planning and Programming (PBPP) requirements as part of Transportation Performance Management rules. Title 23 Part 450 of the Code of Federal Regulations (23 CFR 450) Subpart C requires the State Department of Transportation, Metropolitan Planning Organizations (MPO) and operators of public transportation to jointly agree-upon written provisions for how they will cooperatively develop, and share information related to five key elements of PBPP:

- transportation performance data,
- the selection of performance targets,
- the reporting of performance targets,
- the reporting of performance to be used in tracking critical outcomes for the region of the MPO, and
- the collection of data for the State asset management plan for the National Highway System (NHS).

Federal regulations provided flexibility for establishing these written provisions. The provisions may be included as part of the metropolitan planning agreements or documented in some other form as cooperatively determined by the State DOT, MPOs and operators of public transportation. Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) expect that there will be documentation demonstrating that the written provisions were cooperatively developed, such as a document signed by the State DOT, MPOs and operators of public transportation; an action by the agency boards adopting the written provisions; or some other equivalent action such as a Memorandum of Understanding or a Memorandum of Agreement.

At the discretion of the State DOT, MPOs and operators of public transportation, one agreement may be developed for each of the performance measure areas (or group of performance measures) or one agreement may be developed covering all of the performance measure areas.

Pennsylvania chose to handle joint-written agreements for the FTA's Transit Asset Management Final Rule [81 FR 48890] as a separate document between the Pennsylvania Department of Transportation (PennDOT), MPOs and operators of public transportation. These agreements are all in place and will remain separate and will not be updated by this request.

PBPP  
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March 18, 2019

PennDOT, in cooperation with MPOs and Rural Planning Organizations (RPO), developed the enclosed written provisions as part of the FFY 2019-2022 State Transportation Improvement Program update process for:

- PM1 measures – the safety performance measures
- PM2 measures – the National Highway System (NHS) pavements, bridges carrying the NHS, and pavements on the Interstate measures
- PM3 measures – the performance of the NHS, freight movement on the Interstate, and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program

Pennsylvania chose to handle joint-written procedures for the safety PM1 initially as a separate document, which were in place by May 27, 2018. The enclosed will replace the previously separate document for PM1.

To ensure compliance with 23 CFR 450.314, please respond to this letter before May 20, 2019, by signing the enclosed acknowledgement form indicating your region has adopted these written provisions.

If any region would like to provide additional information, please provide a copy of an appendix with your response.

Should you have any questions, please contact Kristin Mulkerin, Transportation Planning Manager, at 717.783.2430 or email [kmulkerin@pa.gov](mailto:kmulkerin@pa.gov).

Sincerely,



James D. Ritzman, P.E.  
Deputy Secretary for Planning

Enclosures

Pennsylvania Performance Based Planning and Programming  
Written Provisions Acknowledgement

Per 23 CFR 450.314

The **Reading MPO**  
Metropolitan/Rural Planning Organization

Acknowledges the attached Pennsylvania Performance Based Planning and Programming written provisions were cooperatively developed and agreed-upon between PennDOT and the Pennsylvania Metropolitan/Rural Planning Organizations.

**Alan D. Piper**  
Authorized MPO/RPO Spokesperson

**5/16/19**  
Date

**SUBMIT**

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

The Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act include performance management requirements. Performance-based planning will ensure that the Pennsylvania Department of Transportation (PennDOT) and Pennsylvania's Metropolitan Planning Organizations (MPO) collectively invest Federal transportation funds efficiently towards achieving national goals. In Pennsylvania, the Rural Planning Organizations (RPO) follow the same requirements as MPOs.

Transportation Performance Management (TPM) is a strategic approach that uses data to make investment and policy decisions to achieve national performance goals. Title 23 Part 490 of the Code of Federal Regulations ([23 CFR 490](#)) outlines the national performance goals for the Federal-aid program. It establishes the seven goal areas: safety, infrastructure condition, congestion reduction, system reliability, freight, environmental sustainability and reduced project delivery delay.

The regulations require the United States Department of Transportation (DOT)/Federal Highway Administration (FHWA) to establish final rules on performance measures. The final rules address the seven areas in the legislation, identifying the following as performance measures for the system:

- pavement condition on the Interstate system and on the remainder of the National Highway System (NHS)
- performance (system reliability) of the Interstate system and the remainder of the NHS
- bridge condition on the NHS
- fatalities and serious injuries, both number and rate per vehicle mile traveled, on all public roads
- traffic congestion
- on-road mobile source emissions
- freight movement on the Interstate system

### Performance Based Planning and Programming

Pennsylvania has long utilized a comprehensive planning and programming process, with a focus on collaboration between PennDOT, FHWA, and Planning Partners (MPOs/RPOs) at the county and regional levels. This approach will be applied to begin implementation of TPM and Performance Based Planning and Programming (PBPP).

PBPP requirements are outlined in Title 23 Part 450 of the Code of Federal Regulations ([23 CFR 450](#)). Subparts B & C requires the State Department of Transportation, MPO and operators of public transportation to jointly agree-upon written provisions for how they will cooperatively develop, and share information related to five key elements of PBPP:

- transportation performance data
- the selection of performance targets
- the reporting of performance targets

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

- the reporting of performance to be used in tracking critical outcomes for the region of the MPO
- the collection of data for the State asset management plan for the National Highway System (NHS)

PennDOT in cooperation with MPOs/RPOs developed this document to serve as Pennsylvania's jointly-written provisions for PBPP roles and responsibilities per 23 CFR 450.314(h) for:

- PM1 measures – the safety performance measures
- PM2 measures – the NHS pavements, bridges carrying the NHS, and pavements on the Interstate measures
- PM3 measures – the performance of the NHS, freight movement on the Interstate, and the Congestion Mitigation and Air Quality Improvement (CMAQ) Program

PennDOT Executives, Center for Program Development and Management (CPDM), and Bureau of Maintenance and Operations (BOMO), Bureau of Project Delivery (BPD, Engineering Districts and MPOs/RPOs will coordinate to ensure the Statewide Long Range Transportation Plan (LRTP), Statewide Transportation Improvement Program (STIP), regional Transportation Improvement Programs (TIP) and regional LRTPs are developed and amended to meet the PBPP requirements of the planning rule and the performance measure rules.

This coordination will occur when setting targets to ensure consistency to the maximum extent possible. Each MPO/RPO will need to establish targets by either adoption of the State's performance targets and support the State's efforts in achieving those targets or establish their own quantifiable performance targets.

PennDOT CPDM in coordination with BOMO will include a description of the individual performance measures and targets for those measures in Statewide LRTPs moving forward. Each MPO/RPO will also include individual performance measures and targets for those measures in their regional LRTPs moving forward. In addition to including the performance measures and targets in the Statewide and Regional LRTPs, PennDOT CPDM, BOMO, Engineering Districts and each MPO/RPOs are also required to include a system performance report. That report provides an evaluation of system performance with respect to the performance targets. PennDOT CPDM and BOMO in coordination with Engineering Districts will include progress achieved by MPOs/RPOs in meeting the MPO performance targets in comparison with system performance recorded in previous reports [23 CFR 450.216(f)(2); 23 CFR 450.324(f)(4)]. For MPOs/RPOs that voluntarily elect to develop multiple scenarios when developing the regional LRTP, the MPO/RPO must conduct an analysis as part of the systems performance report on how the preferred scenario has improved the conditions and performance of the transportation system and how changes in local policies and investments have impacted the costs necessary to achieve the identified performance targets [23 CFR 450.324(f)(4)(ii)].

PennDOT and the MPOs/RPOs will include a description on progress towards each of the performance measures and targets as plans are updated. The progress explanation should



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include the information that is available at the time of the plan adoption, such as information that has been reported as part of the reports required under 23 CFR 490.107. With subsequent adoptions of LRTPs, PennDOT and MPOs/RPOS must continue to include a system performance report. These reports must describe the progress of the MPO/RPOs in meeting the performance targets in comparison with system performance recorded in previous years.

### Safety Performance Measures

The FHWA final rules for the *National Performance Management Measures: Highway Safety Improvement Program (Safety PM)* and *Highway Safety Improvement Program (HSIP)* were published in the Federal Register ([81 FR 13881](#) and [81 FR 13722](#)) on March 15, 2016, and became effective on April 14, 2016.

These final rules were the first in a series of three related rulemakings that together establish a set of performance measures for State DOTs and MPOs to use as required by MAP-21 and the FAST Act.

The HSIP Final Rule updates the HSIP regulation under [23 CFR Part 924](#) to be consistent with MAP-21 and the FAST Act while clarifying existing program requirements. The Safety PM Final Rule adds Part 490 to Title 23 of the Code of Federal Regulations (CFR) to implement the performance management requirements in 23 U.S.C. 150.

The Safety PM Final Rule, also referred to as PM1 Final Rule, establishes safety performance measure requirements for carrying out the HSIP and to assessing fatalities and serious injuries on all public roads.

The Safety PM Final Rule establishes five performance measures used in determining five-year rolling averages to include:

- Number of Fatalities
- Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)
- Number of Serious Injuries
- Rate of Serious Injuries per 100 million VMT
- Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries

### Target Setting:

Pennsylvania's Strategic Highway Safety Plan (SHSP) serves as a blueprint to reduce fatalities and serious injuries on Pennsylvania roadways and targets priority Safety Focus Areas (SFAs) that have the most influence on improving highway safety throughout the state. The SHSP contains Pennsylvania's statewide goals for fatalities and serious injuries. The SHSP has been developed and will be updated in conjunction with stakeholders including federal, state, local and private sector agencies including Pennsylvania's MPOs/RPOs.

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

Pennsylvania established a Safety Planning workgroup with representation from PennDOT CPDM, BOMO, Engineering Districts, the MPOs/RPOs and FHWA. The group includes technical safety and planning professionals that meet regularly to discuss relative topics such as the SHSP and performance measures. PennDOT and the MPOs/RPOs will continue to utilize this workgroup to coordinate the State's safety target setting. Information discussed as part of this workgroup will be shared at Statewide Planning Partner Meetings and conference calls.

PennDOT CPDM in coordination with BOMO will be responsible for scheduling and conducting Safety Planning Workgroup calls. PennDOT CPDM will be responsible for scheduling and conducting Planning Partner meetings and conference calls, where coordination on target setting will occur.

MPOs/RPOs will be responsible for ensuring there is adequate MPO/RPO representation on the Safety Planning Workgroup. All MPOs/RPOs will ensure they participate in Planning Partner meetings and conference calls to provide input into performance measure and target coordination.

PennDOT BOMO will submit the state safety targets as part of the annual Pennsylvania Highway Safety Plan submitted to NHTSA. The state targets for the number of fatalities, number of serious injury and rate of fatalities need to be identical to those submitted to FHWA. PennDOT will include state safety targets for all five of the safety performance measures as part of the annual Pennsylvania Highway Safety Improvement Program (HSIP) report submitted to FHWA.

PennDOT CPDM will share the annual submissions and/or another type of notification of the state targets with the MPOs/RPOs in a timely manner.

All Pennsylvania MPOs/RPOs will establish targets for each performance measure and communicate adoption to PennDOT CPDM within 180 days of PennDOT establishing targets either by agreeing to plan and program projects in support of PennDOT targets, or by committing to their own quantifiable targets. If an MPO/RPO chooses to establish their own performance targets, they would need to coordinate with PennDOT CPDM and BOMO on the selection of the targets and provide methodology, including VMT used to develop their targets to ensure consistency, to the maximum extent practicable.

### **Data Collection and Analysis:**

Data for the fatality-related measures are taken from the Fatality Analysis Reporting System (FARS) and data for the serious injury-related measures are taken from the State crash database. The VMT are derived from the Highway Performance Monitoring System (HPMS).

PennDOT BOMO will review the State's crash and fatality data and evaluate it for overall trends. PennDOT BOMO will compare these trends to what can be observed at the national level.



## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

PennDOT BOMO will assess the state and national trends to determine how they relate to the SHSP Goals and the National Toward Zero Death initiative.

PennDOT BOMO will provide CPDM statewide data to share with the MPOs/RPOs to assist them in deciding whether they are going to support the State's targets or adopt their own.

MPOs/RPOs should utilize their specific data from the Pennsylvania Crash Information Tool to further assist in their decision-making process as to whether they are going to support the State's targets or adopt their own.

### **Progress Towards Target Achievement and Reporting:**

PennDOT and the MPOs/RPOs will include safety performance measures and targets in the STIP, regional TIPs, and LRTPs.

PennDOT and the MPOs/RPOs will ensure the STIP, regional TIPs, and LRTPs are developed and managed to support progress toward target achievement.

PennDOT BOMO will include information on safety targets and progress towards meeting targets as part of annual Safety submissions to NHTSA and FHWA. FHWA will utilize data from a base line period for assessing significant progress. Four of the five measures will need to be met or significantly improve. FHWA will determine if Pennsylvania has met or made significant progress toward meeting its safety targets. When FHWA reports their findings to PennDOT, CPDM will share the findings with MPOs/RPOs.

When collaborating to set annual targets, PennDOT BOMO, CPDM and Engineering Districts will coordinate to provide feedback on statewide and MPO/RPO specific progress towards target achievement as it becomes available.

In accordance with 23 CFR 450.216(f), PennDOT CPDM in coordination with BOMO will include a description of the individual safety performance measures and targets for those measures for the Statewide LRTP moving forward. In addition to including safety performance measures and targets in the Statewide LRTP, PennDOT CPDM in coordination with BOMO will include a system performance report. That report must include an evaluation of system performance with respect to the performance targets. PennDOT CPDM in coordination with BOMO will include a description of progress achieved by the MPOs/RPOs in meeting the MPO/RPO performance targets in comparison with system performance recorded in previous reports [23 CFR 450.216(f)(2)]. The progress description will include the information that has been reported as part of the reports required under 23 CFR 490.107. With subsequent adoptions of Statewide LRTPs, PennDOT CPDM in coordination with BOMO will continue to include a system performance report describing the progress of meeting the performance targets in comparison with system performance recorded in previous years.

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

In accordance with 23 CFR 450.324(f)(3-4), MPOs/RPOs will include a description of the individual safety performance measures and targets for those measures for regional LRTPs moving forward. In addition to including performance measures and targets in the regional LRTPs, MPOs/RPOs will include a system performance report. That report must include an evaluation of system performance with respect to the performance targets. MPOs/RPOs will describe progress achieved in meeting the performance targets in comparison with system performance recorded in previous reports [23 CFR 450.324(f)(4)(i)]. The progress description will include the information that has been reported as part of the reports required under 23 CFR 490.107. With subsequent adoptions of regional LRTPs, MPOs/RPOs will continue to include a system performance report describing the progress of meeting the performance targets in comparison with system performance recorded in previous years.

In accordance with 23 CFR 450.218(q), PennDOT CPDM in coordination with BOMO will include a narrative description in the STIP on how the program of projects contributes to the achievement of the safety performance targets. The narratives should document PBPP objectives, investment strategies, performance measures and targets from the strategic highway safety plan (SHSP), highway safety improvement program (HSIP), and other performance-based plans are being implemented through the program of projects in the STIP.

In accordance with 23 CFR 450.326(d), MPOs/RPOs will include a narrative description in the TIP on how the program of projects contributes to the achievement of the safety performance targets. The narratives should document PBPP objectives, investment strategies, performance measures and targets from the strategic highway safety plan (SHSP), highway safety improvement program (HSIP), and other performance-based plans are being implemented through the program of projects in the TIP.

### Pavement/Bridge Performance Measures

The FHWA final rule for the National Performance Management Measures; Assessing Pavement Condition for the National Highway Performance Program and Bridge was published in the Federal Register ([82 FR 5886](#)) on January 18, 2017 and became effective on February 17, 2017.

This final rule was the second in a series of three related rulemakings that together establishes a set of performance measures for State DOTs and MPOs to use as required by MAP-21 and the FAST Act.

The final rule established performance measures for all State DOTs to use to carry out the National Highway Performance Program (NHPP) and to assess the condition of pavements on the Interstate System, pavements on the NHS (excluding the Interstate System), bridges carrying the NHS which include on and off ramps connected to the NHS. The NHPP is a core Federal-aid highway program that provides support for the condition and performance of the NHS and the construction of new facilities on the NHS. The NHPP also ensures that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

performance targets as established in a State's Transportation Asset Management Plan (TAMP) for the NHS. This final rule establishes regulations for the new performance aspects of the NHPP that address measures, targets, and reporting.

The pavement and bridge performance measures, collectively referred to as the PM2 measures include:

- % of Interstate pavements in Good condition
- % of Interstate pavements in Poor condition
- % of non-Interstate NHS pavements in Good condition
- % of non-Interstate NHS pavements in Poor condition
- % of NHS bridges by deck area classified in Good condition
- % of NHS bridges by deck area classified in Poor condition

### Target setting:

Pennsylvania established a TAMP Steering Committee with representation from PennDOT's Executive staff, Engineering Districts, Asset Management Division, Center for Program Development and Management, Bureau of Planning and Research, Highway Safety and Traffic Operations Division, FHWA, the Pennsylvania Turnpike Commission (PTC) and MPOs/RPOs. The workgroups purpose is to manage and coordinate the development, submission, and implementation of the TAMP, and the pavement and bridge condition performance measures.

PennDOT CPDM, BOMO, Engineering Districts and the MPOs/RPOs will continue to utilize the committee to coordinate the State's pavement and bridge target setting. Information discussed as part of the committee will be shared at Statewide Planning Partner Meetings and conference calls.

To satisfy 23 CFR 490.105(e)(2), PennDOT will coordinate with MPOs/RPOs on the development of the measures and selection of targets to ensure consistency, to the maximum extent practicable. PennDOT BOMO in coordination with CPDM will be responsible for scheduling and conducting TAMP Steering committee meetings. PennDOT CPDM will be responsible for scheduling and conducting Planning Partner meetings and conference calls, where coordination on target setting will occur.

MPOs/RPOs will be responsible for providing representation on the committee. All MPOs/RPOs will ensure they participate in Planning Partner meetings and conference calls to provide input into performance measure and target coordination.

PennDOT is required to set State 2-year and 4-year targets biennially. PennDOT will have the option to adjust the four-year targets in the Mid Performance Period Progress Report.

PennDOT will report the targets as part of FHWA required Performance Reporting.

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PennDOT CPDM will share the reporting submissions and/or another type of notification of the state targets with the MPOs/RPOs in a timely manner.

All Pennsylvania MPOs/RPOs will establish targets for each performance measure and communicate adoption to PennDOT CPDM, within 180 days of PennDOT establishing (or amending) targets either by agreeing to plan and program projects in support of PennDOT targets, or by committing to their own quantifiable targets. If an MPO/RPO chooses to establish their own performance targets, they would need to coordinate with PennDOT CPDM and BOMO on the selection of the targets and provide methodology used to develop their targets in accordance with 23 U.S.C. 134(h)(2)(B)(i)(II) to ensure consistency, to the maximum extent practicable.

### Data Collection and Analysis:

PennDOT BOMO will collect and perform the analysis of the data for the pavement and bridge performance measures.

#### Pavement

Determining pavement condition requires rigorous data collection. In the past, all PennDOT data was collected for each roadway segment, which is approximately one-half-mile in length. Federal rulemaking 23 U.S.C. 119 now requires that all distress component information be collected for one-tenth-mile increments. PennDOT and its partners have adjusted their pavement data collection to meet FHWA standards. Data collection at the tenth-mile increment level began in 2017 for cracking, rutting, and faulting and will be used for this submission of the TAMP.

Pavement performance measures required for FHWA reporting include the following four distress components:

- International Roughness Index (IRI) – Quantifies how rough the pavement is by measuring the longitudinal profile of a traveled wheel track and generating a standardized roughness value in inches per mile
- Cracking – Measures the percentage of pavement surface that is cracked
- Rutting – Measures the depth of ruts (surface depression) in bituminous pavement in inches
- Faulting – Quantifies the difference in elevation across transverse concrete pavement joints in inches

These distress measurements translate to good, fair, or poor condition scores. The table below summarizes the pavement condition metrics for IRI, cracking percent, rutting, and faulting.

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Rating (one-tenth-mile)	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

IRI and cracking apply to both bituminous and concrete pavements, while rutting is exclusively for bituminous pavement and faulting is exclusively for concrete pavement. Each one-tenth-mile pavement section is considered in good condition if all three of its distress components are rated as good, and in poor condition if two or more of its three distress components are rated as poor.

23 CFR part 490.315(a), Subpart C, requires that no more than 5 percent of a state’s NHS Interstate lane-miles be in poor pavement condition. If the threshold is not met, restrictions are placed on PennDOT’s federal funding—specifically, NHPP and Surface Transportation Program (STP) funds. FHWA has not established a minimum condition for NHS non-Interstate roadways but requires the State DOT to establish performance targets.

23 CFR 490.313(b)(4)(i) requires that the total mainline lane-miles of missing, invalid, or unresolved sections for the Interstate System and non-Interstate NHS shall be limited to no more than five percent of the total lane miles. A section is missing if any one of the data requirements specified in 23 CFR 490.309 and 23 CFR 490.311(c) are not met or if that reported section does not provide sufficient data to determine its overall condition.

PennDOT BOMO and Engineering Districts will utilize its pavement asset management tools and processes, which continue to be systematically expanded to analyze Pennsylvania’s pavements.

PennDOT’s pavement condition targets will be consistent with its asset management objectives of maintaining the system at the desired state of good repair, managing to lowest life cycle costs (LLCC), and achieving national and state transportation goals.

### Bridge

The FHWA final rulemaking also established performance measures for all mainline Interstate Highway System and non-Interstate NHS bridges regardless of ownership or maintenance responsibility, including bridges on ramps connecting to the NHS and NHS bridges that span a state border. FHWA’s performance measures aim to assess bridge condition by deriving the percentage of NHS bridges rated in good and poor condition by deck area on the NHS.

Separate bridge structure condition ratings are collected for deck, superstructure, and substructure components during regular inspections using the National Bridge Inventory (NBI) Standards. For culvert structures, only one condition rating is collected (the culvert rating). A

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

rating of 9 to 0 on the FHWA condition scale is assigned to each component. Based on its score, a component is given a good, fair, or poor condition score rating.

The table below summarizes the FHWA scoring system for bridge condition metrics for deck, superstructure, substructure, and culvert components.

Rating	Good	Fair	Poor
Deck	≥7	5 or 6	≤4
Superstructure	≥7	5 or 6	≤4
Substructure	≥7	5 or 6	≤4
Culvert	≥7	5 or 6	≤4

A structure’s overall condition rating is determined by the lowest rating of its deck, superstructure, substructure, and/or culvert. If any of the components of a structure qualify as poor, the structure is rated as poor.

23 CFR 490.411(a) requires that no more than 10 percent of a state’s total NHS bridges by deck area are in poor condition.

PennDOT BOMO and Engineering Districts will utilize its bridge asset management tools and processes, which continue to be systematically expanded to analyze Pennsylvania’s bridges.

PennDOT’s bridge condition targets will be consistent with its asset management objectives of maintaining the system at the desired state of good repair, managing to LLCC, and achieving national and state transportation goals.

**Reporting on progress towards target achievement:**

PennDOT and the MPOs/RPOs will include pavement and bridge performance measures and targets in the STIP, regional TIPs, and LRTPs.

PennDOT and the MPOs/RPOs will ensure the STIP, regional TIPs, and LRTPs are developed and managed to support progress toward target achievement.

When collaborating to set annual targets, PennDOT BOMO, CPDM and Engineering Districts will coordinate to provide feedback on statewide and MPO/RPO specific progress towards target achievement as it becomes available.

PennDOT will need to report baseline, mid period performance and full period performance as identified to FHWA. FHWA will determine if Pennsylvania has met or made significant progress toward meeting its pavement and bridge targets. When FHWA reports their findings to PennDOT, CPDM will share the findings with MPOs/RPOs.

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In accordance with 23 CFR 450.216(f), PennDOT CPDM in coordination with BOMO will include a description of the individual pavement and bridge performance measures and targets for those measures for the Statewide LRTP moving forward. In addition to including pavement and bridge performance measures and targets in the Statewide LRTP, PennDOT CPDM in coordination with BOMO will include a system performance report. That report must include an evaluation of system performance with respect to the performance targets. PennDOT CPDM in coordination with BOMO will include a description of progress achieved by the MPOs/RPOs in meeting the MPO/RPO performance targets in comparison with system performance recorded in previous reports [23 CFR 450.216(f)(2)]. The progress description will include the information that has been reported as part of the reports required under 23 CFR 490.107. With subsequent adoptions of Statewide LRTPs, PennDOT CPDM in coordination with BOMO will continue to include a system performance report describing the progress of meeting the performance targets in comparison with system performance recorded in previous years.

In accordance with 23 CFR 450.324(f)(3-4), MPOs/RPOs will include a description of the individual pavement and bridge performance measures and targets for those measures for regional LRTPs moving forward. In addition to including performance measures and targets in the regional LRTPs, MPOs/RPOs will include a system performance report. That report must include an evaluation of system performance with respect to the performance targets. MPOs/RPOs will describe progress achieved in meeting the performance targets in comparison with system performance recorded in previous reports [23 CFR 450.324(f)(4)(i)]. The progress description will include the information that has been reported as part of the reports required under 23 CFR 490.107. With subsequent adoptions of regional LRTPs, MPOs/RPOs will continue to include a system performance report describing the progress of meeting the performance targets in comparison with system performance recorded in previous years.

In accordance with 23 CFR 450.218(q), PennDOT CPDM in coordination with BOMO will include a narrative description in the STIP on how the program of projects contributes to the achievement of the pavement and bridge performance targets. The narratives should document PBPP objectives, investment strategies, performance measures and targets from the asset management plans and other performance-based plans are being implemented through the program of projects in the STIP.

In accordance with 23 CFR 450.326(d), MPOs/RPOs will include a narrative description in the TIP on how the program of projects contributes to the achievement of the pavement and bridge performance targets. The narratives should document PBPP objectives, investment strategies, performance measures and targets from the asset management plans and other performance-based plans are being implemented through the program of projects in the TIP.



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### System Performance Measures

The FHWA final rule for the *National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program* was published in the Federal Register ([82 FR 5970](#)) on January 18, 2017, and became effective on May 20, 2017.

This final rule was the third in a series of three related rulemakings that together establish a set of performance measures for State DOTs and MPOs to use as required by MAP-21 and the FAST Act. The measures in this third final rule will be used by State DOTs and MPOs to assess the performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP; to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. These system performance measures are collectively referred to as the PM3 measures.

The PM3 performance measures include:

- Percent of Person-miles Traveled on the Interstate System that are Reliable
- Percent of Person-miles Traveled on the Non-Interstate NHS that are Reliable
- Interstate System Truck Travel Time Reliability Index
- Annual Hours of Peak-Hour Excessive Delay (PHED) per Capita
- Percent of Non-Single Occupant Vehicle (SOV) Travel
- On-Road Mobile Source Emissions Reduction for CMAQ-funded Projects

#### Target setting:

In Pennsylvania, PennDOT CPDM in coordination with BOMO will take the lead and coordinate with MPO/RPO representatives as well as other necessary stakeholders, such as other State DOTs in urbanized areas, to utilize existing workgroups or organize a group to collaborate on the system performance measures and targets. This group will evaluate baseline performance measures tools, trends, and methodologies. Information discussed as part of these group(s) will be shared at Statewide Planning Partner Meetings and conference calls.

To satisfy 23 CFR 490.105(e)(2), PennDOT CPDM and BOMO will coordinate with MPOs/RPOs on the development of the measures and selection of targets to ensure consistency, to the maximum extent practicable. PennDOT CPDM in coordination with BOMO will be responsible for scheduling and conducting group meetings. PennDOT CPDM will be responsible for scheduling and conducting Planning Partner meetings and conference calls, where coordination on target setting will occur.

MPOs/RPOs will be responsible for providing representation on the group(s). All MPOs/RPOs will ensure they participate in Planning Partner meetings and conference calls to provide input into performance measure and target coordination.

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

PennDOT is required to set State 2-year and 4-year targets biennially. PennDOT will have the option to adjust the four-year targets in the Mid Performance Period Progress Report. PennDOT CPDM in coordination with BOMO will coordinate any adjustments to the targets with the MPOs/RPOs.

The targets for the traffic congestion measures [23 CFR 490.707(a) and (b)] reported by PennDOT and MPOs for an urbanized area must be identical [23 CFR 490.105(f)(5)]. If a multistate MPO is required to establish targets for the traffic congestion measures, all applicable MPOs and State DOTs must establish only one 2-year target and one 4-year target for the entire urbanized area for each traffic congestion measure. The MPOs and State DOTs will collectively develop and implement a mutually agreed upon coordination process so that both MPOs and State DOTs meet their respective target establishment and reporting deadlines.

PennDOT will report the targets as part of FHWA required Performance Reporting.

PennDOT CPDM will share the reporting submissions and/or another type of notification of the state targets with the MPOs/RPOs in a timely manner.

All Pennsylvania MPOs/RPOs will establish targets for each performance measure and communicate adoption to PennDOT CPDM, within 180 days of PennDOT establishing (or amending) targets either by agreeing to plan and program projects in support of PennDOT targets, or by committing to their own quantifiable targets. If an MPO/RPO chooses to establish their own performance targets, they would need to coordinate with PennDOT CPDM and BOMO (as appropriate) on the selection of the targets and provide methodology used to develop their targets in accordance with 23 U.S.C. 134(h)(2)(B)(i)(II) to ensure consistency, to the maximum extent practicable.

### **Data Collection and Analysis:**

PennDOT CPDM and BOMO have worked to identify and evaluate the data and tools used to produce the baseline performance measures. The University of Maryland CATT Lab RITIS software platform is used to generate all the measures derived from the NPMRDS travel time data source. Data from the American Community Survey (ACS) and FHWA's CMAQ annual reporting system are used for the non-SOV travel and mobile source emissions measures, respectively. Future revisions and modifications to these tools may impact the reported performance measures and established targets.

Due to potential tool enhancements, limited historic information, and the need for additional research to understand the variances and factors influencing each of the performance measures, PennDOT CPDM and BOMO will continue to identify and evaluate the data and tools necessary for the performance measures and establishing targets.

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

PennDOT CPDM and BOMO will take the lead along with required MPOs to track and evaluate data and targets.

### **Progress Towards Target Achievement and Reporting:**

PennDOT and the MPOs/RPOs will include system performance measure and targets in the STIP, regional TIPs, and LRTPs.

PennDOT and the MPOs/RPOs will ensure the STIP, regional TIPs, and LRTPs are developed and managed to support progress toward target achievement.

PennDOT will need to report baseline, mid period performance and full period performance as identified to FHWA. FHWA will determine if Pennsylvania has met or made significant progress toward meeting its system performance targets. When FHWA reports their findings to PennDOT, CPDM will share the findings with MPOs/RPOs.

In accordance with 23 U.S.C. 149(l), each MPO serving a Transportation Management Area (TMA) with a population over 1 million representing nonattainment and maintenance areas must develop a CMAQ Performance Plan, updated biennially, to report baseline condition/performance, targets, projects that will contribute to the targets, and the progress toward achievement of targets for the CMAQ traffic congestion and on-road mobile source emissions measures. Likewise, 23 CFR 490.105(f)(5)(iii) requires these MPOs must establish both 2-year and 4-year targets for the metropolitan planning area. MPOs that must develop a CMAQ performance plan will ensure they are developed and submitted timely to PennDOT, so they can be included in required FHWA reporting completed by PennDOT.

In accordance with 23 CFR 450.216(f), PennDOT CPDM in coordination with BOMO will include a description of the individual system performance measures and targets for those measures for the Statewide LRTP moving forward. In addition to including system performance measures and targets in the Statewide LRTP, PennDOT CPDM in coordination with BOMO will include a system performance report. That report must include an evaluation of system performance with respect to the performance targets. PennDOT CPDM in coordination with BOMO will include a description of progress achieved by the MPOs/RPOs in meeting the MPO/RPO performance targets in comparison with system performance recorded in previous reports [23 CFR 450.216(f)(2)]. The progress description will include the information that has been reported as part of the reports required under 23 CFR 490.107. With subsequent adoptions of Statewide LRTPs, PennDOT CPDM in coordination with BOMO will continue to include a system performance report describing the progress of meeting the performance targets in comparison with system performance recorded in previous years.

In accordance with 23 CFR 450.324(f)(3-4), MPOs/RPOs will include a description of the individual system performance measures and targets for those measures for regional LRTPs moving forward. In addition to including performance measures and targets in the regional LRTPs,

## Pennsylvania Transportation Performance Management Performance-based Planning and Programming Procedures

MPOs/RPOs will include a system performance report. That report must include an evaluation of system performance with respect to the performance targets. MPOs/RPOs will describe progress achieved in meeting the performance targets in comparison with system performance recorded in previous reports [23 CFR 450.324(f)(4)(i)]. The progress description will include the information that has been reported as part of the reports required under 23 CFR 490.107. With subsequent adoptions of regional LRTPs, MPOs/RPOs will continue to include a system performance report describing the progress of meeting the performance targets in comparison with system performance recorded in previous years.

In accordance with 23 CFR 450.218(q), PennDOT CPDM in coordination with BOMO will include a narrative description in the STIP on how the program of projects contributes to the achievement of the system performance targets. The narratives should document PBPP objectives, investment strategies, performance measures and targets from the freight plan, Congestion Mitigation and Air Quality (CMAQ) Performance Plan(s) [23 U.S.C. 149(l)], Congestion Management Process (CMP), and other performance-based plans are being implemented through the program of projects in the STIP.

In accordance with 23 CFR 450.326(d), MPOs/RPOs will include a narrative description in the TIP on how the program of projects contributes to the achievement of the system performance targets. The narratives should document PBPP objectives, investment strategies, performance measures and targets from the freight plan, Congestion Mitigation and Air Quality (CMAQ) Performance Plan(s) [23 U.S.C. 149(l)], Congestion Management Process (CMP), and other performance-based plans are being implemented through the program of projects in the TIP.

## Reading MPO CMAQ Project Selection Process (Adopted 5/20/2021)

### Introduction

The Congestion Mitigation and Air Quality (CMAQ) Funding Program was created under the federal Intermodal Surface Transportation Equity Act (ISTEA, 1991) and reauthorized under the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21, 1998), the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, 2005), the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21, 2012) and the Fixing Americas Surface Transportation Act (FAST Act, 2015).

The purpose of the CMAQ Program is to fund transportation projects/programs that will contribute to the attainment or maintenance of the National Ambient Air Quality Standards (NAAQS) for ozone, carbon monoxide (CO), and particulate matter (both PM<sub>10</sub> and PM<sub>2.5</sub>).

According to the latest guidance (Nov 2013) from the Air Quality and Transportation Conformity Team in FHWA's Office of National Environment, in cooperation with the FTA's Office of Planning and Environment, the CMAQ program supports two important goals of the U.S. Department of Transportation: improving air quality and relieving congestion – in other words, reducing pollution and adverse environmental effects of transportation projects and transportation system inefficiencies. The CMAQ program provides funding for a broad array of tools to accomplish these goals while ensuring compliance with the transportation conformity provisions of the Clean Air Act Amendments of 1990.

This guidance document states that MPO's, State DOT's, and transit agencies "should develop CMAQ project selection processes in accordance with the metropolitan and/or statewide planning process under 23 U.S.C. 134 and 135." The project selection process should be transparent, in writing, and publicly available. State DOT's and MPO's should develop an appropriate project list of CMAQ programming priorities that will have the greatest impact on air quality.

Historically, the Reading Area Transportation Study (RATS) has championed three air quality target areas in previous TIP's:

- Vehicle Miles Traveled (VMT) Reduction: Susquehanna Regional Transportation Partnership (SRTP) and the Commuter Services of Pennsylvania program – advocating for non-SOV transportation alternatives for commuters.
- Cleaner Engines: BARTA Fleet Replacement – in the 2021-2024 TIP, RATS approved \$900,000 per year for two years to assist with the purchase of eleven (11) new replacement vehicles in the BARTA fleet, and an additional \$900,000 in 2024 to assist with the purchase of three (3) new replacement vehicles in the BARTA fleet.
- Traffic Operations / Congestion Mitigation: Addressing off-road improvements that promote cleaner air and/or congestion reductions such as Freeway Service Patrol expansion, additional operator(s) in the Traffic Management Center, and traveler information improvements as recommended in the recently-published 2020 Regional Operations Plans.

Any additional CMAQ funds available would then be applied to those TIP projects that were reviewed and deemed eligible for CMAQ funding.

## Project Selection Process

The Reading MPO wishes to commit to specific on-going CMAQ-eligible programs and prioritize those efforts for CMAQ funding. During the development of future Transportation Improvement Programs (TIPs), RATS may designate (a) specific on-going program(s) as (a) CMAQ funding priority(ies) and allocate CMAQ funding for that program for any period chosen by the MPO, with the caveat that funding may be redirected during the TIP update process as project needs and available resources dictate.

1. Prior to the beginning of a TIP update cycle (generally in the late winter/early spring of the year prior to a new TIP taking effect) District and MPO staff will meet to discuss projects proposed for inclusion in the CMAQ Project Selection Process.
2. Once the TIP Update Cycle begins, and after the total of all on-going program commitments is deducted from the RATS CMAQ funding allocation, any remaining CMAQ funds will be allocated to CMAQ-eligible projects based on the following subjective criteria:
  - A. Does it meet the CMAQ Program requirements (NOx and/or VOC emission reduction, congestion reduction, NO capacity-increasing projects)?
  - B. Have the emission reduction benefits been quantified?
3. After MPO staff completes an initial screening through the subjective criteria to ensure CMAQ eligibility, the CMAQ Evaluation Table Template – cooperatively created and endorsed by both PennDOT and the FHWA – will be used to Objectively screen projects.
4. A second coordination meeting between District and MPO staff will be held where each project will be recorded in the attached Excel spreadsheet and fields completed accordingly. Note that since the Reading MPO does not actively solicit candidate CMAQ projects through a competitive process, this spreadsheet is used to further document the decision-making process and not necessarily to rank projects against each other.
5. Upon completion of the spreadsheet and concurrence by District 5-0 staff, the results will be forwarded to PennDOT Center for Program Development and Management (CPDM) staff.
6. Once CPDM staff approve, draft projects will be programmed on our Transportation Improvement Program (TIP). This entire process will be conducted publicly during MPO Technical and Coordinating Committee meetings.

Outside of the TIP update cycle, should additional CMAQ funds become available, these funds may be allocated to currently programmed CMAQ-eligible projects and/or new candidate projects. Project selection will take place using the same process. This entire process will be conducted publicly during MPO Technical and Coordinating Committee meetings.

**Candidate CMAQ Projects for Evaluation and Selection**

MPO: Reading

Meeting Date: 03/17/22 [Between MPO and District Staff To Review Candidate Projects]

Add a New Project Row Delete a Project Row

Weight Sum = ✔ 100%

County	Project Description		CMAQ Eligible Activity	Applicable Criteria Pollutant(s)	Project Selection Factors (0=lowest, 100=highest rank) ; Weights must sum to 100%								Average Project Rank Score (0-100)	Selected for CMAQ Funding
	MPMS#	Detailed Project Description			30%		10%	20%	10%	10%	10%	10%		
					FHWA Cost Effectiveness	Cost Effectiveness Override Value - Required for "Other" Projects	Consistency with L RTP	Corridor Congestion & Priority	Nonattainment or Maintenance for Ozone and PM2.5	Project Readiness and Sponsor Capacity	Benefits EJ Population	Other Factors		
				#N/A	#N/A	N/A			#N/A				#N/A	
Berks	117620	SR 2023 State Hill Road #2	Roundabouts	Ozone	21	N/A	High (100)	High (100)	0	High (100)	Medium (50)	Low (0)	51	Yes
Berks	79467	SR 12 Elizabeth Avenue	Roundabouts	Ozone	21	N/A	High (100)	High (100)	0	High (100)	Medium (50)	Low (0)	51	Yes
Berks	110318	SR 12 Alsace Manor	Intersection Improvements	Ozone	53	N/A	High (100)	High (100)	0	High (100)	Medium (50)	Low (0)	61	Yes
Berks	10815	SR 73 / Freidensburg Rd.	Intersection Improvements	Ozone	53	N/A	High (100)	High (100)	0	Medium (50)	Medium (50)	Low (0)	56	Yes
Berks	90569	SR 222 / Long Lane	Roundabouts	Ozone	21	N/A	High (100)	High (100)	0	High (100)	Medium (50)	Low (0)	51	Yes
Berks	110075	SR 422 Ben Franklin Congested Corridor	Other	Ozone	N/A	N/A	High (100)	High (100)	0	Medium (50)	Medium (50)	Low (0)	40	Yes



**MEMORANDUM OF UNDERSTANDING (MOU)**  
**Reading Metropolitan Planning Organization (MPO)**  
**Procedures for 2023-2026 Transportation Improvement Program (TIP) Revisions**

### Purpose

This Memorandum of Understanding (MOU) between PennDOT, the Reading Area Transportation Study Coordinating Committee (Reading MPO), and the South Central Transit Authority (SCTA) establishes procedures to be used for processing revisions to the 2023-2026 Transportation Improvement Program (TIP).

### Definitions

- **Administrative Modification** is a minor revision to a Transportation Improvement Program (TIP).
- **Amendment** is a revision to a TIP that involves a major change to a project included in a TIP.
- **Betterment** consists of surface treatments/corrections to existing roadway [preferably within the Pennsylvania Department of Transportation's (PennDOT's) right-of-way] to maintain and bring the infrastructure to current design standards for that classification of highway. This may involve full depth base repair, shoulder widening, increased lane widths, correction of super-elevation, drainage improvements and guide rail updates.
- **Change in Scope** is a substantial alteration to the original intent or function of a programmed project.
- **Cooperating Parties** include PennDOT, Reading MPO, SCTA, Federal Highway Administration (FHWA), and Federal Transit Administration (FTA).
- **Fiscal Constraint Chart (FCC)** is an Excel spreadsheet or a chart generated by the Multimodal Project Management System (MPMS) that depicts the transfer of funds
- **Interstate Management (IM) Program** is PennDOT's four-year listing of statewide interstate maintenance (non-capacity adding) projects.
- **New Project** is a project that is not programmed in the current TIP and does not have previous obligations from a prior TIP.
- **Planning Partner** is the Reading Area Transportation Study (RATS) or the Reading MPO.
- **Public Participation Plan (PPP)** is a documented broad-based public involvement process that describes how the Reading MPO will involve and engage the public in the transportation planning process to ensure that the concerns of stakeholders are identified and addressed in the development of transportation plans and programs.
- **Rapid Bridge Replacement (RBR) Initiative** (developed via a Public Private Partnership – P3) will follow the **Statewide Managed Program** guidance in the administration of the program. For example, the RBR Initiative project rollouts, independent of time intervals, will be considered an amendment on the STIP. Placement of RBR projects and or line items on Reading MPO's TIP will be considered as an administrative action.
- **Reserve Line Item** holds funds that are not dedicated to a specific project(s) and may be used to cover cost increases or add a new project or project phase(s).
- **Revision** is either an Amendment or an Administrative Modification to the TIP.

- **Statewide Managed Program (Statewide Program)** includes those transportation improvements or projects that are managed on the Statewide Transportation Improvement Program (STIP), including project selection at the PennDOT Central office level, with possible regional Planning Partner input and solicitation. Examples include but are not limited to Highway Safety Improvement Program (HSIP), Railroad Crossing Program (RRX), and State Transportation Alternatives Set-Aside (TASA) Program projects. The Interstate Management Program (IM) will remain its own individual program.

## TIP Administration

The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) will only authorize projects and approve grants for projects that are programmed in the current approved TIP. If the MPO, SCTA, or PennDOT wishes to proceed with a federally funded project not programmed on the TIP, a revision must be made.

The federal statewide and metropolitan planning regulations contained in 23 CFR § 450 govern the provisions for revisions of the MPO TIP. The intent of this federal regulation is to acknowledge the relative significance, importance, and/or complexity of individual programming actions. If necessary, 23 CFR § 450.328 permits the use of alternative procedures by the cooperating parties to effectively manage actions encountered during a given TIP cycle. Cooperating parties include PennDOT, the MPO, SCTA, FHWA, and FTA. Any alternative procedures must be agreed upon and documented in the TIP.

TIP revisions must be consistent with Pennsylvania's Transportation Performance Management (TPM) requirements, Pennsylvania's Long Range Transportation Plan (LRTP), and the associated MPO LRTP. In addition, TIP revisions must support Pennsylvania's Transportation Performance Measures, the Transportation Asset Management Plan (TAMP), the Transit Asset Management (TAM) Plan, the Strategic Highway Safety Plan (SHSP) and Congestion Management Plan (CMP), as well as PennDOT's Connects policy. Over the years, Pennsylvania has utilized a comprehensive planning and programming process that focuses on collaboration between PennDOT, FHWA, FTA, and MPOs at the county and regional levels. This approach will be applied to begin implementation of TPM and Performance Based Planning and Programming (PBPP). PBPP is PennDOT's ongoing assessment, target setting, reporting and evaluation of performance data associated with the TIP investment decisions. This approach ensures that each dollar invested is being directed to meet strategic decisions and enhances the overall performance of the Commonwealth's transportation system

TIP revisions must correspond to the adopted provisions of the MPO's Public Participation Plan (PPP). A PPP is a documented broad-based public involvement process that describes how the MPO will involve and engage the public in the transportation planning process to ensure that comments, concerns, or issues of the public and interested parties are identified and addressed in the development of transportation plans and programs. A reasonable opportunity for public review and comment shall be provided for significant revisions to the TIP.

All projects within an ozone non-attainment or maintenance area will be screened for Air Quality significance. PennDOT will coordinate with the MPO to screen Statewide Program projects for Air Quality significance. If a revision adds a project, deletes a project, or impacts the schedule or scope of work of an air quality significant project in a nonattainment or maintenance area, a new air quality conformity determination will be required, if deemed appropriate by the PennDOT Air Quality Interagency Consultation Group (ICG). If a new conformity determination is deemed necessary, an **amendment** to the MPO's Long Range Transportation Plan (LRTP) shall also be developed and approved by the MPO. The modified conformity determination would then be based on the amended LRTP conformity analysis, and public involvement procedures consistent with the region's PPP are required.

The federal planning regulations, 23 CFR 450.324(c), define update cycles for MPO LRTP's. If the MPO's LRTP expires because the LRTP has not been updated in accordance with the planning cycle defined in the federal planning regulations, then the provisions of this MOU will not be utilized for that MPO. During an LRTP expiration, all STIP/TIP revisions that involve projects with federal funds within that MPO where the LRTP expiration occurred will be treated as an amendment and require federal approval. There will be no administrative modifications to projects with any federal funds until the MPO's LRTP is once again in compliance with the federal planning regulations.

## TIP Revisions

In accordance with the federal transportation planning regulations [23 CFR § 450], revisions to the TIP will be handled as an **Amendment** or an **Administrative Modification** based on agreed upon procedures detailed below.

An **Amendment** is a revision to the STIP/TIP that:

- **Affects air quality conformity regardless of the cost of the project or the funding source;**
- Adds a new federally funded project or federalizes a project that previously was 100% state and/or locally funded. A new project is a project that is not programmed in the current TIP and does not have previous Federal obligations.
- Deletes a project that utilizes federal funds, except for projects that were fully obligated in the previous TIP and no longer require funding. In this case, removal of the project will be considered an administrative modification.
- Adds a new phase(s), deletes a phase(s) or increases/decreases a phase(s) of an existing project that utilizes federal funds where the total revision of federal funds exceeds the following threshold within the four years of the TIP:
  - \$3 million for MPOs with most recent US Census Urbanized Areas (UZA) population  $\geq 200,000$  but  $< 1,000,000$ ;

- Involves a change in the scope of work to a project(s) that would:
  - Result in an air quality conformity re-evaluation;
  - Result in a revised total project programmed amount that exceeds the thresholds established between PennDOT and the MPO;
  - Results in a change in the scope of work on any federally funded project that is significant enough to essentially constitute a new project.

Approval by the MPO is required for **Amendments**. The MPO must then initiate PennDOT Central Office approval using the e-STIP process. An e-STIP submission must include a Fiscal Constraint Chart (FCC) that clearly summarizes the before, requested adjustments, after changes, and detailed comments explaining the reason for the adjustment(s), and provides any supporting information that may have been prepared. The FCC documentation should include any administrative modification actions that occurred along with or were presented with this action at the MPO meeting. The supporting documentation should include PennDOT Program Management Committee (PMC) and Center for Program Development and Management (CPDM) materials, if available.

All revisions associated with an amendment, including any supporting administrative modifications, should be shown on the same FCC, demonstrating both project and program fiscal constraint. The identified grouping of projects (the entire action) will require review and/or approval by the cooperating parties. In the case that a project phase is pushed out of the TIP period, the MPO and PennDOT will demonstrate, through a FCC, fiscal balance of the subject project phase in the second or third four years of the TYP and/or the respective regional LRTP.

The initial submission and approval process of the Interstate Program and other federally funded Statewide Programs and increases/decreases to these programs which exceed the thresholds above will be considered an amendment and require approval by PennDOT and FHWA/FTA (subsequent placement of these individual projects or line items on the MPO's TIP will be considered an administrative modification). In the case of Statewide Programs, including the IM Program and other federally funded statewide programs, approval by PennDOT's PMC and FHWA is required. Statewide managed transit projects funded by FTA programs and delivered via Governor's apportionment are selected by PennDOT pursuant to the Pennsylvania State Management Plan approved by FTA. These projects will be coordinated between FTA, PennDOT, the transit agency and the MPO and should be programmed within the MPO's TIP. These projects and the initial drawdown will be considered an amendment to the Statewide Program.

An **Administrative Modification** is a minor revision to the MPO TIP that:

- Adds a new phase(s), deletes a phase(s) or increase/decreases a phase(s) of an existing project that utilizes federal funds and does not exceed the thresholds established above;
- Adds a project from a funding initiative or line item that utilizes 100 percent state or non-federal funding;
- Adds a project for emergency relief (ER) program, except those involving substantial functional, location, or capacity changes;
- Adds a project, with any federal funding source, for immediate emergency repairs to a highway, bridge or transit project where in consultation with the relevant federal funding agencies, the parties agree that any delay would put the health, safety, or security of the

- public at risk due to damaged infrastructure;
- Draws down or returns funding from an existing TIP reserve line item and does not exceed the threshold established in the MOU between PennDOT and the MPO. A reserve line item holds funds that are not dedicated to a specific project(s) and may be used to cover cost increases or add an additional project phase(s) to an existing project;
  - Adds federal or state capital funds from low-bid savings, de-obligations, release of encumbrances, or savings on programmed phases to another programmed project phase or line item and does not exceed the above thresholds;
  - Splits a project into two or more separate projects or combines two or more projects into one project to facilitate project delivery without a change of scope or type of funding;
  - Adds, advances, or adjusts federal funding for a project based on FHWA August Redistribution based on documented August Redistribution Strategic Approach.

**Administrative Modifications** do not affect air quality conformity nor involve a significant change in the scope of work to a project(s) that would trigger an air quality conformity re-evaluation; do not add a new federally-funded project or delete a federally-funded project; do not exceed the thresholds established in this MOU between PennDOT and the MPO (as detailed in the aforementioned Amendment Section); and do not result in a change in scope on any federally-funded project that is significant enough to essentially constitute a new project. A change in scope is a substantial alteration to the original intent or function of a programmed project.

**Administrative Modifications do not require federal approval.** PennDOT and the MPO will work cooperatively to address and respond to any FHWA and/or FTA comment(s). FHWA and FTA reserve the right to question any administrative action that is not consistent with federal regulations or with this MOU, where federal funds are being utilized.

## Fiscal Constraint

Demonstration that TIP fiscal constraint is maintained takes place through a FCC. Real time versions of the TIP are available to FHWA and FTA through PennDOT's Multimodal Project Management System (MPMS). All revisions must maintain year-to-year

fiscal constraint [23 CFR 450.218\(l\)](#) and [23 CFR 450.326\(g\)\(j\)&\(k\)](#) for each of the four years of the TIP. All revisions shall account for year of expenditure (YOE) and maintain the estimated total cost of the project or project phase within the time-period [i.e., fiscal year(s)] contemplated for completion of the project, which may extend beyond the four years of the TIP. The arbitrary reduction of the overall cost of a project, or project phase(s), shall not be utilized for the advancement of another project.

## TIP Financial Reporting

PennDOT will provide reports to the MPO and FHWA no later than 30 days after the end of each quarter and each Federal Fiscal Year (FFY). At a minimum, this report will include the actual federal obligations and state encumbrances for highway/bridge projects by the MPO region and Statewide. In addition, PennDOT will provide the Transit Federal Capital Projects report at the end of each FFY to all of the parties listed above and FTA. The reports can be used by the MPO as the



basis for compiling information to meet the federal annual listing of obligated projects requirement 23 CFR 450.334. Additional content and any proposed changes to the report will be agreed upon by PennDOT, FHWA and FTA.

## TIP Transportation Performance Management

In accordance with [23 CFR 450.326\(c\)](#), PennDOT and the MPO will ensure TIP revisions promote progress toward achievement of performance targets.

### Statewide or Multi- UZA Transit Projects

Statewide managed transit projects funded by FTA programs and delivered via Governor's apportionment are selected by PennDOT pursuant to the Pennsylvania State Management Plan approved by the FTA. These projects should be programmed within the TIP of the urbanized area where the project is located.

### MPO TIP Revision Procedures

As the MPO TIP is adopted, this MOU between PennDOT and the MPO will be included with the TIP documentation to clarify how the MPO will address all TIP revisions. **In all cases, any individual MPO revision procedures will be developed under the guidance umbrella of this document.** If the MPO subsequently elects to set more stringent procedures, then FHWA and FTA will adhere to those more restrictive procedures.

This document will serve as the basis for PennDOT when addressing federally funded Statewide Program TIP revisions.

This Memorandum of Understanding will begin October 1, 2022, and remain in effect until September 30, 2024, unless revised or terminated. Furthermore, it is agreed that this MOU will be reaffirmed every two years.

We, the undersigned hereby agree to the above procedures and principles.

/s/ Larry Shifflet

07/14/2022

Larry Shifflet, Deputy Secretary for Planning  
Pennsylvania Department of Transportation

Date

/s/ Michael W. Rebert

07/14/2022

Michael W. Rebert, Chairman  
Reading Metropolitan Planning Organization

Date

/s/ Gregory Downing

07/14/2022

Gregory Downing, Executive Director  
South Central Transit Authority

Date